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DOMESTIC FLORICULTURE

“To study culture, and with artful toil
To 'meliorate and tame the stubborn soil,
To give dissimilar yet fruitful lands
The grain, the herb, the plant, that each demands :
To cherish virtue in a humble state
And share the joys your bounty may create ;
To watch the matchless working of the Power
That shuts within its seed the future flower—

These, these are arts pursued without a crime,
That leave no stain upon the wings of Time.”

—COWPER.

DOMESTIC FLORICULTURE

WINDOW-GARDENING AND FLORAL DECORATIONS

BEING

PRACTICAL DIRECTIONS FOR THE PROPAGATION, CULTURE,
AND ARRANGEMENT OF PLANTS AND FLOWERS
AS DOMESTIC ORNAMENTS

F. W. Burbidge n. w.
BY

F. W. BURBIDGE

AUTHOR OF 'COOL ORCHIDS, AND HOW TO GROW THEM,' ETC.

WITH 200 ILLUSTRATIONS ON WOOD

WILLIAM BLACKWOOD AND SONS
EDINBURGH AND LONDON

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P R E F A C E.

“Bright gems of earth, by which perchance we see
What Eden was—what Paradise may be.”



FLORAL decorations, in the form of wreaths and garlands, have been popular for ages, and the use of cut blossoms and foliage for religious or personal ornaments is a time-honoured custom of high antiquity among the more refined nations of both hemispheres. The rosy goddess Flora was revered by the Phocians and Sabines long before the foundation of the Roman capital; and we read that in the time of Romulus an annual festival was instituted in her honour, and as “a kind of rejoicing at the appearance of the spring blossoms.” But it was not until about 500 years afterwards that the “Floral Games,” or Floralia, were regularly established. The May-day festivals, so attractive to our ancestors, were doubtless originated in this country by the Romans themselves; and so popular were these vernal rejoicings at one time, that not only the people, but the sovereign and the court, took part in their celebration. We read that in 1515,

King Henry VIII. and his court rode "a-Maying from Greenwich to the top of Shooter's Hill." Shakespeare notes the pleasures of May-day in his time; and, at a much more recent period, Pope alludes to this now nearly obsolete custom in the following lines—

" Amid the wide area she took her stand
Where the tall May-pole once o'erlooked the Strand."

The use of bright-coloured or fragrant flowers is often alluded to by the ancient poets and philosophers, but the precise period at which the custom of cultivating plants in dwellings originated seems to be shrouded in mystery.

Amongst the oldest and best-known window-plants used in this country of late years, we may mention Fuchsias and Hydrangeas (which latter occasionally astonished their possessors by bearing blue flowers in place of rose-coloured ones). *Tussilago fragrans* is also mentioned as being "planted in pots for the purpose of perfuming winter apartments;" while Cyclamens, Auriculas, and Myrtles were common many years ago. *Richardia æthiopica*, or Lily of the Nile, was grown by Miller in the Chelsea Botanic Garden as early as 1731; and in 'Flora Domestica' (1824) we read that, "The more polished part of society admit the Ethiopian Calla, a species of Arum, into their most embellished saloons, where its alabaster calyx expands into so elegant a vase-like shape, that Flora seems to have intended it for the hand of Hebe, when she presents the imperial nectar to Jove,"—adding that "the fashion of ornamenting the houses in London with plants, when routs are given, greatly

contributed to bring it into celebrity, and as a conspicuous candle-light plant it was therefore increased by all rout furnishing florists." *Campanula pyramidalis* was also an extremely popular window-plant fifty or sixty years ago, being frequently employed by country people, then as now, to decorate their windows; or when trained round a hoop, or into the shape of a fan, it sometimes served as a screen "to the rustic grate of a country parlour." This is the "Steeple milky Bell-flower" of Gerard, and has been grown in our gardens nearly 300 years.

Cowper, in the "Task," celebrates Mignonette as a favourite window-plant in London during the latter part of the last century—

"The sashes fronted with a range
Of Orange, Myrtle, or the *fragrant weed* ;"

and Philips, in his 'Flora Domestica,' says, "We have frequently found the perfume of the Mignonette so powerful in some of the better streets of London, that we have considered it sufficient to protect the inhabitants from those effluvia which bring disorders in the air." This latter statement is remarkable inasmuch as recent researches prove the beneficial influence exerted not only by this but by many other odorous flowers; and we are now recommended to plant Sunflowers (*Helianthus*), and the Fever or Blue Gum-tree of Australia (*Eucalyptus*), as a preventive of pestilential diseases in marshy or malarious localities.

Chrysanthemums were introduced in 1764, and again in 1795, and, "like the Roses of China, the Chrysan-

themums soon escaped from the conservatories of the curious, and as rapidly spread themselves over every part of the island, filling the casements of the cottagers with their autumnal beauties." It is rather singular to find that the "Winter Cherry" (*Physalis alkekengi*) has been grown in our gardens as a decorative plant since 1548, or over 300 years ago; and it appears to have been commonly grown in the time of Gerard, who quaintly tells us that "the Redde Winter Cherrie groweth vpon olde broken wals about *the borders of fieldes*, and in moist shadowy places, where some conserve it for the beautie of its berries, and others for the great and woorthy vertues thereof."

Philips, writing in 1824, says: "At present the berries are seldom used with us, excepting to mingle in bouquets of dried flowers, or to ornament the chimney-pieces of cottage parlours."

Lobelias of the *L. cardinalis* section were esteemed many years ago as window-plants, and China Asters were also used occasionally in pots and boxes for a like purpose; while the Blue Throatwort (*Trachelium cœruleum*) was often used as a decorative plant, not only in pots, but also partially naturalised on old walls, along with Snapdragons (*Antirrhinum*) and Wallflowers (*Cheiranthus*).

Balsams (*Impatiens*) have been grown in our gardens for the last 300 years, and have long been esteemed as decorative window-plants by cottage florists.

Convolvuli, both *C. tricolor* and *C. major*, were

known in the time of Charles I., for Parkinson (1629) tells us that he received seeds of the former out of Spain, and that the flowers are "of a most excellent skie-coloured blew, so pleasant to behold that often it amazeth the spectator."

Succulents, as Phyllacactus ("Cactuses"), Cape Aloes, more especially the well-known *A. variegata* introduced in 1720, and many species of Mesembryanthemums, have long been cultivated in cottage windows. Another old sweet-scented favourite, *Aloysia citriodora*, was introduced in 1784, and is still very generally grown as a decorative plant; while some of the earliest varieties of fancy or hybrid Geraniums (*Pelargonium*) soon found their way from the gardens of the florist or wealthy amateur into cottage windows, where their more beautiful representatives still remain.

The well-known "Aaron's-beard" (*Saxifraga sarmantosa*) was introduced from China in 1771, and is still one of the most popular of all window-plants on account of its free habit of growth and viviparous mode of reproducing itself. Many more examples might be given, but the above rough sketch is sufficient for our present purpose. We have shown the custom of employing flowers and living plants for purposes of domestic and personal ornament to be an old one; while at the present time they speak a language peculiarly their own, and enter largely into the expression of the joys and sorrows, the light and shade, of our everyday existence. Window-gardening has spread from humble cottages to the mansions

in our busy towns, and on all sides we have societies fostering a love for the more extended culture of decorative plants among all classes of society. The indoor cultivation of plants and flowers has especial attractions for the invalid, and the interesting employment thus afforded serves to brighten or while away many a tedious hour. Even a few cut-flowers and fresh leaves or sweet-smelling herbs kept in water, afford relief to the eye of the sufferer, and help to divert it from wandering over the cheerless walls of the hospital, or from peering into the deep shadows of the sick-room.

The pure and lasting taste for beautiful plants and flowers, if firmly implanted in the youthful mind, almost invariably exerts its beneficial influence for good ; hence gardening ought to be made use of in all our public schools as an educational appliance of the highest possible value. We believe great results would follow, from a national point of view, if the rudiments of gardening and its sister art farming were practically taught in our schools more generally than is at present the case.

In writing this little work, the author hopes to have said much that will prove suggestive in principle as well as directly instructive to the reader, since the abundance of material now at our command admits of endless combinations according to the circumstances or local surroundings of each particular case. It must be remembered that, in an art like Domestic Floriculture, there is no practical limit to ways and means, and one's taste in this as in all other decora-

tive arts, is improved by studious practice and good examples.

Many who have no little garden wherein to grow a few sweet-scented flowers, yet manage to extemporise ways and means to gratify the love of nature which appears to be nearly universal. Window-gardening in towns has doubtless been practised for centuries under difficulties, and the garden poet alludes to the practice in the following lines:—

“There the pitcher stands
A fragment, and the spoutless teapot there ;
Sad witnesses how close-pent man regrets
The country, with what ardour he contrives
A peep at nature when he can no more.”—COWPER.

It now remains for me to acknowledge the kindness of those gentlemen who have assisted me in this work. To Messrs James Veitch & Sons of Chelsea, and to Messrs Hooper & Co., of Covent Garden, I am especially indebted for many of the pretty little plant-cuts scattered through the following pages; and to Messrs Dick, Radclyffe, & Co. of High Holborn, Mr B. S. Williams of Holloway, and Messrs James Bromwich & Co. of South Belgravia, my thanks are due for many illustrations of horticultural elegancies, as also to others who very kindly placed their illustrations at my disposal for this work; while most of the original illustrations employed are engraved by Mr J. W. Whymper from my own designs on wood.

Reference has also been made to the following works bearing on the subject in hand: ‘Treasury of Botany’ (Lindley & Moore), ‘Hardy Flowers’ (Rob-

inson), 'Fleurs de Plein Terre' (Vilmorin), 'Handy Book of the Flower-Garden' (Thomson), 'Select Ferns' (Williams), 'Encyclopædia of Plants' (London), 'Illustrated Catalogue of Bulbs' (Veitch), 'Gardening Guide' (Hooper), 'Gardeners' Chronicle,' 'The Garden,' 'The Gardener,' and most of the French, German, and American periodicals devoted to gardening and rural economy.

F. W. B.

LONDON, *April* 1874.

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DOMESTIC FLORICULTURE.



PART I.—CULTURAL.

INTRODUCTION.

IF there is one thing in nature that adds to the charm and enjoyment of home—that indicates a refined taste, and brings the fresh sweetness of country lanes and flowery meadows to our dwellings in the town—it is a garden or window of beautiful flowers. They diffuse sweetness and brightness in the humblest cottage; they add grace and beauty to the stately mansions of royalty, and light up the dingy courts of our busy cities with their glowing colours. Flowers were created for all ages, and for all time; and wherever there is room for the breath of heaven and the life-giving rays of the sun to permeate, there will flowers grow and bloom in all their purity and loveliness. A home without flowers is bare and comfortless to all persons of taste and refinement. Even in the country, where we have the song of birds, the soft murmurings of the trees as they whisper lovingly to the cool morning breeze, and the gently winding brook that ripples musically as it sparkles over the

stones—even these, attractive though they be, cannot wean us altogether from the garden and the lovely old sweet-scented flowers we have known and cherished from childhood.

The greatest men of our own time speak respectfully of flowers and of their culture. Longfellow, Cowper, Keats, Wordsworth, and Wendell Holmes, all speak of beautiful flowers and gardening with admiration and respect. Dickens, who seldom went astray in exposing falsehood, or in his love for the beautiful and true in nature and art, thus speaks of floriculture: “In the culture of flowers there cannot, by their very nature, be anything solitary or exclusive. The wind that blows over the cottage porch, sweeps over the grounds of the nobleman; and as the rain descends over the just and the unjust, so it communicates to all gardeners, both rich and poor, an interchange of pleasure and enjoyment; and the gardener of the rich man, in developing or enhancing a fruitful flavour or a delightful scent, is in some sort the gardener of everybody else.”

Flowers enter largely into all the different phases of our everyday existence. We weave pearly blossoms in the lustrous tresses of the fair young bride. We carry our finest flowers to our friends; we place them beside the sick-bed, and we strew them in the chamber of death, or lay them in the narrow coffin along with those who “are not lost, but gone before.” The more we see and know of flowers, the more we learn to love and cherish them. We admire the wild flowers of our native land; we search every other country in the world for rare or beautiful plants; and we grow half the world’s wild flowers in our gardens and conservatories here at home. As a nation attains to a higher state of social refinement, civilisation, and

good taste, so does this universal love for beautiful flowers increase. Train graceful plants around your dwellings, be it a cottage or a palace. Scatter the seeds of Musk, Mignonette, and Wallflower on every bare inch of soil beside your door, and their sweet fragrance will make you feel a happier man. "Set flowers on your table—a whole nosegay if you can get it, or but two or three, or a single flower, a Rose, a Pink, a Daisy. Bring a few Daisies or Buttercups from your last field work, and keep them alive in a little water; preserve but a bunch of Clover, or a handful of flowering Grass—one of the most elegant of nature's productions—and you have something on your table that reminds you of God's creation, and gives you a link with the poets that have done it most honour. Put a Rose, or a Lily, or a Violet on your table, and you and Lord Bacon have a custom in common; for this great and wise man was in the habit of having flowers in season set upon his table, we believe, morning, noon, and night—that is to say, at all meals, seeing that they were growing all day. Now here is a fashion that will last you for ever, if you please—never change with silks, and velvets, and silver forks, nor be dependent on caprice, or some fine gentleman or lady who have nothing but caprice and changes to give them importance and a sensation. Flowers on the morning table are especially suited to them. They look like the happy wakening of the creation; they bring the breath of nature into your room; they seem the very representative and embodiment of the very smiles of your home, the graces of good morrow."

So wrote one who must have loved the breath of flowers—the incense of the garden; while the greatest philosophers of all ages—much as they have dis-

agreed on many points—have been unanimous in their reverence for flowers and plants.

The love for beautiful flowers seems nearly universal. We lay flowers, autumnal leaves, and fruits on the simple altars of our little village churches here at home. The Hindoo strews the gorgeous flowers of *Amherstia nobilis*, or those of the sacred Lotus, in his stately temples ; while the Mexicans gather the finest and rarest of Orchids from the sheltered slopes of the towering Andes for their various religious rites and ceremonies, as celebrated on the altars of their fathers. All throughout the East, the same love prevails for beautiful and sweet-scented flowers, either as religious offerings or domestic ornaments.

Flowers are beautiful and interesting anywhere, but in the town they acquire additional value, and make our homes doubly attractive. Every one cannot possess the luxury of a garden, in the widest sense of the word ; but all may grow plants and flowers in and around their dwellings. A few years ago, one might have travelled London through, and not have found the pretty window-gardens and balconies that may now be seen in Portman Square, Piccadilly, or Park Lane alone. Nor is this increasing love for beautiful decorative plants and window-gardens confined to our own country alone ; for the traveller who visits Paris or Northern Germany for the first time cannot fail to notice the rich profusion of Palms, *Dracænas*, *Cyperuses*, *Myoporums*, Ferns, and delicate *Selaginellas* with which the windows and apartments are most tastefully decorated. Ivy is also used in abundance for training round the windows and over ornamental wire screens or trellises. *Dracænas*, Palms, and *Ficuses* are grown by the thousand in the numerous little nurseries around

Paris; and nearly all of them are used for the decoration of rooms or windows in the French metropolis. The common Oleander, of which there are now numerous beautiful varieties, is largely used for placing outside on balconies, or in front of the *cafés* during the warm summer weather; while many plants which are grown in hot plant-stoves here at home, are to be seen growing far more vigorously outside in the Parisian parks and promenades.

In Germany, Russia, and also in America, the love for beautiful plants and fragrant window-flowers is rapidly increasing; nor is this to be wondered at, since the great charm of window-gardening consists in the immense variety of beautiful effects that may be obtained at a slight cost, even by the use of hardy plants alone. Ivy is common enough everywhere, in hedges, or on old walls, and on the stems of trees; still, when tastefully arranged in a basket or vase, it forms one of the most elegantly beautiful of all plants used for the decoration of apartments.

The beginner in plant-culture should commence with common, hardy, robust-constituted plants; and if successful with these (which will assuredly be the case if a real love for plants and flowers prompts their culture), the more valuable and tender kinds may be gradually added as opportunity occurs. One of the greatest mistakes beginners can make in any branch of floriculture is to commence with a whole host of rare and consequently valuable species before they understand the few simple rules necessary to insure successful treatment. I say this because failure at the first is apt to disappoint beginners in floriculture; not but that experience of this kind is very instructive, and often teaches us far more than can possibly be learned from written directions alone.

If you love beautiful flowers, do not allow imaginary difficulties to deter you from attempting their culture. Many an old country dame who cannot read or write can grow Musk, Mignonette, Chimney Campanulas, Calceolarias, Fuchsias, sweet-scented Verbenas, and Geraniums, in a high state of perfection ; and with the aid of a few other common plants can keep her cottage window gay with flowers all the year round. Indeed the knowledge essential for this kind of work is so easily obtained, that we can only wonder why every window and balcony is not gay with plants and flowers for a considerable portion of the year. Looking at the question of window-gardening and floral decorations from a social or æsthetic point of view, it has everything to recommend it to our notice, since the culture of beautiful or interesting plants is a source of pleasure not only to ourselves, but also to our neighbours and friends. By growing flowers in our windows we contribute towards the education and refinement of society at large,—we make our homes in the town not only happier, but more attractive both to ourselves and our children ; and we are often led to form habits of observation and study which ultimately prove of eminent service to us in after-life. Mrs H. Beecher Stowe, the well-known authoress of ‘Uncle Tom’s Cabin,’ says : “There is nothing better for wives and daughters, physically, than to have the care of a garden—a flower-pot, if nothing more. What is pleasanter than to spend a portion of every day in working among plants, watching their growth, and observing the opening of their flowers, from week to week, as the season advances ? Then, how much it adds to the enjoyment to know that your own hands have planted them, and have pruned and trained them ! This is a pleasure that requires

neither great riches nor profound knowledge. The advantages which woman personally derives from stirring the soil and sniffing the morning air, are freshness and beauty of cheek and brightness of eye, cheerfulness of temper, vigour of mind, and purity of heart."

Apart from the beauty of flowers and the pleasure all of us experience in cultivating them around our homes, there is the question of health to be considered. Many object to plants in rooms or apartments on account of their being presumably unhealthy; but, on the contrary, their influence is, in most cases, exerted for our health and benefit. Plants of peculiar or disagreeable odour, however beautiful, should not be grown in rooms; but nearly all the flowers we love for their freshness, sweetness, and beauty, may be tolerated. Many persons instinctively dislike certain colours or odours, but these will take care of themselves in the matter. The more we know about that seemingly mysterious product, ozone, the stronger evidence do we obtain that it has much to do with the changes in human health, noticeable in different localities, and at various seasons. Hence the cultivation of many shrubs and plants, besides its economical or æsthetic value, has an agency connected with hygiene; for it has been demonstrated that a great many plants grown in gardens produce much ozone, not only under the influence of the sun's rays, but even after dusk. Lavender, Wallflower, Thyme, Sweet Violets, and Mignonette, may be named as examples. It is highly probable that in years to come some part of our dwellings will be constructed expressly for the culture of plants and flowers. At present we have a few conservatories and gardens on the roof, and in time no doubt those and other appliances will become universal, especially in towns

where space is valuable. There are but few houses where a charming little fernery might not be constructed for such plants as will luxuriate in partial shade. If a passage or corridor is terminated by a window from which a gloomy prospect of telegraph wires and blackened chimney-pots is obtained, nothing can be more appropriate in such a position than a large glass case filled with Ferns and other moisture-loving plants. The bottom can be readily cemented to prevent damp, and the whole will form a source of pleasurable interest and beauty instead of annoyance. It will always supply plenty of fresh green fronds and spray for grouping with flowers, and require but little attendance, except occasional syringing with tepid water. Plants are not the exclusive things some people imagine, but may be grown by every one with more or less success in all manner of out-of-the-way places that will readily suggest themselves to those who love and are desirous to grow beautiful flowers.

GARDENING IN THE HOUSE.

Room, Window, and Balcony Gardening.— This subject is especially interesting, and there are happily but few refined and cultivated homes of taste where a love for the freshness and beauty of healthy plants does not prompt their culture as pleasing adornments. Few natural objects contribute so much to our enjoyment as plants and flowers when carefully grown and tended by loving hands. The editors of the 'Gardener's Chronicle,' in alluding to this subject, make the following remarks: "The enormous extent to which this fashion has spread, and particularly in and near London, must be patent to the least

observant of all observers. Not only are parks, cemeteries, and churchyards now looking cheerful, when formerly it was difficult to say which of the three had the most melancholy aspect ; not only do East-end and West-end windows now glow with bright colours in streets which used to be notorious for their dinginess ; not only do big societies offer prizes for artistic groupings, and little societies encourage the poor in the indoor culture of plants of all kinds suitable for the purpose ; but even the workhouse masters are beginning to awake to the cheering influences of plants upon the souls committed to their care. Even the areas of London houses, those gloomy soot-begrimed walls upon which alone the eyes of so many hundreds of servants fall when they look out of their underground windows—even these areas are now in many places becoming metamorphosed with the aid of Ivy, Fig, Tropæolum, Jasmine, Virginian Creeper, and many other plants." Especially is this the case in the crowded city where all is bustle and confusion ; and happy indeed are those who have a little patch of garden, and the requisite knowledge to grow a few sweetly-perfumed flowers and decorative plants for the sitting-room window, or drawing-room table, as the case may be. Many cannot avail themselves of the pleasures experienced in a suburban garden ; but all may grow a few plants and flowers in their windows or apartments. Many are deterred from attempting window-gardening because they imagine it will turn out a continual source of annoyance, instead of a pleasant occupation and amusement.

In tasteful homes, where there are ladies, the window-gardening may safely be left in their hands ; and it is really astonishing what quick progress the dear, nimble-fingered creatures make in this delight-

ful art. Many fail in window-gardening ; but really the whole affair is very simple when a love for beautiful flowers exists. It is not enough to buy a few plants in the market, and place them in the window to droop and die. They must be carefully and regularly watered ; and as the love for fresh healthy plants increases, something like a succession must be kept up, so as to secure as much variety as possible : and we must have the window gay every month in the year. We shall endeavour to show in plain language how this is to be done.

One of the most fertile causes of failure results from a bad selection ; for we need scarcely inform the reader that all plants will not grow either in rooms or windows. It is always best to avoid such exotics from tropical countries as can only be grown successfully in a hot plant-stove. These will only disappoint and dishearten the beginner in plant-culture ; and it is unnecessary to employ them, since we have the floras of temperate countries to select from, and these include hundreds of hardy or half-hardy shrubs, bulbs, annuals, and herbaceous plants, that will not only exist, but grow vigorously and flower freely in the comparatively temperate atmosphere of an ordinary apartment. All lovers of flowers must remember that one blossom allowed to mature or "go to seed," injures the plant more than a dozen buds. Cut your flowers, then, before they begin to fade. Adorn your room with them ; put them on your tables ; send bouquets to your friends who have no flowers, or exchange favours with those who have. Of course, in the case of annuals, seed must be saved in order to propagate the species ; but they flower all the longer and more profusely if only a limited number of seed-pods is allowed to ripen : and the seed itself is of

better quality. Another drawback to the successful culture of plants in rooms is the use of gas as a lighting agent. The slightest escape, either from the meter or pipes, is sufficient to cause the leaves to droop and fall off prematurely, besides otherwise injuring their appearance. In all cases where the use of gas cannot be dispensed with, provision should be made for carrying off the fumes as speedily as possible by a thorough system of ventilation. This much is actually essential for our own comfort and convenience; and the evil of a polluted and over-heated atmosphere ought to be more generally acknowledged and provided against than is at present the case. If much gas is used, it is as well to content ourselves with a few interesting plants and Ferns, and to give these the protection of a closed or Wardian case. Most plants grow very luxuriantly in these contrivances, defying both the destructive influence of the gas and aridity and dust. It should be borne in mind that the leakage of pure gas from the pipes is far more destructive to vegetation than the fumes evolved during combustion—that is, if the gas is properly consumed as it leaves the jet or burner. Cold draughts, caused by opening doors and windows simultaneously, must be avoided when possible, though our own personal comfort generally guides us correctly in this matter. The dry atmosphere of ordinary apartments is not the best position for the growth of healthy plants, as the aridity induces excessive evaporation from the foliage. In the greenhouse this can be counteracted by a frequent use of the syringe; and in practice it will be found an excellent plan to carry the plants outside once or twice a-week during the summer months, and either syringe or sprinkle them with a watering-can

thoroughly well, so as to remove all dust, insect pests, and other impurities from their foliage. Setting plants outside during warm summer showers is an excellent plan,—none the worse because old-fashioned. Plants grown outside the window, or on the balcony, can, of course, be sprinkled or syringed where they stand.

In selecting plants for the decoration of our dwellings, we are too apt to commence with fully developed specimens, selected either from the greenhouse or plant-stove; and, as a rule, such plants disappoint us by their gradual decline from health and beauty when brought into cooler and more exposed positions in the house. Plants always suffer more or less when brought suddenly from a high temperature into a comparatively cold and irregular one; hence, in selecting plants for the decoration of apartments, or the sitting-room window, we should prefer those that have been grown in pots out of doors, or in a temperature as cool as, or even cooler than, that of the room for which we require them.

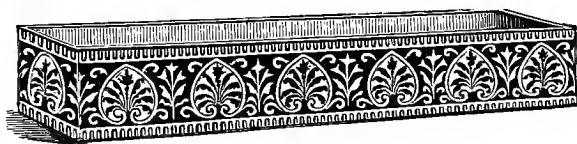
It is always best to commence with young plants, either seedlings or rooted cuttings, as these gradually become inured to the fresh conditions in which they are placed, forming sturdy little specimens, full of vigorous health. Most of the pretty little decorative plants brought into the London flower-markets during the summer and autumn months are either seedlings or cuttings grown on in frames or cold pits outside: and these seldom fail to grow well in any ordinary sitting-room window, if properly cared for. Of late years, much improvement has taken place in room and balcony gardening, especially in the neighbourhood of London; and one of the best practical lessons as to the plants suitable for this purpose may be obtained

by taking a walk in any of the West-end thoroughfares. Piccadilly and Park Lane generally furnish excellent examples; while nearly all the plants grown in the Parks during the summer months are also valuable for rooms and balconies. Where balconies do not exist, or their erection is not practicable, the next best thing is a window-box fitted on the sill



Common Wooden Window-Box.

outside. These boxes are made of various materials, and of any size. Those of varnished wood, virgin cork, or enamelled tiles, are very pretty, and suited



Zinc Box faced with enamelled tiles.

to different styles of architecture. These boxes are well adapted for ordinary bedding-plants, hardy climbers, annuals, and hardy and half-hardy bulbs;



Zinc Window-Box faced with ornamental tiles.

but if the culture of exotic Ferns be attempted, a neat glass case can be fixed in place of the simple window-box, and in this many of the hardier kinds

will luxuriate during summer in all their delicate freshness and beauty. These cases do not cost much, and may be constructed by any ingenious mechanic or artisan, as an embellishment to his home.

It often happens that the window-gardener is pinched for room, and has to economise the space at his command as much as possible. We here



Bracket Pot.

figure one or two useful little contrivances for suspending plants on walls, either inside or outside the window. They are simple, and can be used wherever there is a bare inch or two of wall to spare; and it generally happens that there is abundance of bare bricks and mortar

about towns that would be all the more attractive if draped with Ivy, Creeping Jenny, Tropæolums, Convolvulus, or any other foliage or flowering plants.

The Fern brick is for building in walls at intervals for the reception of Ferns and drooping plants.

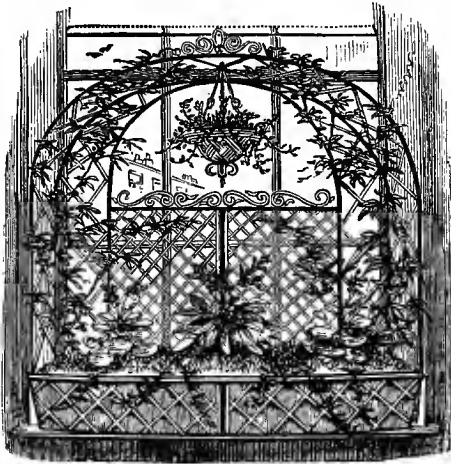


Fern Brick.

Our illustrations show nice arrangements for fixing inside the window, and by which the look-out is considerably improved. One consists of a simple window-box faced with enamelled tiles, and furnished with a neat semicircular wire trellis, over

which to train climbers. The box is planted with fresh green trailers and a few flowering plants, raised either from bulbs, seeds, or cuttings, as the case may be. A couple of plants of Ivy, Virginian Creeper, or other graceful climbers, are planted at the corners to cover the arch, and a small hanging basket, neatly planted with Creeping Jenny, Sedum Sieboldii, Tradescantia,

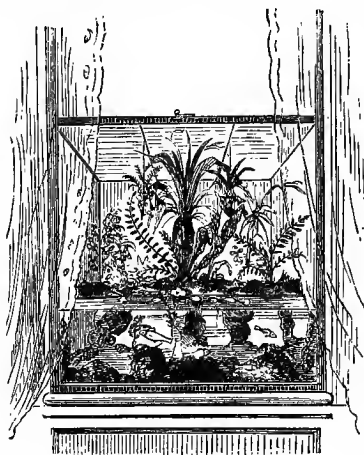
or *Saxifraga sarmentosa*, completes the elegant group. In Paris, I noticed many similar arrangements to the



Window Box (inside).

above, but *Ficus elastica* (India-rubber plant), *Oleanders*, small Palms, *Dracænas*, and other hard-leaved foliage plants, and Ferns, were generally used to furnish them. These boxes may be made gay with early-flowering bulbs during the spring months; and a few seeds of annuals, climbers, and foliage plants, together with *Fuchsias*, *Geraniums*, and *Balsams*, will suffice to keep them gay during the summer and autumn. An aquarium and plant-case combined possesses special attractions to many window-gardeners, as, in addition to the fresh-coloured flowers and foliage, we have the sparkle of the water and the lively motions of its inmates. These aquaria and plant-cases are made in various forms and materials, to suit different positions. Our figure shows one fixed outside the window, where they are very ornamental during the summer months.

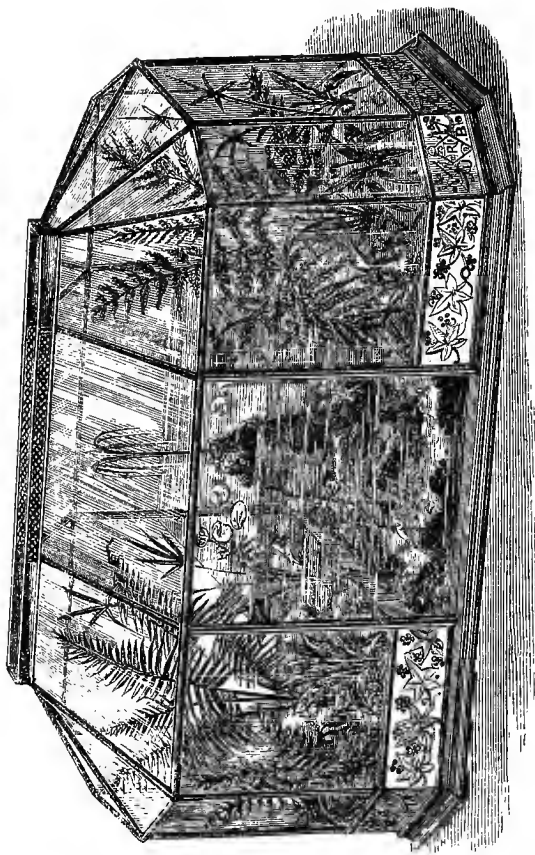
They must be removed in winter, however, or the glass would be broken by severe frosts. A better form is



Inside view of outside Window-Box and Aquarium combined.

that shown opposite, which consists of a space for plants at each end, and an aquarium in the centre. These are very interesting room ornaments, if placed on a stand or table near the window; and they can be constructed so as to be readily heated, either by a gas jet or small spirit-lamp. Aquaria are specially valuable to those who

possess a microscope, as they afford a never-ending supply of fresh and beautiful objects for study. We have many native plants and animals well worth adding to the indoor plant-case or aquaria; and some of the delicate Mosses and Ferns will grow better on pieces of sandstone, just elevated above the water's edge, than elsewhere. The rare Killarney Fern (*Trichomanes radicans*) seems perfectly at home in such a moist position; while the Water-Fern (*Ceratopteris thalictroides*) can scarcely be induced to exist, unless its roots are plunged in the mud below the water's edge. We give a short list of aquatics at the end of this volume, to which reference may be made for further information.



Large Plant-Case and Aquarium.

FACILITIES FOR STUDY AFFORDED BY
PLANT-CULTURE.

In some cases even in London and other large towns the amateur cultivator will possess a few yards of garden at the back of the house. If he is so fortunate as to possess this, and a real love for beautiful flowers, much may be done towards gratifying his taste in this direction. He may not be able to erect a greenhouse; but a common garden-frame can be obtained for a few shillings, and with this as the *pièce de resistance*, and the addition of a couple of patent hand-lights, he will get along famously. The great cause of failure in plant-growing, consists in either attempting too much, or in making a bad or unsuitable selection of plants. If we have no proper convenience for tropical stove-plants, we must of course boldly reject them in favour of hardy or half-hardy plants, many of which are scarcely less beautiful than the choicest Epiphytes. We cannot grow exotic Orchids, but we can grow plants equally as interesting, and shall obtain much pleasure and healthy recreation for our pains if we go about it in the right way. We have hundreds of plants that will luxuriate in a little town garden, and are by no means limited in our search after variety to suit local circumstances or peculiarities. If the little plot is damp and shady, grow Ferns and other moisture-loving plants. If it is dry and barren as the great desert itself, never mind—it is just the place for a collection of succulents; and the hotter and brighter the sun smiles down upon them, the fresher and healthier will they smile on your efforts to supply their simple wants. A friend of mine, who is deeply interested in Fungi, finds a

garden of forty feet by thirty amply sufficient for his requirements. Here he has a fine collection of plants, and heaps of all kinds of—well, you would in all probability call it rubbish—on which Fungi of all descriptions most do congregate. Here he has carried out experiments in cultivating many species not generally used as food; and during his leisure hours he is ever busily engaged either making notes, or in examining some curious species under the microscope; while the splendid collection of drawings he has made of the smaller kinds known as blight, rust, and moulds, would delight the heart of any eccentric fungologist. Another, also a microscopist, has constructed a circular tank in his little back yard, eight feet in diameter and two feet in depth. Here he grows Water-Lilies, Aponogeton, Anacharis, Frogbit, Lemnas (all the British species), Horse-tails, Starworts, *Iris pseudo-acorus*, *Calla palustris*, *Richardia æthiopica*, *Butomus umbellatus*, together with a whole host of rare and interesting water-weeds, of which I do not remember the names. The plants are, however, but a part of his collection—the water supplies the means of existence to members of the animal as well as the vegetable world. Here are frogs, lizards, fish, leeches, and water-beetles, in profusion, in addition to hundreds of the lower and even more beautiful forms of animal life; while every Saturday afternoon's excursion is the means of adding to the interesting little colony. I might relate other examples of what working men and students of nature have done under difficulties, were they not, in all probability, as well known to the reader as to me. Given a real earnest love for gardening, botany, or any other pursuit, and it is perfectly astonishing what success is achieved under obstacles which to many would have appeared insur-

mountable. Window-gardening is attractive, because, happily, there are but few who do not love and admire beautiful flowers; but it is doubly attractive when made the means of thought and study. We place or suspend an acorn in a wide-mouthed bottle, partly filled with water. What is the result? Watch the little egg-shaped mass for a few days, and you will see it gradually swell until it bursts its glossy brown and leathery coat. Note how the plumule rises from the fleshy cotyledons, and how the roots descend in search of moisture, so essential to vegetable life. It is a simple thing, you may say; and so it is. Nature is made up of such trifles, and the most simple fact is worth knowing, especially when we remember that every mighty oak was once a little simple acorn, and all have reached their present massive grandeur by slow stages from exactly the same starting-point as our little friend in the glass. Is there no lesson to be learned from a little incident like the germination and growth of an acorn in a phial? Does it not remind us how the greatest results invariably spring from modest and simple beginnings? Does it not teach a lesson of patience and humility to us all? Watch the delicate green leaves unfold themselves one by one in their little prison-house. It is an oak in miniature, and subject to the same laws as those which govern the stoutest and tallest monarch of the forest, slightly modified, of course, by the peculiar circumstances around it. The only difference there is between them is in proportion or degree, each being alike influenced by light, heat, air, and moisture, the four great essential principles of vegetable life. You don't believe it? Well, test it for yourself. The leaves are now fresh and green. Why are they green? Why not yellow or red? They are green because full exposure to the

light enables them to perform their functions—to absorb the same air we breathe ourselves, and to develop chlorophyll, or green colouring matter. How does it use the air *it* breathes? It retains the carbon and returns the oxygen pure, or nearly so, for our use and the use of animals in general. It is, then, a purifier, an analyser, a life and health promoter, just the same as the great oak that has defied the wintry blast for centuries. Again, take the glass and place it in a dark closet; or, in other words, deprive it of light. Look at it in a week's time. The leaves are pale and yellow. How is this? Why does it look so sickly and debilitated? Simply because it cannot perform its functions without light—cannot live without it, in fact, for any great length of time, any more than it can live without heat, air, or moisture. The green colouring matter is not produced, and the leaves turn yellow. We shall try it once more. Hitherto we have carefully given it fresh water, with a drop of ammonia occasionally, and have noted that it seemed the fresher and better afterwards. Now, let us see what effect the absence of water or moisture will have upon it. There, we empty out the moisture, and place the glass again on the chimney-piece. Perhaps you have heard gardeners say (in answer to a question of your own) that the growth of plants varies according to the circumstances or local conditions by which they are surrounded? Now you will see that our acorn is under precisely the same conditions as it was before, with one exception—that of moisture. You remember how fresh the plant looked an hour ago. Look at it now. All the moisture has evaporated from the glass, and the leaves of the little oak are no longer fresh and spreading. They do not droop much as yet; but it is evident that they are shrivelling up fast; and

when we feel them they rustle like brown paper. This is owing to the absence of moisture, without which vegetable organisms cannot possibly exist. But how are we to account for the absence of moisture from the tissues of the leaves that looked so plump and vigorous an hour ago? Simply enough. The plant being surrounded by a dry, arid atmosphere, increased by its close proximity to the fire, has lost its moisture by evaporation or excessive transpiration. We cannot see the moisture escape; but still we know how to collect it in quantities sufficient for all practical purposes of measurement and calculation. Take half-a-dozen leaves of any sort—large fresh leaves are best; but let them be quite free from extraneous moisture. Now, take a common glass tumbler, and carefully dry it before the fire until you are quite satisfied there is no moisture inside. Place your leaves beneath the glass on a smooth board, or a flat stone slightly heated before the fire. In about an hour or two your leaves will shrivel or droop languidly—a sure sign that moisture has escaped from them by evaporation; but in this case we know it otherwise, for we can now see it condensed inside the tumbler. Now we know how it is our cuttings shrivel, and why the cut foliage and flowers with which we ornament our rooms so soon droop and fade. It is the absence of moisture; or, in other words, the aridity of the atmosphere surrounding them which sucks the moisture out of their tissues, and leaves them limp and lifeless. Hence we see why plants droop when short of moisture. In the case of healthy well-rooted plants this constant loss by transpiration (which takes place most rapidly in the day-time, when they are exposed to the hot sun) is seldom noticeable, because its effects are counterbalanced by the supply taken up by the

spongioles, or extreme tips or feeders of the roots, and hence absorbed throughout the vascular and cellular tissues of the entire plant. This absorption and diffusion of moisture takes place much more rapidly than is generally supposed.

Evaporation or transpiration takes place much less rapidly in a moist or humid atmosphere; hence we place our bouquets and cut flowers on a bed of damp moss beneath a bell-glass or crystal shade when we wish to preserve them as long as possible. This is the reason why we place delicate cuttings in a close case and syringe them every few hours; and it is the same reason that induces the gardener to throw water over the stages and floors of his hothouses during the hottest days of summer.

If the reader has had the patience and perseverance to follow me thus far, he (or she) must feel deeply interested in plant-lore—must love flowers for their beauty and sweetness, and attend to their wants with a tender and thoughtful hand. To all such I most heartily recommend a work that will not fail to please and instruct them—the work of a great mind—a mind that had learned to read the open pages of nature's great book, and to translate it for others less favoured. I allude to 'A Tour Round my Garden,' by Alphonse Karr, of which I believe there is an English translation by the Rev. J. G. Wood, a well-known and very eminent naturalist. In recommending this interesting work to all true naturalists, I beg to state that I am influenced by no interested motives; indeed I do not even know the names of the English publishers: but I feel sure it will direct all lovers of nature into pleasant fields of study and research, and prove a delightful companion in many a country ramble. It will also illustrate how a small garden may be made

a mine of golden happiness and contentment when cultivated and studied for itself alone.

This is not the proper place for lessons in botany; but if the reader is interested in the subject, I can recommend the use of Master's 'Botany for Beginners,' or Oliver's 'Elementary Botany,' both of which teach this fascinating science in a popular and pleasing manner, without diverging in any way from the *truth* which is *science*.

PROPAGATION.

This is a subject of deep interest to most window-gardeners, since much of the pleasure of gardening in all its branches consists in being able to multiply and cultivate our own plants. In some cases plants may be bought for less than it costs to grow them ourselves; but that is not the argument. Few window-gardeners grow plants for profit—indeed many of us never grudge a few shillings at any time for plants, seeds, or cuttings. Still we often prefer to grow our own plants, simply for the pleasure and experience we obtain in so doing. To read the mysteries of germination is nothing to many of us; but to watch the actual process itself is often a great pleasure, while actual experience is far better than poring over a dull and verbose treatise on the subject. Many people are deterred from propagating their own plants by cuttings, or even raising them from seeds, simply on account of the numerous imaginary difficulties which present themselves. We shall now give such instructions as will enable any one with a real love for beautiful flowers to astonish themselves, and perhaps their neighbours too, in the propagation of window and balcony plants.

Propagation by Seeds.—This is nature's great plan

of reproduction in the vegetable world ; and the old dame sows most of her seeds as soon as they are ripe, at the same time giving them the protection of the falling leaves of autumn, which eventually act as manure to the seedling plants. Multiplication by seeds is simple, and is generally adopted in the case of hardy herbaceous and border plants, and always in the case of annuals or such plants as spring from seed, grow, flower, and perfect seed in their turn within the same year. Mignonette, Asters, French Marigolds, Balsams, and many other beautiful plants, belong to this class. Biennial plants, or such as are sown one year and flower the next, are also for the most part raised in this manner. Nearly all the new varieties of our common flowers and fruits have been raised from seeds,—some intentionally, others by chance or accident. Variegated plants are often originated or rather perpetuated from accidental variations called “sports ;” and many beautiful varieties of flowering plants, especially Camellias, Azaleas, Chrysanthemums, and Pelargoniums, are merely “sports” perpetuated either by cuttings or grafts. Some varieties always come true from seed—*i. e.*, like their respective seed-bearing parents—while others vary to a great extent, both in size, colour, time of blooming, and constitutional vigour. Many hardy border or herbaceous plants are propagated from seeds sown in the autumn (*see list*) or spring months in the open borders. If the plants are to remain where sown, dibble the seeds in and carefully thin out the plants to prevent their crowding. For many plants it is best to sow in beds of light pulverised earth, carefully raking them in at the same time. In this case the seedlings are more easily protected during bad or unfavourable weather, and when suffi-

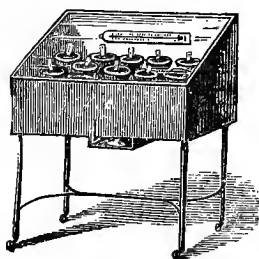
ciently strong they can be pricked out or potted off as the case may be. Half-hardy plants are best raised from spring-sown seeds. These may be scattered in pots or shallow boxes either in a sunny window or in a greenhouse or frame. Hardy and half-hardy annuals are best sown in boxes of light earth during March, and they may be pricked off into other boxes when they become too thick. Grown in this way they are nice little plants for setting outside in May or June, after the frosts are over, or for window-culture when grown in pots. Some annuals bloom earlier and better when sown in autumn (*see list*).

Preparation of Seed Pots, Boxes, and Pans.—Clean your pots or pans and dry them thoroughly. Now take some pieces of crocks (*i.e.*, broken flower-pots), and placing a large convex piece over the hole at the bottom, fill the pot half full of smaller pieces; over these place a thin layer of turf or moss, to prevent the soil from washing down in among the drainage. Fill the pot nearly level full of soil prepared as follows: Take a spadeful of good sweet garden soil or loam, half a spadeful of either white or yellow river sand, and a spadeful of leaf-mould—*i.e.*, thoroughly rotten leaves. Mix these well together, and fill the pots as above recommended. Do not press the soil too firmly, especially if it is very moist, or it will set hard and dry in a solid mass. Smooth the surface by pressing it gently with a circular bit of board made for the purpose, with a nail or screw in the middle to serve as a handle. Now sow your seeds, scattering them equally over the surface, after which sprinkle a little fine sandy soil over them. The depth at which the seeds are buried depends on their size and strength of constitution. Very fine seeds, as *Primula* or *Calceolaria*, are best not covered at all, a sheet of

tiffany or brown paper being placed over them until they germinate, when it must be removed and a plate of window-glass substituted, to give them all the light they require. Strong-growing kinds, as French Marigolds, Sweet Peas, or Convolvulus, may be covered two or three inches deep without injury, though such a depth is not necessary. If a box is used, bore holes in the bottom to allow all superfluous water to escape freely. Water before sowing, sprinkling when necessary with moderately moist soil. With small seeds it is impossible to water after sowing without disarranging them. In the case of tender seeds, a depth of from a half to three quarters of an inch should be left between the soil and the top of the pot. This will allow of the pots being covered with a plate of ordinary window-glass, a simple contrivance which greatly assists the cultivation by keeping them a few degrees warmer, and also preventing the soil from drying too rapidly by evaporation. As the seeds germinate the glass must be tilted with a bit of stick, or the plants may damp off through being in an atmosphere too close and humid. The above simple contrivance answers the purpose of a bell-glass until the seedlings attain a considerable size.

Propagation by Cuttings.—This is a simple though artificial method, and answers well for a large proportion of the perennial plants grown in balconies and apartments. What are technically known to gardeners as “soft-wooded” plants are very easily “struck” from cuttings of the stems or branches. To this class Geraniums (Pelargoniums), Chrysanthemums, Lobelias, Coleus, Fuchsias, and other plants of similar texture belong. “Hard-wooded” plants, as Camellias, Azaleas, Ericas (Heaths), and Epacris are much more difficult, at least to an ordinary window-cultivator.

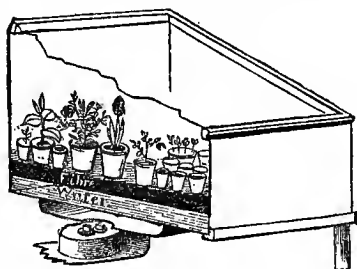
Nearly all cuttings are prepared in a similar manner. A young shoot is selected an inch or two in length, and its axis is severed just below a joint; a few of the lower leaves are also removed out of the way, using for the purpose a keen blade that will sever the tissues without bruising them. The length of a cutting depends on the habit of the plant and the time of the year. For example, we will take the common India-rubber plant (*Ficus elastica*). In the spring young branches a foot or more in length may be taken from an old plant headed down the previous year. These strike readily, either in a Wardian case, under a common hand-light, or in a pot covered with a bell-glass, so as to prevent excessive evaporation. In the autumn, however, it is difficult to root such large pieces, as they have a tendency to damp off; but eyes—*i.e.*, single joints cut from an old stem, and just bedded in light soil, with a gentle bottom-heat—root freely, and make nice plants the succeeding summer. A year or two ago, Mr Peter Barr, who is well known to horticulturists as one of our most enthusiastic window-gardeners, invented a neat little propagating case,



Heated Case.

heated with an oil or spirit lamp, and which we have found very useful, not only in striking all kinds of tender cuttings, but also in raising seedlings, or for preserving tender plants in the window during the severest winter months. Several of our acquaintances have also spoken very highly of this ingenious contrivance, which cannot be surpassed for cleanliness and economy, while the first cost is amply repaid by the pleasure we experience in being able to propagate the

most beautiful tropical plants either from seeds, cuttings, or by grafting. The accompanying sectional figure shows everything connected with it quite plainly, and saves us the necessity of describing it in every particular. In some cases, especially during summer, the layer of spent tanners' bark or cocoa-nut fibre should be thicker, and then the



Section of Heated Case.

pots can be plunged up to the rim. In one of these cases the amateur may propagate hundreds of ornamental decorative plants, and more especially such plants as Coleus, Alternanthera, Lobelia, Fuchsias, Veronicas, Pentstemons, Helichrysums, Chrysanthemums, Cupheas, Calceolarias, Primulas, Cyclamens, Begonias, and others too numerous to mention. The amateur will find it best, as a general rule, to strike all his cuttings in the spring, or as early in the summer as possible; they then become thoroughly rooted and established before the dull damp winter season approaches, a period generally fatal to plants not well rooted. Bedding Geraniums, Calceolarias, and Centaurea ragusina and *C. gymnocarpa*, are best struck during July or early in August. A warm sunny spot on a south border should be selected, and the cuttings inserted about an inch deep in rows. If there is not the convenience of a border, boxes of soil placed on the balcony or outside a window exposed to the sun do just as well. Give them a good watering to settle the soil around them, and shade them from bright sunshine for the first week or two, after which they

may be fully exposed. By the beginning of October they will be well rooted, and must be potted off in small pots for removal indoors. This is a far better plan than coddling them in the window beneath bell-glasses; and we have more room and appliances at hand for more tender plants that actually require them. Cutting pots or pans are prepared as recommended for seed-pots, with the addition of a thin layer of white sand for tender species. It is advisable to use this when the cuttings are struck in the Wardian case or window, as the sand gives a neat and tidy appearance to the surface. Many plants, as Begonias, Gloxinias, Hoyas, Melastomas, and Bertolonias, may be struck from well-developed leaves inserted in sand like cuttings. Fuchsias, Heliotropes, Crassulas, Cupheas, fancy Pelargoniums, Cobæas, Cissus antarctica, Myrsiphyllum, Ficus repens, and many other window and balcony plants, strike freely from the young shoots emitted from branches of the preceding year. In some cases the young wood of the current year roots best; if these damp off, however, try again, leaving a heel of the preceding year's wood at the base of each. A little practical experience will soon render the amateur cultivator expert in raising plants from cuttings. Escallonias, Aucubas, and most other evergreen shrubs, may be propagated by means of layers or cuttings, made of the young wood, put in during the spring; but the layers are perhaps best if a small number only is required. Tamarisk and Veronicas strike from cuttings nearly as freely as Willows, and may be inserted in a shady position any time during the summer months. As regards planting out evergreens, some recommend September as the best time to perform the operation; but we believe, with care, they may be planted at all times of the year.

Propagation by Layers.—This is a safe method, and

is very simple in practice ; it being specially applicable to many climbing plants and shrubs, as Ivy, Ampelopsis, Wistaria, and many others. To propagate by layers, a young branch near the ground is bent down, the bark on its under side being either removed or slit with a sharp-pointed knife. It is now buried in the earth, being secured firmly in its place by a wooden peg or other simple contrivance. Here it can remain until thoroughly rooted, after which it may be removed and planted elsewhere. Carnations and Picotees are frequently propagated in this way, the stem being slit half-way through at a joint, and firmly secured with a bent twig of willow or a small peg, after which it is covered with soil. Some plants are difficult to propagate otherwise than by this system ; Lapageria and Chimonanthus being familiar examples.

Propagation by Division.—This is exceedingly simple, and applicable to a vast number of hardy herbaceous plants, Ferns, and bulbs. In the case of perennials, the clumps or masses are either separated by the fingers, or cut with a spade and replanted where they may be required. Masses of Lilies, Snowdrops, Crocus, Narcissus, and Squills (Scilla), are simply pulled to pieces, and either replanted or potted for window and balcony decoration.

Budding and Grafting.—These systems of propagating are so rarely required by the window-gardener, that it is next to useless my describing them here. Should the amateur wish to extend his knowledge, I can refer him to Charles Baltet's work, 'Art of Grafting,' as the best.

The proper time to procure Cuttings, Bulbs, and Roots.—As a general rule, it will be found that cuttings strike root more freely during the spring or early summer months than at any other time. The professional horticulturist, who has abundant means at

his disposal, pays but little attention to this rule; but the amateur, with limited appliances, will find that cuttings, which root freely during the bright sunny days of spring, only damp off and decay as the days are on the wane. Most plants start into growth during the early part of the year with renewed vigour and increased vitality; while, during the damp and foggy days of autumn and winter, vegetation is more sluggish, and, in many cases, is nearly suspended altogether. Amateurs are often at a loss how to obtain cuttings; but they are frequently advertised in horticultural periodicals during the spring and summer months at a trifling cost, as compared with the prices asked for established plants. Nearly all the new and attractive varieties of Fuchsias, Pentstemons, Antirrhinums, Geraniums, Chrysanthemums, and other soft-wooded plants which strike freely, may be obtained in this way. The following list of cuttings and the times to obtain them, may be useful to some of our readers:—

	From		From
Antirrhinums . . .	March to Sept.	Pentstemons . . .	March to Sept.
Aralias	" "	Petunias	" to June.
Bouvardias	" "	Pinks	June to Aug.
Bedding Plants . . .	Feb. to Oct.	Picotees	" "
Begonias	March to Sept.	Phlox	March to Sept.
Calceolarias	" "	Solanums	Feb. to April.
Carnations	June to Aug.	Tropæolums	" "
Cinerarias	" "	Variiegated Ivies	" "
Coleus	March to Sept.	Verbenas	" "
Centaureas	" to Aug.	Veronicas	" "
Chrysanthemums . . .	Feb. to May.	Violets	" "
Dahlias	" to June.		
Dracænas	March to June.	MISCELLANEOUS.	
Fuchsias	" to Sept.	Dutch Bulbs	Sept. to Dec.
Geraniums	" "	Herbaceous Plants	" to March.
Heliotropes	" "	Flower-Seeds	" to Jan.
Lantanas	" "	Hardy Bulbs and	
Pansies	May to Sept.	Orchids	" to May.
Pelargoniums	March to Sept.	Evergreen Shrubs	" "

SOIL FOR POTTING.

One of the most common and fatal errors into which the inexperienced fall, is that of making choice of inert and finely pulverised soil for potting. This and insufficient drainage are more disastrous to pot-plants than any other two points of culture that can be named. To pot plants in common garden-soil which is generally destitute of fibry matter, and at the same time to neglect thorough drainage, is the shortest and surest way of reducing a plant, however hardy and vigorous, to a state of inaction and premature decline. Such soil is destitute to a great extent of what forms the food of plants. Were this its only fault, it might be remedied by the application of stimulants in a liquid form ; but the principal want or error lies in its mechanical condition being at variance with the requirements of a healthy pot-plant. What is required is organic or turfy matter, which in its gradual decomposition affords food to the plant, and at the same time forms a root medium, which freely admits the wholesome influence of the atmosphere, and has the power of absorbing therefrom the essential gases so necessary to the wellbeing of plant-life. A plant potted in finely pulverised soil, or rather dust, entirely destitute of fibre particles, finds itself, especially after frequent waterings, in a close hardened medium. If young roots are ever formed in a healthy condition, they are most difficult to be kept alive, if that be at all possible under such circumstances. Such a body of soil, especially if watered with water in which there is a sediment, soon becomes solid, and no tender plant can thrive in it. The soil most suitable for the growth of plants in pots should contain a large proportion of

decomposing fibry matter, such as the roots and herbage which are common to the surface of old pastures. The fibry matter which such soil contains not only presents in its gradual decomposition the constituent elements which form the chief food of plants, but prevents at the same time the soil from becoming compressed and soured. Such soil should be chopped up or teased with the hand without removing the fibre. Sifting should never be had recourse to, except when it is to be used for potting young things into very small pots; and even then, instead of separating the fibre from the mineral or earthy components, it is preferable to beat or pulverise the whole until it is fine enough for your purpose. These remarks apply to both peat and loam, and should always be borne in mind when preparing soils for potting.

Loam.—This is rather a comprehensive term, and one that is differently interpreted by different people. Brickmakers' "loam" is a peculiar greasy or unctuous kind of clay, about as unfit for our purpose as could well be imagined. A foundryman or core-maker's idea of loam is a mixture of soft yellow sand and horse-dung, and of no use to us for plant-culture. Gardeners' loam is nothing more nor less than ordinary soil or turf from either commons, roadsides, or pastures, and varies greatly in its excellence for plant-culture. We have several different varieties, as "turfy or fibrous loam," the best of which is obtained from upland pastures or sheep-walks, and consists of a friable yellowish or nut-coloured earth, rich in vegetable fibre. This, when cut in turves about three inches thick, and laid in heaps for a month or two to dry, is very valuable for growing all kinds of plants. Sandy loam is obtained from gravelly districts, or from the face of the sandstone rock, in many parts of the coun-

try. It contains more sand, and generally less fibre, than "fibrous loam." Sandy loam of good quality may frequently be met with by the sides of roads and on waste commons. Loam that is too sandy, or loam wet and unctuous like clay (soft yellow loam), is not so good for plants as those we have named, more especially the former kind. If possible, procure a barrow-load or two of good fibrous loam, and stack it up to dry in any outhouse or shed where it will always be handy for use.

Peat.—This is black or dark-brown heath soil, from moors and commons, and is highly prized by cultivators, when of good quality and rich in vegetable fibre. It is much more open and lighter than loam, but, like it, often contains a large proportion of sand. This is, however, rather an advantage than otherwise, since it is always added, if not naturally present. Peat is very useful for mixing along with loam, and renders the compost to which it is added both richer and lighter. Peat-earth is very nutritious to vegetable life when of good quality, and is mainly composed of pure vegetable fibre or organic matter, in different stages of decay, together with a slight admixture of other earthy substances. Peat should be stacked up under cover, as it is very absorbent, and soon becomes too wet for immediate use, if left outside in heavy rains.

Leaf-mould.—This is one of the most valuable of all compost materials in the hands of a cultivator, and consists, when pure, of thoroughly decomposed leaves. Most gardeners rake up the fallen leaves during the autumn months, and, throwing them into heaps, cover them with a thin layer of earth, to prevent their being blown about by the winds. Others bury them; but in both cases they remain until thor-

oughly rotten before they are fit for use. Leaf-soil is one of the most stimulating of all composts for soft-wooded plants and annuals, when mixed with fibrous loam and peat, with the addition of well-washed sand. If leaves cannot be collected and buried, it may be bought by the bag from any respectable nurseryman or florist. Leaf-mould is largely used in Belgian nurseries for nearly all kinds of plants, in place of peat, so largely used here at home.

Sand.—There are two sorts used by horticulturists—yellow river, or road sand, and the ordinary white sand. This material is largely used by plant-growers for the purpose of keeping the particles of soil separate, or free and open, as gardeners express it. Sharp, clean, road sand, when well washed, is equal to white for plant-culture, and is also cheaper. Very fine sand is not so beneficial, as it allows the compost to clog too much, instead of answering the purpose for which it is intended. Sand should always be carefully cleaned by washing before it is used. If sand is good and clean, it will not discolour the water in which it is placed. Sand that contains lime renders the water milky, while that which contains iron is generally red in colour, and very heavy. Neither should be used, if clean and pure sand is obtainable.

Sphagnum Moss.—This material may be classed with the soils or composts, and is very useful in the culture of Droseras, Cephalotus, Darlingtonia, Sarracenia, and Ferns in the Wardian case, or under a shade or bell-glass. It is also useful for filling wicker-baskets in which Roses, Lilies, and other flowers are arranged; or for filling vases or hanging earthenware pans, in which Ivy, Dioscorea, Crocus bulbs, or half-hardy Selaginellas, as *S. Kraussiana* (*S. hortensis*),

S. helvetica, *S. variegata*, *Lycopodium dendroideum*, and many other sub-aquatics and moisture-loving plants, may be cultivated with great success. In many districts, especially in Yorkshire, Lancashire, and in Scotland, this is abundant in every glen or bog. In some of the Yorkshire "gills" it forms moist carpets on beds of spongy peat, and affords nourishment to many interesting little sub-alpine plants. Living sphagnum, and lumps of fibrous peat, with the addition of a little coarse well-washed sand, is an excellent compost for *Dionæas*, *Droseras*, *Cephalotus*, and many of the Ferns and scandent or rambling *Selaginellas*.

This moss is an excellent substance with which to cover any bare spaces at the bottom of a Wardian case, and should be kept continually moist, so as to encourage it to grow freely. Spread over the bottom of the propagating case, it will keep the atmosphere in a genial state of humidity, and should be sprinkled with tepid water every morning or evening. For lining the bottoms of hanging baskets it is just the thing; and it is unrivalled for placing over the crocks in flower-pots, where it prevents the compost from washing down and clogging the drainage.

Decayed Manure.—This substance properly belongs to the succeeding chapter; but as it is generally used in combination with soils in potting, I include it here. Decayed hotbed manure is very useful for mixing along with loam and sand for many gross-feeding plants, as *Chrysanthemums*, *Lophospernums*, *Ornamental Gourds*, *Maize*, *Fuchsias*, and strong-growing annuals. It is best when thoroughly decomposed, so that it crumbles in the hand like rich black mould when dry.

In country districts, all the above materials may

be readily obtained ; in large towns, however, it is more difficult ; but small quantities may be obtained, either from the decorative and furnishing florists or from any jobbing gardener.

Even in London, soil for potting, ready mixed, can be bought at prices varying from a shilling to three shillings per bushel, from many of the first-class decorative or furnishing florists and nurserymen.

MANURES OR STIMULANTS.

Fertilisers are of great service to the window-gardener, just as they are also useful in gardens and plant-houses on a large scale. One of the best of dry fertilisers for all kinds of window-plants (except Ferns and succulent plants, neither of which should have manure in any form, except leaf-mould) is pure bone-dust, mixed with the lime easily obtainable from a few oyster-shells calcined in the kitchen-fire. This may either be mixed with the compost used in potting, or sprinkled on the surface of such pots as are known to be full of hungry roots. Bone-dust and lime may also be mixed with soft water in a pail or small tub, and the liquid used after it has settled. If it is required a little stronger, put in just a small tea-cupful of guano—not a bit more, unless for gross-feeding plants, as Fuchsias, Chrysanthemums, Ornamental Gourds, Ivy, and other strong-growing climbers. Guano-water alone makes a good stimulant, but is better still with the addition of a shovelful of either fresh cow-dung or sheep-droppings. In towns where fresh animal manures cannot be readily obtained, there is no better or more pleasant fertiliser than Standen's Gardeners' Manure, which is sold by all florists in

sealed canisters. This is as clean as bone-dust, and even more stimulating as a manure. It can either be used dry or mixed with water. I prefer to use it in solution—as, when sprinkled on the surface of the pots, I have found it subject to a mouldy-looking fungoid growth. Ammonia used in solution, half an ounce to two gallons of rain-water, is one of the best and cleanest of all fluid stimulants. Ammonia is contained in rain-water, and contributes much to the fresh green appearance assumed by vegetation after refreshing showers in summer.

Many persons object to fresh animal manures on account of their effluvia ; but if two or three handfuls of pulverised charcoal be thrown into the vessel, it will be found an effectual deodoriser or disinfectant. Weak glue-water or size is an excellent stimulant for pot-plants. Powdered charcoal may be mixed with the composts used in potting with excellent effect. Tobacco-water is one of the finest of all stimulants, and is nearly as disagreeable to worms in the soil as a solution of lime.

POTS AND POTTING.

There is nothing difficult in potting plants ; and if you feel a little nervous at first, a very little practical experience will serve to dispel your misgivings on this subject. The best pots are those commonly made of burnt clay or earthenware,—that is, plants grow better in them than in the fancy enamelled kinds ; but we have now very elegant designs in terra cotta or Etruscan ware, in which plants will luxuriate, and they have a neater appearance in the drawing or sitting room window. In practice, I have always grown my

decorative plants in ordinary flower-pots ; and on removing them for decoration, it is a simple matter to place your hand over the surface of the soil and turn the plant out of its pot, having an ornamental pot of exactly the same size to replace it. In changing pots in this way, be careful to shake or tap the soil down firmly into the clean pot ; for if it is a trifle too large, or there is a cavity between the ball of earth and the sides of the pot, the water is sure to pass down the outside, instead of soaking through the ball, and your plant will soon suffer from drought. If flower-pots are required in quantity—that is, by the thousand—it will be best to obtain them direct from the manufactory. If, however, only a few are required, they may be obtained from any furnishing florist, or from the crockery-shops. Pots made by different makers often vary slightly from the following standard list in size, and from each other both in size and quality. A good flower-pot is neat in shape, perfectly symmetrical, not cracked or over-burnt, light, and porous. At many paltry little crock-shops “wastrels” only are bought—that is, pots which are either cracked, over-burnt, or bulged out round the sides, or those which do not stand perfectly level ; all these should of course be rejected.

Name.		Number in “cast” or “lead.”	Width.	Depth.
Twos,	or 18-inch.	2	18 inches.	14 inches.
Fours,	“ 15 “	4	15 “	13 “
Sixes,	“ 13 “	6	13 “	12 “
Eights,	“ 12 “	8	12 “	11 “
Twelves,	“ 11 “	12	11½ “	10 “
Sixteens,	“ 9 “	16	9½ “	9 “
Twenty-fours,	“ 8 “	24	8½ “	8 “
Thirty-twos,	“ 6 “	32	6 “	6 “
Forty-eights,	“ 5 “	48	4½ “	5 “
Sixties,	“ 3 “	60	3½ “	3½ “
Eighties,	“ Thumbs.	80	2½ “	2½ “

Pots are made of the sizes mentioned in the foregoing list, and are generally sold at the factory by the "cast" or "lead," the price per "cast" being the same throughout; indeed this system is one of the earliest attempts at the *pro rata* principle, having been adopted by potters for many years.

Fancy pots or vases of Etruscan ware, or enamelled terra cotta, are now common; and the plants in ordinary pots can be placed inside them, and concealed by a few fresh strips of Ivy or other creepers. In some cases, Selaginella or Club-mosses are established on the pot-tops containing decorative plants, and these effectually conceal the tops of the pots and the soil when placed in the cases.

Potting, as we have previously observed, is a simple operation; still a little attention to the requirements of the plant is essential. It is not enough to seize a plant and jam its tender rootlets down tightly into cold wet earth.

We shall first commence with rooted cuttings. Having prepared your pots and compost, turn your cuttings out of the pot or flat pan in which they have been "struck," and carefully separate their roots, if interlaced or entangled. Your pots must be well washed, and are prepared—*i.e.*, drained—with a large piece of "crock" (broken flower-pot) over the hole at the bottom. Cover it with a few smaller pieces, and place a thin layer of sphagnum over the whole. Now place in a little compost (soil), and, taking the plant carefully in your left hand, place it gently down on the soil, and fill the pot quite full of compost. Now take hold of the pot on each side, placing the two forefingers of each hand over the soil, so as to hold the stem of the plant exactly in the centre, and then shake down the soil firmly by giving the bottom of

the pot two or three sharp raps on the potting-bench, or old table which serves the same purpose. As to pressing down the soil with the fingers, much depends on the amount of water or moisture it contains. Soil for potting should not be wet. Take up a handful and squeeze it firmly in the hand; if it adheres in a solid mass like clay, it is not fit for use, and should either be spread out to dry or mixed with more dry sand, peat, and leaf-mould. In repotting large plants, it is customary to give them a pot a size or two larger than that in which they are growing. This is often essential if the plants are in a fresh and vigorous condition; but if debilitated and unhealthy, they should be treated as recommended at p. 46, or even "shaken out"—*i. e.*, denuded of soil altogether—and afterwards potted in pots as small as possible, and carefully watered until they recover. In repotting large healthy plants, do not shake all the soil from their roots, but only pick off such portions with the fingers as are either loose or stagnant. If the ball is filled with fresh and healthy brown or white rootlets, which thickly cluster round the sides, do not displace much of the old compost, only removing such portions as the crocks or stagnant drainage and soil at the base, and a little round the upper part of the ball. If the rootlets are very densely matted round the sides, just release them with the end of a round-pointed stick. Carefully press the new soil firmly round the sides of the old ball, for reasons previously explained. Do not place too much soil in at once; and as the fingers will not conveniently reach to the bottom of anything larger than a six-inch pot, a piece of flat plasterer's lath may be used in working down the soil, using it gently, so as not to bruise the roots. After the soil is pressed down firmly, smooth the

surface of the compost, which should be left perfectly level, and at least half an inch below the rim of the pot.

WATERING PLANTS.

The question of when and how to water is one of the most important a plant-grower has to deal with. Some of our best professional horticulturists, who grow the splendid examples we see at the best flower-shows, are more particular with regard to this subject than any other operation in plant-growing. Experience is the best guide for this operation, simple as it may appear at first sight; and a few practical experiments with common plants will teach the anxious amateur more than any number of written rules and directions. Above all things keep to a system in your watering. Look over your plants every evening in summer, and every alternate morning in winter. Unless a definite system is adopted, there is danger of your forgetting the poor plants which depend on you for their food and moisture. If you love flowers, this operation will be a pleasure to you; if you feel it irksome, better give up all thoughts of plant-growing at once, for you will never succeed.

As we have implied, watering is a main feature in plant-culture, and rather difficult to explain in writing. If the plant is too dry, the roots as a matter of course cannot attract sufficient moisture to counterbalance the evaporation which takes place through the leaves, and consequently the plant droops, or, as gardeners term it, "flags." Again, if the plant is watered too freely, the soil around its roots becomes sodden and impervious to the air, the leaves turn yellow, and

the whole plant gets debilitated and out of health. From this it will be seen that an equable state of moisture is desirable ; but practice, together with habits of observation, will soon teach the right system to adopt in this branch of plant-culture—a little experience being of much more service than any hints from books. We extract the following from the ' American Gardeners' Monthly ' :—

“ We shall understand better how to water if we correct first some impressions derived from old works on physiology. It is said that plants want water. This is not strictly true. Water is found in plants, but it enters rather in the shape of vapour. A soil that is wet will grow only water-plants ; and it is a remarkable fact that these water-plants seem to have very little water in them. A Reed or Bulrush grown in water has far less water in its structure than a nearly allied species grown on the dry land. The plants which have most fluid matter in them are those grown in the driest places. The deserts of Africa abound in Euphorbias ; while on the plains of Mexico the only moisture wild cattle can often get is from the large spiny Globe Cactuses, which they manage to cleave open with their hoofs.

“ A wet soil is totally unfit for plant-growing. A plant standing 24 hours in water is often irreparably injured. A Hyacinth, to be sure, will live one season in water ; but all the matter which goes to make up the flower is prepared the year before—and after flowering, the bulb is exhausted and almost worthless.

“ A good soil for plant-growing, therefore, is not one which will hold water, but one in which water will rapidly pass away.

“ The soil itself ought to be composed of minute particles, through which air-spaces abound. The water

must be just enough to keep these particles moist, and the air in the spaces is thus kept in the condition of moist air. The roots traverse these air-spaces, and it is therefore moist air which roots want, and not water.

“If it were water simply which plants wanted, we should cork up the bottom of the hole in the flower-pot, and prevent the water getting away. Instead of this we try to hasten the passing of the water through as much as possible, by not only keeping the hole as clear as possible, but often by putting pieces of broken material over the hole to act as drainage.

“A plant will generally be the healthiest, therefore, which wants water the oftenest. This will show that there are plenty of air-spaces, and that the roots are making good use of them. If it does not often want water, it is in a bad way, and more water will make it worse.

“How often to water, then, will be according to how easily the water passes away. If, when you pour water on earth, it disappears almost instantaneously, it would be safe to water such plants every day.”

There are several methods adopted by professional gardeners in order to determine when a plant requires water:—

1. By the general appearance of the soil, or feeling it with the finger.

2. Tapping the pot with the knuckles. The pot has a sharp hollow sound or “ring” when the earth it contains is dry, and a dull heavy “thudding” sound when moist. Take a pot of dry soil, and one recently soaked with water, and try this experiment.

3. By lifting the pots and testing their weight, wet soil being of course much heavier than the same quantity when in a dry state. Fill two pots with soil,

water one only, and then lift them both for comparison. A little practical experience will soon enable you to tell when your plants are dry by each or all of the above methods.

Always use soft (*i.e.*, rain or river) water in preference to that from wells or springs. In towns where water is supplied by the corporation, expose it to the sun in a wide tub or other vessel for a day or two before using it for your plants.

Never use cold water. Water for plants should be equal in temperature to the atmosphere of the room, case, or frame in which they are growing.

Never water a plant that is already wet ; but when a plant is dry, give it sufficient to moisten the ball thoroughly.

When the compost gets very hard and dry, the pot may be plunged in a pail of water, and allowed to remain until the air-bubbles cease rising to the surface.

If a plant is growing, and the pot is well drained, it is nearly impossible to water it too freely.

Plants require water less frequently during dull damp weather, than during the summer, when the sun is powerful and the light intense.

Water for syringing or sprinkling should be pure, and quite free from mechanical impurities, as chalk or lime. Muddy water leaves spots and patches of dirt on the leaves after it has evaporated, and necessitates their being sponged clean.

If you notice a pot that does not get dry, but that appears to be in a wet and stagnant condition, turn out the sickly plant at once. Examine the crocks or drainage, and displace it (without breaking the ball) if it is clogged up with wet soil. Look out for worms. If you see holes and tracks but no worms, tap the soil until they appear, and displace them. Now take a

perfectly clean and dry pot (of the same size, or even less), drain it (see "Potting"), and turn your plant into it, pressing and shaking it down by gentle taps on the bench or table. If the surface of the ball is moss-grown, remove it with a blunt stick, and put a little fresh compost around it. Now your plant is in a fair way for recovery, and, in nine cases out of ten, if carefully watered, it will recover its freshness and beauty—an important matter if it is either rare or valuable.

VENTILATION AND HEATING.

Ventilation must be duly attended to or your plants will grow weak and spindling, more especially if the position in which they happen to be placed is damp and shaded from the sun's rays for a considerable portion of the day. Open the window every day during the summer, and every day when the weather is mild during the winter months. Remember that cold draughts are as hurtful to plant-life as to yourself. If the air outside is cold, or if it is very windy, the plants and room can be ventilated by opening the door leading into the next apartment, and farthest away from the plants. Ventilation is most required when the room is heated at night, or when the gas is burning, so that the hurtful fumes may be quickly dispersed. During summer the windows may be left open during the night, where such a practice is consistent with personal safety. Some plants, especially Ferns and Selaginellas, grow freely in Wardian cases or under shades, where they get but little fresh air, and are continually in a humid atmosphere. The case is different, however, with most flowering plants; for our experience teaches us that the more light and air

they receive the stronger they grow, and the more profusely they flower. When giving air to your plants do not forget to turn them round at least once a-week, or they draw towards the light, and become one-sided. Cases and shades containing plants should also be turned occasionally.

Heating.—The heating of the room in which plants are grown during winter is an important matter. During the summer months any of the plants herein mentioned will grow freely in any unheated apartment, or even out of doors, in a warm, moist, and sheltered situation; but during two or three of the chilly months of the year artificial heat is essential, especially during severe frosty weather. A very important fact to be observed by the cultivator is, that where a fire is employed to heat a room, and there is a severe frost outside, the atmosphere is in a state of extreme dryness or aridity, and this often causes the leaves to droop or flag, owing to the excessive evaporation which has taken place from their surface during the night. The uninitiated imagine it is the effects of frost, and never think of syringing them with water at about 45° , which under any circumstances is the best thing to do, taking the precaution to lay them on their sides during the operation, so that their roots do not become sodden and chilled with the cold water. Even hardy plants are the better for being kept above freezing-point during severe weather. Some plants are hardy enough to stand 10° or 20° below zero; but that fact does not prove them to be benefited by the ordeal, although they have passed it successfully. It is a fact worthy of notice, that nearly every plant will grow in a moderate heat; but that there are thousands whose constitutions are not capable of resisting severe cold, or, to speak more correctly, the absence of heat. The

temperature of a room in which tender plants are grown should range from 40° to 55° during the winter months, and this is amply sufficient for all the Orchids mentioned in our list as being suitable for Wardian cases or glass-shades, not that we think them the tenderest of all plants by any means. Tender plants should be taken out of the window and set down on the floor during severe frosty nights, and a little extra fire may be left in the grate for their special benefit. During the winter when the fires are kept going, there is much more dirt in the atmosphere than during summer, and the plants often get clogged with a thick layer of fine dust. Do not be afraid to wash or syringe your plants during mild weather in winter, as nothing but good can possibly result from the practice if they are washed without letting too much water trickle down the stems into the ball. In some cases where there are bow-windows, these are separated from the interior of the apartment by a pair of glass doors or a sliding partition. The cabinets so formed are most excellent contrivances for plants, especially where gas is extensively used; and they also protect plants from much of the dry heat and dust which comes from the open grate. If tender plants are grown, those compartments can in many cases be heated at little expense by a small coil of inch or two-inch iron piping connected with the boiler of the kitchen-range. Where there is a real love for plant-culture, more may be done by simply adapting the circumstances and means already at our disposal, than by creating facilities where the will or inclination to use them to the best advantage does not exist.

NOXIOUS INSECTS WHICH INFEST WINDOW-PLANTS.

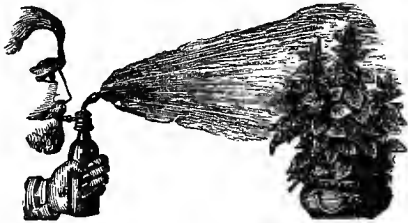
There are a great variety of insect-pests that infest tropical plants in hothouses, but green-fly and red-spider are most to be dreaded by the window-gardener. Here, again, as in most other cases, "Prevention is better than cure;" and if plants are regularly syringed or sponged over with clean water, there will be little fear of insects troubling them. If green-fly makes its appearance on Roses, Geraniums, or other plants, it can be syringed off with clean water, laying them outside on the flags or stone pavement and turning them over on their sides to prevent the roots becoming soddened with water. If plants are allowed to get too dry, or are watered irregularly, they are liable to become infested with red-spider—a minute pest, resembling a red cheese-mite. This is specially apt to make its appearance in hot dry windows, and soon renders itself apparent by the leaves turning a rusty brown. Constant moisture is the best cure for it, or plants may be sponged over with soft-soap and water. It often attacks *Dracænas*, but may be prevented by sponging the leaves with clean water every three or four days.

For worms in the soil, slake a few pieces of lime in a pail of water and water the plant with it after it has cooled down. This will soon dislodge them; after which they must be picked off and removed as they come to the surface of the soil. This mixture is rather beneficial to the plants than otherwise.

The following decoction is useful for thrip, red-spider, or green-fly: "Boil an ounce of quassia-chips in three pints of soft water, and either dip the plants or sponge them with the solution after it becomes cool." We have

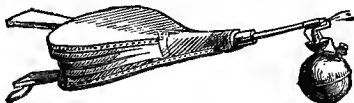
repeatedly tried this with the best results. If green-fly exist only in small quantities, the fumes from a pipe or cigar will soon settle them, care being taken not to burn the plant in the operation. The best of all remedies against insects is to prevent their appearance by cleanliness and a liberal use of fresh water, and abundance of fresh air during favourable weather. Plants in close or Wardian cases seldom become infested by insects, owing to the moist and genial atmosphere which prevails, and the regular humidity, which is one of the best points in those elegant contrivances.

It is not always advisable to smoke plants to rid them of insect-pests; and there is yet another excellent plan to effect this object with little trouble. Insecticides of various kinds are advertised; but the



Vaporiser.

best we have tried are "Fowler's" and "Frettingham's," which are both clean and effectual. We may here allude to a capital little contrivance originally in-



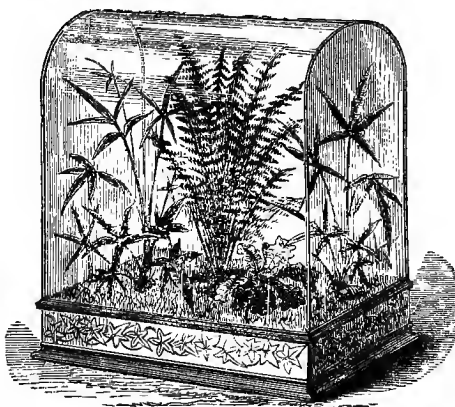
Injecteur.

vented for applying the last-named mixture, but which is also invaluable for diffusing moisture in a small plant-case when filled with pure water. The annexed

engraving will show the principle on which it is constructed, and also the method of using it, better than any written description we can give. Instead of using one's breath, it can be fixed to a small pair of bellows, and the mixture we have recommended above can also be applied by using this little contrivance. To those who object to use this simple implement, I can recommend another on a somewhat similar principle but more complicated, the mixture being placed in a little globe, and distributed in the form of fine spray. The motive power is supplied by a pair of small bellows, as shown in the accompanying illustration.

GARDENING IN CLOSE OR GLAZED CASES.

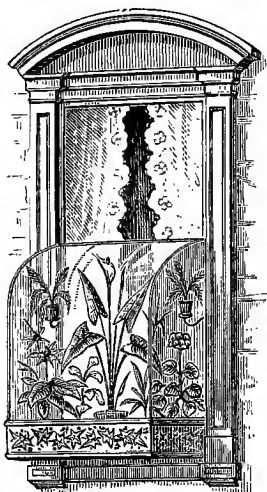
Many of the more tender and beautiful of flowering plants and Ferns do not luxuriate in the arid at-



Albert Fern-Case.

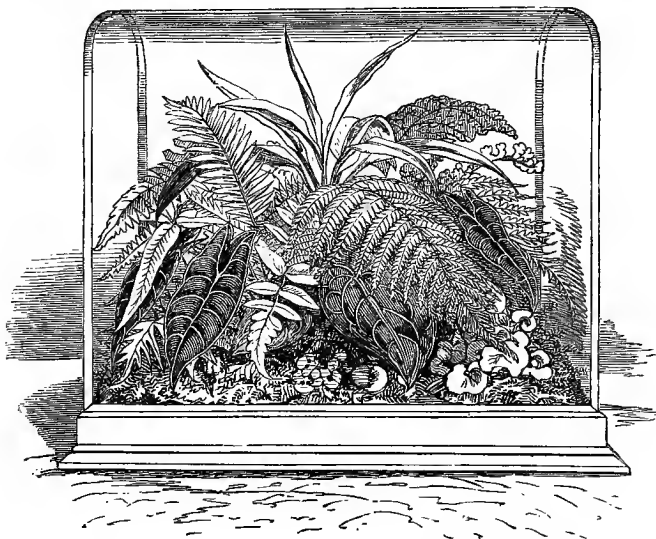
mosphere of an ordinary sitting-room when heated throughout the day by a coal-fire, and at night by a

coal-fire and gas combined. For such as fail to grow and give satisfaction under the above circumstances we recommend glazed, or, as they are more generally termed, Wardian cases. These are elegant and pleasing additions to the most tasteful and elaborately furnished drawing-room, while some of the more common rustic forms may serve the purpose for which they are intended equally well in the modest sitting-room of the city clerk or artisan. They are made in a great variety of designs; some being extremely light and graceful, and most beautifully finished with delicate enamel and gilding. Either light castings of iron or copper may be employed, or they can be constructed of wood according to taste; but for durability and lightness the former are preferable. For Ferns, Mosses, Liverworts (*Marchantia*), and many choice and beautiful exotics, these cases are specially adapted — the plants often succeeding much better in them than in the drier temperature of an ordinary greenhouse. They should be furnished with a receptacle of zinc or copper beneath to collect waste or superfluous water, and in some cases this appliance can be made the means of supplying a little extra heat to the case during severe frosty nights by simply filling it up with boiling water. Others are constructed so as to be readily heated by a small oil or spirit lamp; but these con-



Ornamental Plant-Case outside Window.

trivances are only required in exceptional cases, and can then be ordered or made accordingly. In furnishing these cases for Ferns, Begonias, Panicum, Dwarf Bamboos, and ornamental-leaved trailing plants, use a compost of turfy loam and peat,



Plant-Case.

to which a little well-decomposed leaf-mould and coarse well-washed river or road sand should be added. Having first added an inch or two of broken flower-pots (crocks), oyster-shells, and rough fibrous peat, to act as drainage, fill in with the compost, and arrange your plants according to taste. A few lumps of sandstone may be used to vary the surface, and as these are kept continually damp by condensed moisture, Ferns and other plants twine their roots around them, and grow very freely. Some of the more delicate filmy Ferns (*Trichomanes* and

Hymenophyllum) luxuriate vigorously in these miniature plant-houses, more especially the Killarney Fern, the beautiful and elegantly cut fronds of which sparkle like gold when sprinkled with moisture. Others, again, with fronds of delicate semi-transparency, may be grown together with the curious American Fly-trap (*Dionæa mucipula*), the Australian Pitcher-plant (*Cephalotus follicularis*), the Side-saddle flowers (*Sarracenia* of sorts), and other interesting botanical and horticultural curiosities referred to in our descriptive lists. Interesting as these cases are to our lady friends, they are simply invaluable to the student who does not possess a greenhouse or plant-stove, but who wishes to watch the growth and reproductive organs of cryptogams or tender flowering plants. Furnished with a microscope and one of these cases, more accurate knowledge in vegetable physiology may be obtained in a few months than could be gained from books alone in a lifetime. These cases may be had of any size, either furnished with stands or of a circular form for placing on a table near the window. For raising choice and tender seedlings or for striking cuttings they are the next best thing after a regularly appointed propagating house or pit, since in these appliances exactly the same close humid atmosphere can be maintained for any length of time. Simple earthenware pans, either rustic, enamelled, glazed, or plain, when covered



Rustic Plant-Shade.

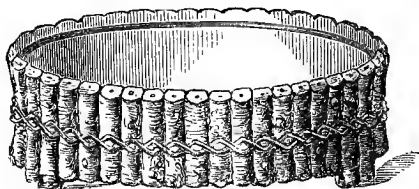
with a glass shade or bell-glass, as in our figure, look very pretty furnished with a Fern or two and a few sprays of Selaginella. These pans may be filled with compost, and a lump or two of sandstone is recommended for the larger cases. Small stands of this kind make interesting ornaments for the drawing-



Rustic Fern-Shade.

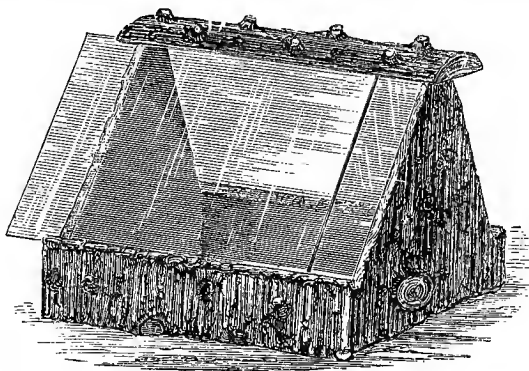
room table, window, or sideboard, when filled either as above recommended, or with a few bulbs for a change ; the latter arrangement being specially applicable during the winter and spring months. We figure a few of the best forms of glazed cases ; but others can be supplied by our best furnishing floral decorators.

Little Palms, *Dracænas*, and other ornamental-leaved plants, do remarkably well in these cases—much better than when exposed to the dust and unnatural aridity of an apartment heated in the ordinary man-



Rustic Pan.

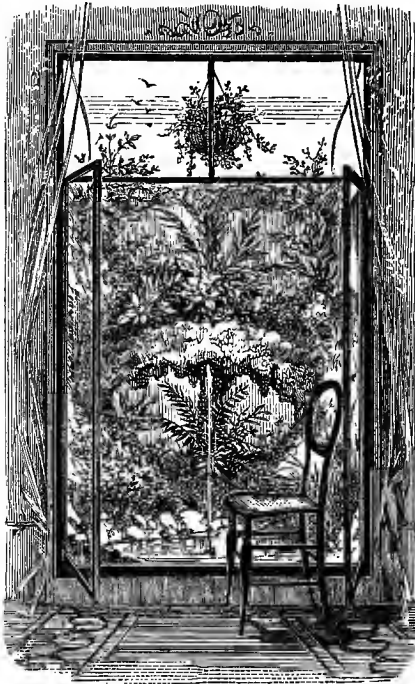
ner. Other elegant arrangements will at once suggest themselves to every lover of graceful plants and beautiful flowers. A real love for plants is a *sine qua non*, without which but few cultivators, either public or pri-



Rustic Fern-Case.

vate, can hope to succeed—with it, all our experience is pleasant and easy. In addition to the smaller cases for setting on ornamental stands or tables in the sitting-room, it is possible in many cases to construct a little window-conservatory like the one here figured.

Low French windows are specially adapted for this kind of thing; and when tastefully filled with Ferns, ornamental trailers, or flowering plants, are highly interesting as seen from the apartment. They can either be constructed outside, as in our figure, or within the

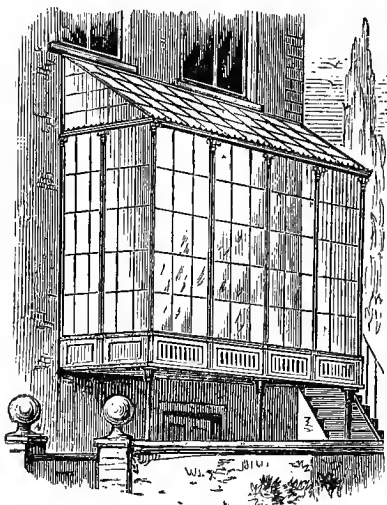


Fernery Case outside French Window.

room itself. If they are constructed outside, it is a matter of choice whether they should be accessible from without only, or if the window should be glazed in the ordinary way. As to this it depends mainly on the situation; for if it is naturally dry, then there can be no serious objection to its opening into the apartment; but if very damp, perhaps the window had better be glazed with thick crown-glass, so as to be damp-proof, and then all necessary operations can be carried on outside, without any dirt or litter within the apartment. Those who would carry closed-case gardening still further afield may adopt a little "case conservatory," built out from the house, as here represented.

If they are constructed outside, it is a matter of choice whether they should be accessible from without only, or if the window should be glazed in the ordinary way. As to this it depends mainly on the situation; for if it is naturally dry, then there can be no serious objection to its opening into the apartment; but if very damp, perhaps the window had better be

If constructed opposite one of the sitting-room windows the view will be always attractive, and it may also serve as a roof to the area below. Plants grow well in such structures if water be thrown on the floor and stages two or three times a-day during hot sunny weather. Canvas blinds on rollers should be provided for shading purposes during summer; and if the culture of tender exotics is proposed, it can in most cases be heated by pipes



Conservatory built out from house.

laid on from the fireplace or kitchen-boiler. In such a little house as we have here figured, a beautiful and constantly interesting collection of succulent plants, containing several hundred species, could be easily grown by the greatest novice at plant-culture; indeed, if he would throw away his watering-pot in November, and merely protect them from frost during the winter months, we would defy him to kill them. Most other plants require watering carefully and regularly; but succulents delight in a sunny position, with a moderate supply of moisture when growing in the summer, and none whatever during the damp cold months of winter. A very useful little fernery could easily be constructed in the area of many town residences by simply covering it in with strong

furrowed or ordinary glass, the former being preferable. This could be arranged either as a rockery, or for pot-plants, and would be both useful and interesting. There would be the requisite amount of shade in such a structure, unless the roof was above the level of the pavement; and moisture or humidity in the atmosphere, if not naturally present, is easily attained in such situations. Many species of Ferns, Selaginellas, and other shade-loving plants, would luxuriate in such a structure. The following extract on the manufacture and planting of room ferneries or cases is from 'The Albany Cultivator':—

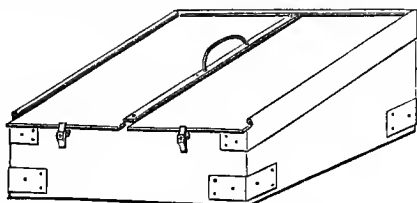
“There is no more beautiful adornment for a house in the wintry season than an indoor fernery; and as it requires but little attention or sunlight, it is a decoration which is within the reach of most of us. A simple stand, which can be made by any carpenter or house-joiner, and can be furnished with legs like a table, is required. Into this there should be fitted a zinc pan, from 3 to 4 or 5 inches in depth, according to the size of the fernery. If it is small—say 2 feet in length by 16 inches in width—3 inches will be deep enough for the pan. But larger-sized ferneries are the most desirable. The handsomest one I ever saw was 3 feet in length and 2 feet in width. The zinc pan must be painted green, and the glass cover be either airtight or as nearly so as it can be made, and placed over the pan, or else fastened tightly to it, with a door set upon hinges, made of a pane of glass, opening in the middle. When so large a fernery is prepared, one can grow a great variety of Ferns, Mosses, and Lycopods in it, and can make tiny hanging baskets out of cocoa-nut shells or wicker-work, and grow slender delicate trailers in them, and also many lovely treasures of the wild woods. The height of a fernery

is important; and it should be made as high as is possible to keep the case well proportioned, because the Ferns and other plants require plenty of room in which to develop and expand their various beauties in a graceful manner. When the fernery-case is made, it is needful to fill it with soil, and you must be particular to select this with care. Common garden-soil will not answer your purpose for a fernery any more than for a hanging-basket. If you have access to the woods, you can procure the best soil in the same place where you select the Ferns and Moss with which to fill the pan. But if this cannot be done, and you are forced to rely upon the florist to fill your plant-case, let him also furnish the soil it requires. And in case both these suggestions fail, you, make a compost of one part silver sand, one part loamy peat, and one part leaf-mould; or substitute powdered charcoal and cocoa-nut fibre for the peat and leaf-mould. Place a few bits of charcoal in the bottom of the pan to keep it sweet. Water the soil thoroughly when the plants are first put in, and then close the fernery, and place it in a shaded room for several days without opening it. If the soil is well watered when the plants are placed in it, it will not require any more water for months; but once in six weeks or two months it is well to give it a little fresh air by opening the door for half an hour or so. If any of the fronds of the Ferns turn brown, or the other plants decay, it is best to open the case and remove them, as they will taint the air. If the fernery is made upon a table, castors should be placed on the legs, so that it can be easily moved, and thus it can be changed from one window to another. An eastern or western window suits it well, as it requires but very little sun—yet needs light. Moisture is constantly condensed during the night,

and it is deposited upon the glass sides. It is this condensation which makes Ferns flourish under the glass, when the dry atmosphere of our living rooms would destroy them. I will give exact directions for making a fernery, that any carpenter can follow. Any durable wood can be used. Dimensions, 3 feet by 2, and 2 feet in height. Size of glass, 22 inches by 22 for the ends, and 34 by 22 for the sides and top. The bottom board should be 38 by 26; should be made of inch-and-a-half plank, and project an inch beyond the sides. The sides should be of inch stuff, and grooved to let in the glass panes, which should be fastened in with putty. Many like a pitched roof, which will add to the height, and can be shaped with panes of glass to resemble a French roof house. A pretty moulding can be fastened around the outside, which will be ornamental, and also serve to conceal the zinc pan, which is placed inside. A little door must be made in the back of the fernery, by which plants can be removed or added, and air and water given when needful. A glass case can also be fitted over a marble or iron vase, filled with plants, and a very pretty fernery made with little trouble."

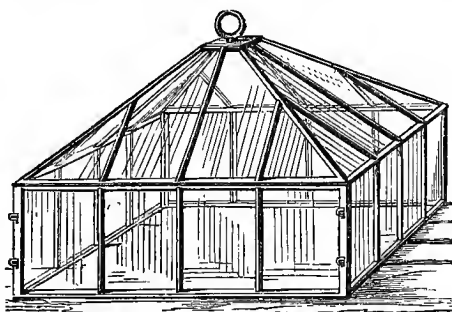
We have hitherto spoken of cases heated more or less artificially; but many half-hardy succulents, Ferns, and flowering perennials, may be kept through the severe weather by employing outdoor plant-cases or cold frames. These are easily protected by mats of straw or bast, or by covering them up with loose straw, brake-fern, or even dry leaves, during severe frosts. If covered with the latter, they should be in some out-of-the-way and sheltered locality so as to prevent litter. There are several forms of outdoor plant-cases, nearly all being modifications of the common and well-known garden-frame. Mr Horley has

invented neat little structures (see fig.) that would be invaluable to the amateur cultivator of Ferns or Alpines, and the Improved Hand-lights of Mr Gilbert are very handy and inexpensive, not only as protectors during winter, but



Improved Hand-light.

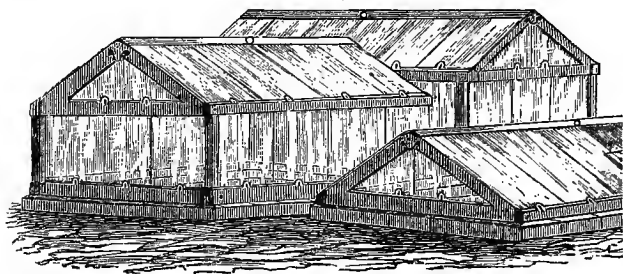
also for propagating hardy, half-hardy, or bedding plants in the spring and summer season. Our illustration shows their main features and general usefulness at a glance, and their cheapness is



Common Hand-light.

a further recommendation. The ordinary garden-frame is very useful (where there is space for it), and comes in handy not only for growing plants and raising seeds and cuttings during spring and summer, but also serves to protect many of the more tender hardy plants during severe weather. It can either be placed on a bed of ordinary soil, or on a hotbed formed of well-shaken stable-manure. If the latter plan is adopted, build up the manure as

neatly as possible, from two feet to a yard in height, and about a foot larger each way than the frame. Do not put the lights on until after the bed has settled, and the first flush of rank heat and steam is



Improved Garden-frames.

over ; after which the bed can be covered with a layer of light rich soil from four to six inches in depth, and into which either seeds or cuttings can be inserted. A layer of coal-ashes will protect pot-plants from becoming infested with worms.

WINTERING TENDER PLANTS IN FRAMES AND WINDOWS.

For the following very excellent directions on this important subject I am indebted to Mr D. Thomson, editor of 'The Gardener,' and well known as one of our leading horticulturists.

"In most cases cold pits and frames are all that can be commanded for wintering tender flower-garden plants. There is sometimes an outhouse, spare room, or bow-window that can be used as an auxiliary to a pit or frame. With such convenience, indifferent as

it may be considered, and really is, it is astonishing how much can be accomplished by judicious management and earnestness of purpose. In the construction of cold pits to be used for wintering such things as Geraniums, Verbenas, &c., the principal object to be secured is dryness, because dampness is a far greater enemy to such plants, and one more difficult to combat than frost. On this account I have an objection to sinking below the ground-level, unless the walls below ground be made perfectly water-tight by cement, and the bottom should be as thoroughly drained as possible. Indeed it is a good plan either to pave or cement the bottom of the frame or pit to prevent water rising by capillary attraction, in which case there must be holes for the escape of all moisture that may collect inside; and the foundation of the inside should be of open rubble, with a drain to take the water away. Pits sunk a little into the ground and constructed in this way are warmer than when raised above the ground-level. But I would rather have all above the level, and construct the walls hollow, enclosing a stratum of air, which is the best non-conductor. One of the principal points necessary to success in wintering plants without the aid of fire-heat, is that of preparing the plants in autumn. I have already recommended for all cases early and the coolest system of propagation; but this is most especially applicable to the case of those who have no better convenience than cold frames or pits to winter their plants in. Early propagation allows of the plants being exposed to the open air, and enables them to become thereby robust; and their growth is thus ripened or solidified, so that they are not so susceptible of injury from either damp or cold. They of course become well rooted, which is another

requisite to success. When it becomes necessary to place the plants in the pits, in order to be secure from autumn frosts, the lights should be drawn off by day when the weather is dry, not a drop of water should be allowed on the leaves, and they should be kept dry to the drooping point. This brings on a state of maturity before winter, calculated to stand a damp, cold, confined atmosphere, and the absence of light, with the least possible injury. In placing the plants in the pit, do not overcrowd them. The pots should be washed clean; and where the leaves of such as Geraniums are crowded, thin out some of the largest of them. Some dry loose material, such as hay or straw, should be in readiness as winter approaches for covering up with in case of severe frost, and some of the same materials should be packed round the sides of the pit. But for this avoid anything likely to heat and prematurely excite the plants by a rise of temperature. When thick coverings over the glass become necessary, the material should, if possible, be perfectly dry, and shaken on as loosely as possible, as the more loosely it lies the more air—the best non-conducting medium—it contains. If over the loose dry material some light covering, such as strong oiled calico, can be thrown, it will prevent cold winds from penetrating, and keep the hay or straw dry. When it becomes necessary, from severe and continuous frost, to keep the glass covered up for a few weeks at a time, and when, perhaps, the thermometer inside the pit would indicate a few degrees of frost, great caution is necessary in uncovering and exposing the plants to light and air when the weather changes suddenly to a thaw. To uncover hastily, under such circumstances, exposes them to such a sudden reaction as will prove far more destructive than a degree or two of frost. The

covering should not be touched till the temperature inside has risen above freezing a few degrees, and then it should not be removed all at once, but by degrees. Plants are living things, possessing all the susceptibilities of the most perfect and delicate organism, and are as subject to injury from sudden and extreme changes of light and heat as is the human frame. Many never think of this, or, if they do, are apt to forget it ; and so, as soon as it thaws, off goes the covering, and the plants are injuriously affected even by the sudden flood of light, and if they have been slightly frozen they are ruptured by a too rapid thaw, and mould and rottenness follow. Frost should not be allowed to creep in, if possible ; but if it does, it should be allowed to creep out, not be suddenly expelled. The great points, therefore, in wintering plants where fire-heat cannot be applied, are—first, to keep the plants dry, and in as complete a state of rest as possible, all the latter part of autumn and winter. Secondly, when it becomes necessary to cover up for any length of time from severe frost, the covering material should be dry and loose. Thirdly, when thaw takes place, do not uncover at once, but gradually, and not till the thaw is complete. All winter watering should be avoided beyond what is necessary to preserve life, and it is much better to have plants at the drooping point than the least over wet. This is equally applicable to plants wintered in spare rooms, and, indeed, even in greenhouses where fire-heat can be used. It is astonishing how little water is sufficient in winter for flower-garden plants, and especially Geraniums, which are often ruined by late propagation and over-watering in winter. I have frequently had variegated Geranium cuttings in 8-inch pots on shelves go without water for eight and ten weeks, and

look splendid, although so dry that some would think they would be starved.

HOW TO GROW HYACINTHS IN WATER, FOR WINDOW DECORATION.

Many ladies who will not tolerate a flower-pot in their drawing-room window or on the sideboard, are fond of Hyacinths, when grown in neat ornamental glasses, or in elegant vases of Etruscan ware or terra cotta. The following directions are written by a gentleman who has had much experience in their culture, and will be found to the point :—

“There are two great mistakes made by many of those who attempt to grow Hyacinths in water ; the one is an improper selection of varieties to cultivate ; the other is want of attention—this last being a most prolific source of failure. Almost without exception, single Hyacinths alone should be grown in glasses. It is the characteristic of certain varieties of single Hyacinths to produce good, close, compact spikes ; but it requires some of the cultivator’s art to produce a good close spike of a double Hyacinth, even when grown in pots. On a warm sunny day in the month of April I have frequently seen Hyacinths in glasses within a window deprived of ventilation, and languishing for want of water. At best, long-drawn sorry specimens result, and blame is frequently laid at the door of a seedsman, on the ground that the bulbs were not good, when it is wholly the cultivator who was at fault. Then the old, ugly, upright glass is clung to and used, and as there is no support for the flowering spike—at least, a support that is elegant in appearance—the Hyacinths soon become lopsided, and tilt over the glasses, owing to their

superincumbent weight. The cultivators of Hyacinths prefer medium-sized solid bulbs. About the middle of October is the best time to place the Hyacinths in glasses. The best type of glass is that known as Tye's registered, not unlike a wide-mouthed small decanter in appearance; while Claudet & Houghton and others have very pretty designs in Etruscan and other wares. Fresh water should be used, and it is a good plan to fill the glasses, and then place in each three or four pieces of charcoal, about the size of a cobnut, to keep the water from becoming offensive, and therefore obviating the necessity for its being frequently changed. This should be done about three days before the bulbs are placed in the glasses, as in the interim the charcoal becomes thoroughly saturated with moisture, and sinks to the bottom of the glass. If placed in the water at the same time as the bulbs, it will occasionally happen, in the case of strong quick-rooting varieties, that the descending roots encircle the charcoal, and keep it close under the base of the bulbs. There is no real necessity for placing the glasses in the dark to induce a free root-growth. It is an old practice, but it is not the more necessary to be followed because it is old. I have grown Hyacinths in glasses with much success for the past ten years, and have for a considerable



Hyacinth-glass.

period discontinued placing them in the dark. The theory set up is, that 'roots, as a rule, delight to grow in the dark, the action of light being unnatural to them.' But the generality of Hyacinth-glasses are of an opaque character, and the newest types in Etruscan ware, &c., altogether so. When the bulbs are placed in my own glasses, they stand on the mantel-piece or the sideboard; and a bulb seldom fails to root very satisfactorily, and then invariably because of some inherent defect. The roots of the Hyacinths make growth first, unless it be very late when they are placed in water. In its own time the foliage appears, and then it becomes necessary to keep the glasses in a cool, airy position, so that the leaves do not become drawn; as also to keep the glass filled with water to supply that which becomes absorbed by the roots, and lost through evaporation. When charcoal is placed in the glasses, it is rarely necessary that the water should be changed. I have read very elaborate, but very tiresome, rules relating to the culture of Hyacinths in water, in which it is urged that the water should be changed at least once a-week. Some of my best flowers have been grown in glasses, the water in which was not once changed. If a brisk fire be kept in the room where the glasses are, there will be need for fresh water in the glasses twice or thrice a-week, so that no part of the roots may be without water. The best position for the glasses when the bulbs begin to make upward growth is the most airy and lightest part of a sitting-room, but as far from the fire as possible. The foliage of the plants should be kept free from any deposits of dust; a small piece of damp sponge will remove these with but very little trouble. As the flower-spikes are thrown up, proper supports, made on purpose, and

sold with the glasses, should be affixed for use. They are neat in appearance, and answer the end for which they are designed admirably. If the glasses be placed in the window when the spikes are in flower, they should be shaded from the action of the sun, when bright and warm.

“The best sorts.—That beautiful double blush Hyacinth Lord Wellington does admirably in a glass, and it is also one of the noblest Hyacinths grown. Of single varieties, I have found all of the following do well: Duchess of Richmond, bright pink; Emmeline, delicate blush; Gigantea, pale flesh; Madame Hodson, shaded pink; Norma, waxy pink; Robert Steiger, bright dark carmine red; Sultan’s Favourite, delicate blush; Baron von Tuyll, dark porcelain blue; Blue Mourant, dark blue; Charles Dickens, lively violet; Emicas, deep violet; Grand Lilas, delicate azure blue (this beautiful variety should never be omitted); Leonidas, clear bright blue; Mimosa, dark blue purple; Orondates, pale porcelain blue; Regulus, shaded lavender blue; Alba superbissima, pure white; Cleopatra, creamy white; Grandeur à Merveille, waxy French white; Grand Vainqueur, pure white; Madame Van der Hoop, pure white, a beautiful variety; Seraphine, creamy blush; Themistocles, pure white; Anna Carolina, pure yellow; Heroine, clear yellow; and La Citronière, deep citron yellow. If I were called upon to name the best dozen, I should select Duchess of Richmond, Emmeline, Robert Steiger, and Sultan’s Favourite from the reds; Baron von Tuyll, Charles Dickens, Grand Lilas, and Leonidas from the blues; Cleopatra, Grandeur à Merveille, Grand Vainqueur, and Themistocles from the whites. If a yellow is wished for, La Citronière could be substituted for one of the white varieties.”

INSTRUCTIONS FOR THE GROWTH OF BULBS
IN WINDOWS.

The following excellent directions, written in December, have been furnished by Mr J. C. Niven, curator of the Hull Botanic Garden, to the Hull Window-Garden Society. Let us hope that the example may be followed in other places:—

“Such bulbs as Crocuses, Tulips, and Hyacinths, may, with a little care, be grown in any window on which the morning, mid-day, or afternoon sun shines, and all the more successfully if the window be under the influence of all combined.

“As to planting: do not now lose a day. Those who have a few old flower-pots should have them well washed; the best size will be four to six inches in diameter; but really the size is more to be regulated by the width of the window-ledge on which they are to stand than by anything else. If you have a broken pot that is useless for plants, reduce it to small pieces, place one of the largest of these above the hole of the pot used for planting, and above it a dozen small pieces. Failing the old broken pot, take a handful of cinders from below the fire grate, they will do quite as well. One of the youngsters will get you a bit of old broken plate, that will do to cover the hole in the bottom—he is almost sure to have a bit in his trousers-pocket; in either case, what we aim at is drainage. Fill the pot thus prepared with the soil, as distributed ready for use, to within one inch of the top; gently press it down, and make good any deficiency caused by the pressure; then place the bulbs (say three, four, or five, according to the size of the pot) on this surface, gently pressing them down;

but if the roots are protruding, let the pressure be very slight. Fill up the pot with soil, pressing it also down with the thumbs between the bulbs, so as to fix each in its place when finished. In the case of Crocuses, at this season, the buds should just peep out above the soil. In this operation, take care of the side buds, not to break or injure them; although they do not produce flowers, they contribute leaves, and leaves are pretty, as well as useful. Tulips may be treated in the same way; but Hyacinths should have, if obtainable, a little sand below the bulb, to assist in the development of the young roots; and the upper surface of the bulb should be just above the level of the soil.

“But some may say we have no flower-pots, and cannot afford to get any: well, I’ll give you a substitute. Have you not an old basin or a soup-plate? Perhaps you’ll say yes, but it is cracked. All the better for that; it will allow a little of the superfluous water to run out, and a little air to come in. The soup-plate will be rather shallow, so you must make a miniature mountain of it, finishing with a hollow at top, like the crater of an extinct miniature volcano—where water can be poured and sink into the body of the soil without running away. Another substitute—don’t laugh! An old superannuated teapot, whose spout, possibly, has come to grief, or, perhaps, the handle—if both are gone, all the better. Make a hole, where the handle was inserted, just sufficiently large for the buds to push through, and before filling up with soil, insert a Crocus in each of these holes from the inside; top up with Crocus or any other bulbs, and I will guarantee when their very slender leaves hang gracefully down the sides of the pot (though it lose its former appearance) it will still answer its new purpose to a T.

“ The operation of planting finished, give them a nice watering—not a deluge (wise folks don't fill the pot when they make the tea). You may at once place them in the window ; but it would be better to give them about three weeks in a cupboard in the dark—mind, not one beside a fire. Under the influence of the dark they will make roots. During this time they will want watering once or twice, and when in the window, possibly twice a-week ; but until they show their green leaves, and the colour of their flowers, be very careful not to over-water them. When they are in bloom, on a genial sunny day, give them plenty of air ; open the window wide, and close the door—it will do both you and them good. When done blooming, put them on the outside sill, where the leaves will get their full growth, and, under these circumstances, water them every day. Having made their growth, and the leaves beginning to wither, stop the water supply, but not till then. For the summer, they may be placed in a corner of the yard, or if you have a bit of garden, plunge the pots up to the rim in soil, and leave Nature to take further care of them till next November.

“ *Another suggestion.*—Your pots, as I before stated, will be on the outside sill ; if they are large pots, place among the Crocus roots, about the end of March, two or three seeds of *Convolvulus major*, Canary Creeper, or even *Nasturtium* or *Scarlet Runner*, stretch a piece of wire or twine up the side of the window, and train up the young growing shoots. With a little ingenuity you can carry them over the window-top till they meet, and then let them hang in graceful festoons. If your pots are small, get larger ones, put some manure in the bottom (say two or three inches

thick)—place the small Crocus pots in these, and, if there is room, fill up round the sides with manure or sand ; so arranged, your seeds will thrive and flourish without disturbing your bulbs.

“ If you have had to fall back on the teapot before alluded to, place it in an old broken basin, fill round with manure, so as to rise above the holes where the spout and handle were. The roots of the strong-feeding seeds from between the bulbs will soon find their way out ; and if you succeed—and I am sure you will—may I not ask if I have not pointed out a use for the superannuated teapot never dreamt of in the philosophy of the stanchest *teatotaler* ?”

HANGING-BASKETS FOR THE WINDOW OR BALCONY.

Many plants of drooping or graceful habit look much better when grown in baskets than planted in ordinary flower-pots. Baskets for our present purpose may be obtained of any size, and made in various materials. Those of neat galvanised wire look well when tastefully filled ; but others of earthenware, or rustic baskets of either wood or virgin cork, may be employed according to the taste of the cultivator, and the situation in which they are to be placed. The size must be in proportion to the width of the window or balcony ; but the larger they are the better, small baskets being rather troublesome to keep in an equable state of moisture. When filled with suitable plants these baskets will last for years, only requiring an occasional addition of fresh soil and a little attention in removing decayed foliage. Spring is a good time to fill them ; and for this purpose we shall require some nice light soil and a few handfuls of



Hanging-Basket with Ferns, &c.

sphagnum moss—the latter to prevent the soil from washing through the network before the plants become thoroughly established. It is a good plan to have a zinc or earthenware pan fitted into the wire-baskets, with a false bottom and a tap to collect and dispose of extra moisture. If the basket is to be grown inside

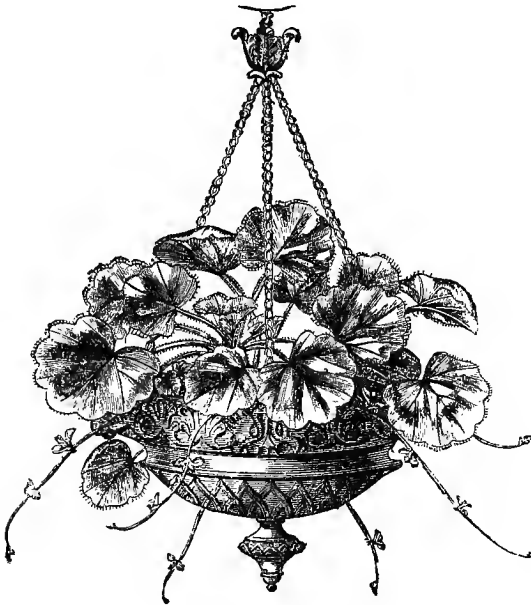


Hanging-Basket with Ferns, &c.

the window or apartment, we may select the more tender plants from our list, nearly all of which will grow as freely in baskets as in pots. If they are to be suspended from the balcony or verandah outside, we can only use hardy or half-hardy plants. Inattention to this latter remark will only end in disappoint-

ment—though, as a matter of course, nearly all the outside plants will grow inside the house as well, or in some cases better than if in the open air. The common varieties of garden Ivies (*Hedera*) are admirably adapted for covering baskets, either inside the house or outside on the balcony. They grow very freely, and can be pegged down around the sides of the basket, into which the shoots will root freely. A basket nicely furnished with one or two varieties of Ivy always looks well, forming a fresh green or golden groundwork into which either a few bulbs or flowering-plants can at any time be introduced. A correspondent of the 'Garden' thus speaks of Strawberries for hanging-baskets: "Little bushes of Alpines are really pretty plants for house-culture, and in a moderately low temperature will produce fruit continuously. I have taken up and potted a good number of plants of both the red and white Alpine, and expect that their fruit and flowers will, during the winter, amply repay the little care required in their culture. I should think that those who take so much delight in window-plants would try the Alpine Strawberries. The varieties that produce runners are very pretty when grown in hanging-baskets, for the long pendent stems produce a bunch of leaves, flowers, and fruit at every joint, and I am sure the whole appearance of the plants is equal, if not superior to Aaron's Beard (*Saxifraga sarmentosa*) or *S. tricolor* (see fig.), *Tradescantia*, and scores of similar plants that are generally cultivated for such purposes." Autumn is the best time to fill baskets with spring-flowering bulbs—September or October being preferable. The best kinds of bulbs for the purpose are Hyacinths, single varieties (red, white, and blue mixed) being preferable to the double-

flowered kinds, as they bloom much more freely and generally produce better spikes. It is not desirable to purchase either high-priced or named varieties for ordinary decorative purposes, as they do not flower any better—often not so well—than the ordinary kinds. Crocus bulbs are well adapted for basket cultivation, and may be introduced all round the sides, reserving

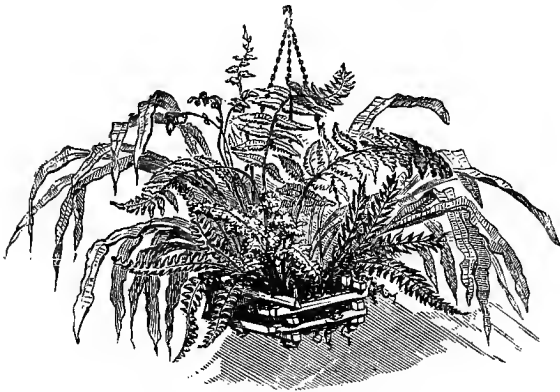


Saxifraga tricolor.

the upper part for Hyacinths or a few Tulips and Jonquils. All these are perfectly hardy, but will flower some weeks earlier if grown inside the apartment. Baskets well furnished with fresh green Ivy and spring-flowering bulbs are very pretty as room or window ornaments. An interesting natural basket may be made as follows: Take a large Turnip or

Beet-root, and cut it in half transversely, reserving the end nearest the crown. This should be hollowed out with a knife so as to form a cavity large enough to receive a Hyacinth bulb and a small quantity of living sphagnum or other kind of moss. Place the bulb on a layer of the moss, and pack it firmly with the same material around the sides, tying the whole firmly down with some thin copper wire, which can be passed through the sides of our Turnip-basket very easily. Now suspend one or two of these in the window with some thin wire, and the bulb will grow and flower beautifully, while the Turnip (or Beet) will emit fresh young leaves from its crown which curl up the sides, thus forming a charming and natural ornament very interesting both to ourselves and friends. The following is another pretty arrangement, suitable either for standing on a table near the light or for suspending in the window: Take a flat dish either of crystal or earthenware, say fifteen inches in diameter by about one fourth that depth. This must be filled with damp moss, into which two or three Hyacinths and Crocus bulbs can be placed, partly imbedded in the moss. Some branches of the common small-leaved wood Ivy can be inserted round the sides, and will soon throw out fresh young roots into the wet moss, and grow as freely as possible—indeed, the same pieces of Ivy may be used for several years in succession in this manner. When the bulbs are in flower these arrangements are very beautiful, the Ivy being always nice and fresh, and the moss keeps green if regularly moistened. When the bulbs are over, the moss forms one of the best of all receptacles for cut-flowers and sprays of foliage, allowing the Ivy to remain as a graceful edging. Violets keep for a long time in this material; while

sprays of the common marsh Forget-me-not (*Myosotis palustris*) will root into the moss and go on flowering most beautifully for several weeks just as freely as if in their native ditches. I regularly keep one of these vases of living moss and Ivy as a receptacle for any curious or beautiful flowers met with in my daily rambles, and I can honestly recommend them to all lovers of flowers as worth a trial. Very beautiful hanging-baskets and receptacles for



Rustic Basket with Ferns.

cut-flowers are often made of rustic materials, as burs, knots, old gnarled roots, or pine and fir cones nailed on light wooden shapes, and neatly varnished. These can generally be purchased cheaply; or they may be made at home during the long winter evenings, especially if the boys have a taste for carpentry, and a little constructive ability to boot. We give a few figures of the best forms of hanging-baskets; and those plants best suited for furnishing them are indicated in our descriptive lists.

In addition to hanging-baskets, neat brackets are

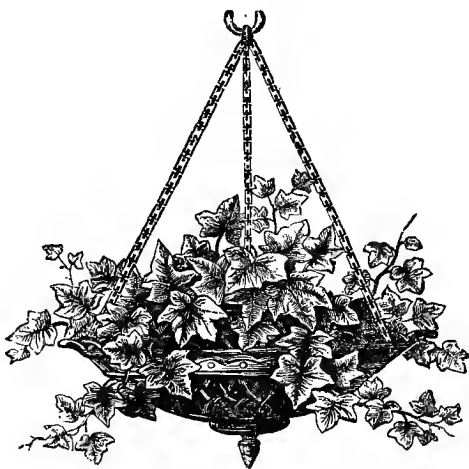
often useful for bare walls adjoining windows; and these appendages enable us to extend our window-gardens to a considerable extent. Brackets may be made of wood, wire, or earthenware, according to taste. A very simple one for holding flower-pots is figured below. Hardy trailing-plants of all kinds may be grown in



Wall Pot-Holder.

pots and hung along a blank wall with the aid of this simple but useful and efficient little contrivance. It frequently happens that plants grow rather unequally in baskets, and sometimes bare spaces occur, in which case supply the places of the plants that fail by sowing a pinch of any ornamental grass-seed, which will soon spring up fresh and green. In the spring-time, instead of grass-seeds those of Stocks, Mignonette, Asters, or other beautiful free-flowering annuals may be used; and will flower freely during the ensuing summer if duly attended to with regard to moisture. In the autumn, when the annuals die off, clear them out, freshen up the soil, adding more when necessary; and having picked off all dead and decaying foliage, fill up the blank places with a few common bulbs, such as Hyacinths, Scillas, Anemones, Crocus, Snowdrops, or early Tulips. These are sure to flower well, and will amply repay you for your trouble and forethought. One of the chief attractions connected with the use of these little hanging-gardens is the immense and charming variety of material one may employ. In point of design they are practically unlimited, while the plants with which they may be filled are both numerous and beautiful. An artistic friend continually keeps a large hanging-basket filled with Ivy, Toad-flax, Creeping Jenny, Ivy-leaved Geraniums

(see fig.), and a few half-hardy Ferns, suspended beneath the skylight which lights his studio. His designs on the wood are universally admired for their beauty and faithfulness, nearly all the graceful touches of vegetation he from time to time introduces into his pictures as accessories being accurate studies from his little hanging-garden. If drawing is practised in the family—and in what tasteful home is it not encouraged?—baskets and vases filled with elegant plants



Variegated Ivy-leaved Geranium.

furnish the student with the very best of all natural models.

ORCHIDS FOR THE SITTING-ROOM.

Orchids are not as yet very generally used for the decoration of apartments—a use for which many of these beautiful plants seem pre-eminently

adapted. That they are used for the decoration of the dinner-table occasionally we know, but it is a rarity to see any Orchid used in drawing-rooms; and yet we have many species that will make a vigorous growth out of doors during the summer if placed in a sheltered position; and we know of instances in which some of the more common species have been well grown in Ward's close cases for many months together. Some Orchids bloom after their growth is matured, and finish flowering before they again commence growing; and these are the best to employ for the sitting-room, as they can be again transferred to the Orchid-house before they commence their growth, and there is comparatively no danger of their being injured. To these last belong some of the cool *Odontoglossums* and *Oncidiums*, *Cœlogyne cristata*, *Lycaste Skinneri*, besides many of the glorious *Cattleyas* and *Lælias*. *Cœlogyne cristata* is one of the finest of all Orchids for indoor decoration; and during the past very severe winter we repeatedly used a fine plant, with thirty or forty spikes, for the especial decoration of the dining-room, and occasionally for the front hall. Under gaslight this is one of the loveliest objects imaginable, the white colour of the flowers being dazzling in its purity under artificial light. The temperature of the Orchid-house in which this plant was placed last winter, frequently descended to 38° , or only 6° above freezing-point, and yet it is uninjured. Another Indian Orchid, *Aërides odoratum*, we had last winter in an ordinary lean-to, the temperature of which descended frequently to 40° , and probably lower. Crotons succumbed to this treatment; but two small plants of this *Aërides* are as healthy as ever, and are now growing and flowering vigorously. It would be folly to

recommend Indian Epiphytes, as *Phalænopsis*, *Vandas*, &c., to be removed to the house in the winter season ; but with many of the *Odontoglossums*, *Lycastes*, &c., this may be done with impunity if due precautions are taken in frosty weather to prevent the plants being frozen in transit. *Lycaste Skinneri* and its many beautiful varieties will last for weeks together in an ordinary sitting-room, the temperature of which does not sink below 40° ; and the same may be said of *Odontoglossum Alexandræ*, *Oncidium nubigenum*, and many other species of Orchids from the cool summits of the Peruvian Andes. During the summer months there is little danger to be feared if the plants are set in a sheltered position in the room, and not subjected to cold, cutting draughts ; but in the winter we would strongly recommend the use of close cases ; while for small plants, such as *Sophronitis grandiflora*, *S. cernua*, *Cypripedium insigne*, *C. venustum*, &c., common glass shades will suffice to protect them from cold draughts and the aridity of the atmosphere, which last is most to be feared in sharp frosty weather. The compost in the pots should be allowed to get comparatively dry before they are removed to a lower temperature, there being several degrees of difference in temperature between soil that is wet and dry. The following is a list of Orchids suitable for the decoration of the sitting-room : *Lycaste Skinneri*, *L. cruenta*, and *L. aromatica* ; *Cœlogyne cristata* ; *Oncidium nubigenum*, *O. Phalænopsis*, and *O. cucullatum* ; *Cattleya citrina* ; *Lælia albida*, *L. autumnalis*, *L. furfuracea*, and *L. anceps* ; *Barkeria spectabilis* and *B. Skinneri* ; *Sophronitis grandiflora* and *S. cernua* ; *Ada aurantiaca* ; *Odontoglossums*, many species, *O. Alexandræ* and *O. Pescatorei* being amongst the best for the purpose.

HOW TO GROW THE CHINESE PRIMULA, OR
"EVERYBODY'S FLOWER."

For the following excellent directions in raising Chinese Primulas from seed, I am indebted to Messrs Hayes, of Lower Edmonton, who grow not less than 10,000 of this lovely flower alone for Covent Garden and other London flower-markets.

Make two or three sowings of Primula-seed, the first early in March, the second at the end of April, and the third at the end of May. Any time in May will be early enough if they are not wanted in bloom until Christmas; but if required in October and early in November, they must be sown in March, in order to secure good strong plants. To get the seed up successfully we adopt the following plan: We sow in boxes instead of in pans, as is usually done, as we find from experience that the seed hardly ever comes up round the edges of the pans. The reason is simply this,—the pan absorbs the moisture from the soil, and consequently the seed gets dry, and if once it gets thoroughly dry after it has been soaked through, it will never vegetate afterwards—a result which we have noticed over and over again. Gardeners, who have in general only a small quantity of seed, are very apt to sow it in a small pan; the result of which is, in many cases, failure in getting up the seed. If sown in a box you do not run so much risk, as the box does not absorb moisture so readily as pans. We sow on very old rotten dung, at least three or four years old, and we sow on the top of the mould—for the dung has now got into that condition—moistening it before the seed is sown; and when sown, we sprinkle a little silver sand over it—barely enough to cover it. We

place a piece of brown paper over the box and keep it moist, never letting the paper get dry if possible, until the seed vegetates, when we remove the paper. Any shady place where there is gentle heat will suit them very well. Our reason for so fully entering into the matter of sowing is, we have repeated complaints of *Primula*-seed not growing, while, at the same time, it grows with us well enough.

As soon as the young plants can be handled, we prick them off, putting four into a sixty-sized pot and keeping them close for a week or two, until they get hold of the pots, sprinkling them two or three times a-day. As soon as the plants have become strong enough, we divide them and pot them off into small sixty-sized pots, and still keep them close in a frame, sprinkling as before two or three times a-day, and when we find them getting established, we give them more air. When it is found that they require it we give them a shift into forty-eight or thirty-two sized pots, according to the size which it may be desired ultimately to have the plants. If they should indicate symptoms of blooming in August or September, we generally pick the flowers off, an operation which gives the plants strength.

The soil which we prefer for *Primulas* is well-rotted leaf-mould or dung, and mellow loam, mixed in equal parts, with a little silver sand. We keep them in a shady situation during sunny weather, but we do not shade them if that can be avoided—that is, we do not cover them over with mats, as that tends to “draw,” and make them weakly instead of short, stocky, strong plants.

The best situation to keep them in during the summer months would be a north house, or a frame under a north wall, or the north side of a plantation;

but not under trees. We would recommend leaving the lights open at night when the weather can be trusted ; but by no means if there is any chance of a storm, as that would prove disastrous to them. For winter flowering you cannot give them too light a situation ; the lighter the house the better, with as little fire-heat as possible, just sufficient to keep off damp. A little liquid manure, very weak, will be found beneficial when the plants are pot-bound.

THE WINDOW-GARDEN IN WINTER.

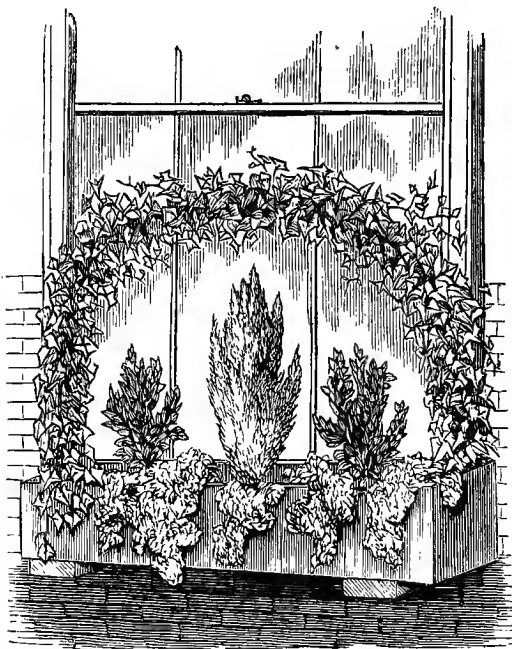
At this dull season of the year most window-gardens, both inside and out, are at their worst. Geraniums, Fuchsias, and all the other showy flowering plants of the warm summer and autumn months, are now out of bloom, and stored away in their winter quarters : still there is no reason why the window or balcony garden should be unattractive, especially as at this season vegetation is, as a rule, so scanty in large towns, and a pleasant glimpse of fresh greenness here and there serves to attract the weary eye seeking relief from the everlasting sameness of bare walls and muddy thoroughfares.

Inside the window we have foliage plants, as *Ficus elastica*, *Acacia lophanta*, *Aspidistra elatior*, and its variegated form *A. elatior variegata*, *Aloe frutescens*, one of the most graceful of all the species, and one of the finest of all succulents for windows. *Crassula lactea* is another fine old succulent plant that will grow in any window where frost is excluded, and bears numerous branched spikes of its milk-white, star-shaped flowers. Other flowering plants, as *Coronilla glauca*, a free-flowering plant for winter window-cul-

ture, pots of hardy Primroses, Hyacinths in pots or glasses, Crocuses in pots or baskets, and numerous other old and well-tried subjects, may be made available by all who love window-gardening as a pursuit, and have the energy requisite to carry out the project. It is a mistake to keep "leggy" or rambling fuchsias and leafless geraniums in the room window all through the winter months, since nice bushy little plants, in full flower, may be purchased for a few pence in the spring; and this is far better than keeping an assemblage of half-withered specimens covered with dust—a system often prevalent, and one that does much towards staying the progress of window-gardening as one of the domestic decorative arts for the embellishment of tasteful dwellings. As soon as window-plants cease to be ornamental, they should be removed to their winter quarters, or thrown away in the case of common kinds. Succulent plants are permanent in their character, and look nearly as well during the winter as in summer. Agaves, Gasterias, Sempervivums, Echeverias, Echinocactus, and Mammillarias, are especially suitable for indoor decoration all the year round. *Isolepis gracilis*, and the blue-leaved *Festuca glauca*, are both worth growing in the window during winter; and the above, together with a few Primulas and Cyclamens, will be amply sufficient to keep the inside of the window fresh and gay.

The window-boxes and balcony outside are easily made attractive with a few simple hardy plants neatly arranged. Crowded arrangements here as elsewhere should be avoided, a few distinct ornamental shrubs and climbers judiciously arranged for effect being amply sufficient. A neat and tasteful design for a window-box outside during the winter months is that we here figure. A plant of Common Ivy is planted

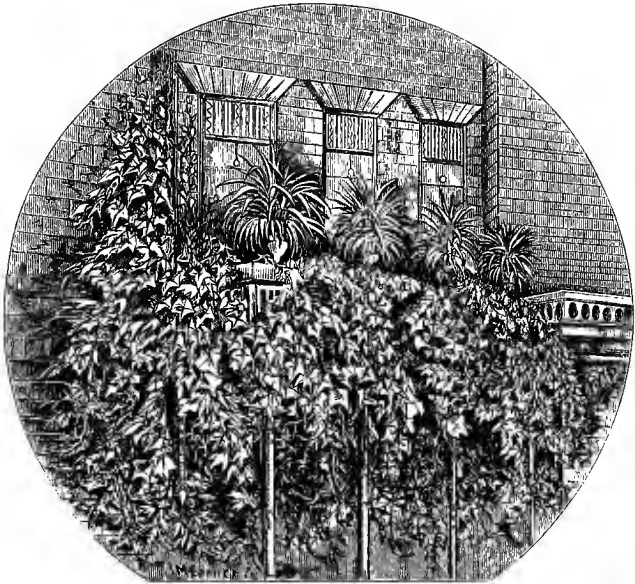
at either end of the box, and trained over a wire hoop : it forms a neat ornamental arch. The central plant below is *Retinospora ericoides*, but any other tapering shrub, as *Thuja aurea* or *T. Donniana*, may be used instead. The plants on either side are Golden Varie-



A simple Window-Garden in Winter.

gated *Euonymus*, which contrast well either with a Blue Juniper in the centre, or the fresh green foliage of the Ivy above. The surface of the box may be covered with any dwarf trailing-plants, as the mossy *Saxifragas*, *Arabis albida*, or its variegated forms, *Aubrietia purpurea*, or the fresh-green *Sedum acre* (Common

Stonecrop), all of which are suitable. A few bulbs of Crocus, Snowdrops, Scillas, Hyacinths, and Aconites may be inserted, as these will brighten up the box during the first sunny days of spring before it is time to plant the ordinary summer flowering-plants. In some cases the Ivy arch may be left during the summer, as it forms a fresh background for the Canary



Winter Balcony Garden.

Creepers (*Tropæolum peregrinum*) or the Purple Morning Glory (*Convolvulus major*), besides contrasting well with the flowering-plants below. Balconies look extremely well during the winter months draped with Ivy, and one of the prettiest combinations we have seen for some time is that we here figure. This consists of four healthy plants of *Yucca recurva*, planted

in ornamental vases, the balustrades in front being covered with fresh green Ivy, which is planted in boxes of soil on the balcony itself. In some cases it is possible to plant the Ivy in the border below, training it up the house until it reaches the balcony. Irish Ivy or *Hedera algeriense* are best for this purpose, being quick growers. A glance at our illustration will give a good idea of this pretty group, which is allowed to remain all the year. During the summer months a few flowering-plants, introduced here and there, serve to brighten up the whole, the completeness of the *pièce de resistance* rendering more than a few superfluous. Any other hardy shrubs, as green and variegated Hollies, Aucubas, Thujas, and Retinosporas, may be used in conjunction with green and variegated Ivies with good effect. The above arrangements are simple, and very effective, while they come within the means of any one who has the convenience for a window or balcony garden, however small.

HINTS ON HYBRIDISING.

New flowers produce an indescribable pleasure, and it is one which any one with a garden, or even a few pot-plants in a window or cool frame, may enjoy. In some parts of Lancashire and the north of England, Auriculas, Tulips, Pansies, Hollyhocks, and other hardy flowers are much grown by working men or artisans, and some of the finest show varieties of these flowers have originated in cottage gardens. Even the colliers in many of the midland districts grow enthusiastic when dilating on the properties of some new florist flowers which they have raised; while the numerous skilled artisans in towns, such as Coventry or Notting-

ham, are well known as most excellent cultivators of nearly all kinds of hardy vegetables as well as florist flowers. In the raising of new varieties there are a few leading principles which must be borne in mind ; for example, species or varieties of the same genus can only be crossed with each other with advantage ; and, if possible, always make the best-habited plant the seed-bearing parent. A plant of bad general habit or weak constitution often bears a richly-coloured or finely-formed flower, and by crossing this with another variety possessing poor flowers but a robust constitution, an improvement on both parents may be looked for among the seedlings. The operation of crossing, or, more properly speaking, fertilising, one flower with another, is simple enough, all that is required, as a rule, being two parent plants in such a condition as to enable the operator to convey the pollen of one flower, or variety, to the tip of the style or stigma of the other. This operation can be effected readily by means of a moist camel's-hair brush or pencil. Some plants cannot be fertilised with pollen from their own flowers ; but there are others that are much too susceptible of fertilisation, and this often puzzles amateurs, who imagine that they have crossed flowers with the pollen of another form, when the same have been fertilised with their own pollen days before, and consequently the result is disappointing. In order to prevent this, it is well to clip off the anthers or little cases that contain the pollen of the seed-bearing plant directly the flowers expand, taking care not to cut or bruise the stigma when so doing. For the latter process, a pair of small sharp-pointed scissors is the best. The action of the pollen on the stigma is very singular and interesting. The pollen-grains, soon after being placed on the

glutinous apex of the style, throw out slender tubes, which pass down the loose cellular tissue of the style until they reach the embryo ovules or seeds, contained in the ovary or seed-vessel below. Having reached these, and fertilised them by emitting the fluid contents of the pollen-grain above, their use ceases, and they soon become dried up, together with the superfluous end of the style, while the young seeds, or such of them as have come in contact with the pollen-tubes, begin to swell and ripen. In some cases only one or two out of the twenty or thirty embryo seeds in each seed-vessel become fertilised and swell off, while the others come to nothing. A very little practical experience will enable any one to fertilise and raise seedlings from their favourite flowers, while researches in this way may lead to valuable results. Comparatively few horticulturists have as yet devoted themselves to hybridisation, but the results obtained are very remarkable. We have only to look at the new Peas of Laxton or Dr M'Lean, the Orchids of Dominy, or the many beautiful varieties of Cyclamen, Pelargonium, Gladioli, Asters, and other florist flowers now common to our gardens, in order to fully recognise the beneficial results which are to be obtained by studying and working out this subject as far as means will permit. To be able to render a flower more beautiful, or to enhance the excellence or ameliorate the flavour of a new fruit or vegetable, is something worth attempting, as such a result not only benefits its producer at the time, but is the means of handing down to posterity a great and lasting good.

CALENDAR OF WINDOW-GARDENING OPERATIONS,
ETC.

January.—Be particularly careful in watering, and expose your plants to the sun as much as possible. Keep succulents, as Agaves, Aloes, Echeverias, Sem-pervivums, Cereuses, and Sedums quite dry, and place them in a sunny position. The most effectual plan to adopt if you wish to kill succulent plants, is to keep them wet during the dull winter months. Crocus, Snowdrops, and Christmas Roses will now be in flower. Hyacinths potted or placed in glasses or indoor baskets in September or October will now be showing colour. Hanging-baskets planted with Ivy and spring-flowering bulbs will now be very pleasing ornaments for the sitting-room. Chrysanthemums, more especially the Pompone class, will now be flowering freely, and their golden-yellow, purple, or crimson flowers will enliven your room or window for several weeks to come. *Acacia lophanta* is now as fresh as possible, and its lively green foliage contrasts well with Chrysanthemums and spring-flowering bulbs. Ferns and Selaginellas in close cases will now require less water, although the soil must be kept moderately moist. Carefully protect all your tender indoor plants from frost, and pick off all decayed foliage and flowers. Sponge the leaves of *Dracænas*, Ivy, Ficus, and other hard-leaved foliage-plants, so as to keep them clean and free from dust. Sow seeds of *Lobelia speciosa* and *Pyrethrum Golden Feather* in pots indoors, as these make nice plants for the window-boxes in May. Examine the bulbs plunged outside in September, and select the forward-est, which should have their pots washed, and then be

brought inside to throw up their spikes in succession. The flowers now in season are Tulips, Crocuses, and Hyacinths. Then there are Callas, with their great trumpet-shaped white flowers; spring Heaths, and Chinese Primroses, with blossoms large and richly coloured; Cyclamens, too, with which everybody is delighted; Camellias and Azaleas; and last, but not least, pretty little bushes of *Deutzia gracilis*, loaded with blossoms that vie in purity with those of the Snowdrop itself. Among sweet-scented flowers are Lily of the Valley, Violets, Mignonette, and Wall-flowers; and among berry-bearing plants are different sorts of *Solanum capsicastrum*, thickly covered with orange-red fruit, each as large as a good-sized marble. Other things consist of Acacias, Astilbe (*Spiræa*) japonica, Begonias, Christmas Roses, Cinerarias, Narcissus, Snowdrops, *Eranthis hyemalis*, Pelargoniums, Poinsettias, and Roses.

February.—Many of the operations this month will be the same as those recommended for January. If your old Fuchsia stumps, kept through the winter, are now breaking freely, you can put in a few cuttings, preparing the pot as recommended under "Propagation." A few of the earliest of half-hardy and hardy annuals may also now be sown, the former in pots (see "Propagation by Seed"), and the latter in a sheltered position along a sunny border, or under a south wall. Those sown outside will need some slight protection during frosty nights, and may either be covered up with a mat or with a common hand-light, over which a little straw or litter may be shaken. Always bear in mind the fact that bright sunshine is fatally dangerous to plants that have been frozen the night before. The best treatment for frozen plants is

to syringe them with cold water and shade them from the sun. Hyacinths and Crocuses, Aconites, Arabis, and early Primroses will now be flowering. Sow seeds of Perilla, Amaranthus, Stocks, and Mignonette. Also half-hardy climbers, as Cobœa scandens, Maurandia, Thunbergia, Momordica, Tricosanthes, Phaseolus, and Convolvulus, all of which will be very ornamental on the balcony, or for draping window-trellises during the summer. Sow Cyclamen-seed in a close case.

Of flowers there is now great abundance, and some tastefully got up bouquets, consisting of white Camellias, which are invariably used as centre-pieces; spikes of Orchids, Tea Roses, Maiden-hair, Ferns, Violets, Epiphyllums, Tropæolums, Snowdrops, Pelargoniums, Eucharis, Mignonette, Orchids, and Orange-blossoms. Among other flowers we may notice Fuchsias, Bouvardias, Chinese Primulas, and *P. denticulata*; Cyclamens in fine condition, *Dielytra spectabilis*, *Deutzia gracilis*, *Spiræa japonica*, Zonal and fancy Pelargoniums, Cytisus, Camellias, Ghent and other Azaleas, Heaths, Cinerarias, Lilacs, Acacias, *Thyracanthus rutilans*, Callas, Crocuses, Tulips, Narcissus, Hyacinths, Anemones, Polyanthuses, Arabis, Hepaticas, and Aconites. Amongst sweet-scented flowers are Violets, Tea and China Roses, Mignonette, Lily of the Valley, Orange-blossoms, Sweet Bay, and sweet-smelling Orchids.

March.—Most kinds of hardy and half-hardy annuals, perennials, and herbaceous plants must be propagated from seeds grown in pots, or the hardiest may be sown on a sunny border. Those sown now in pots or boxes will be fit for planting out in the window-boxes or on the balcony early in May, where

they will flower all the summer. The following should now be sown in pots or small boxes, and placed in a frame or in a Wardian case to germinate: Mignonette, Asters, German Stocks, Balsams, Cockscombs, French Marigolds, Zinnias, Larkspurs, Sweet Peas, and *Tagetes pumila*. If there is convenience for a hotbed, covered with a common 1 or 2 light frame, it will be found very handy, both for raising seedlings in the early spring months, and also for growing plants during the summer. A Wardian case indoors is the next best contrivance.

Now is a good time to clear out and replant Fern-cases for the summer, that is, if they require it. The best Ferns to use are the following: *Adiantum assimile*, *A. capillus veneris*, *Asplenium flabelliforme*, *Aspidium molle*, *Pteris serrulata* (and its crested variety), *P. longifolia*, *P. cretica albo-lineata*, *P. tremula*, *Cyrtomium falcatum*, *Niphobolus lingua*, *Lomaria lanceolata*, *Doodia caudata*, *D. lunulata*, and *D. aspera*, *Lygodium japonicum* (scandens), *Dicksonia antarctica*, when in a small state; *Polystichum lonchites* (Holly Fern), and *Lycopodium dendroideum*. A piece or two of the common small-leaved wood Ivy may be inserted, and if it grows too freely cut it back with the knife. Selaginellas grow freely in close cases, the best for the purpose being *S. hortensis*, *S. Martensii* (and its variegated form), *S. atro-virens*, *S. umbrosa* (erythropus), *S. Braunii*, *S. serpens*, *S. apoda* (densa), and *S. cœsia*. The last-named comes of a bright steel blue when grown freely in a moist shady position. Some very pretty cases may be arranged with the above plants, and some of our own native mosses may be added. *Cyperus alternifolius* is distinct and effective as a centre plant. Many lovely spring flowers will now be blooming freely.

The flowers in season chiefly consist of Hyacinths and Tulips, Cinerarias, among which dark blues prevail; Spring Heaths (*E. gracilis*), Epacrises, Azaleas, Spiræa (*Hoteia*) japonica, Cyclamens, Fuchsias, Pelargoniums, of many kinds. Cut-flowers of Orchids and other things are also abundant. Bouquets consist of white Camellias or some light-coloured Tea Rose as a centre-piece, about which are tastefully arranged Lily of the Valley, Cyclamens, Mignonette, light-coloured Orchids, wired "pips" of white Hyacinths, Heliotropes, the jasmine-flowered Bouvardia, blue Cinerarias, and Pelargoniums, edged with Maiden-hair Fern, sprays of which also pervade the whole of the bouquet. "Button-holes," backed by sprigs of Ferns, consist of pink, white, and yellow Tea Roses, in front of which are placed double red Pelargoniums. In others are sprays of Spiræa, a white Rosebud, and a bit of red Pelargonium, or some red-coloured Pink; others, again, consist solely of a white Pink set on a green background.

April.—Hardy shrubs in pots which have been used for the decoration of windows or balconies through the winter may now be removed and plunged in the open borders until required again in the autumn. Many hardy bulbs and tuberous-rooted spring flowers which have been plunged in a bed of ashes or in the open borders, as recommended for Colchicums, will now be throwing up their flowers, and may be removed to the window. These consist of Scillas, Hyacinths, Tulips, Jonquils, Narcissus, Iris, especially the small-growing varieties; *Aubrietia purpurea*, *A. græca*, Wallflowers and Anemones, will also now be in bloom. Early-flowering bulbs, as Crocuses, Snowdrops, and Hyacinths, which have been flowering in hanging-

baskets indoors, may now be removed and planted in borders outside, their place being supplied with other plants for summer blooming. Cuttings of Coleus, Fuchsias, Alternantheras, Mesembryanthemums, and many other soft-wooded plants, may now be inserted in prepared cutting-pots (see "Propagation"), surfaced with sand. Sow seeds of Stocks, Tropæolums, Mignonette, Saponaria calabrica, Antirrhinums, Lupins, Delphiniums, and all the ornamental grasses. Water more freely; look out for insect-pests (see "Noxious Insects"); strike cuttings from all your best Chrysanthemums. Sow ornamental Gourds in pots of light earth, so as to get them forward ready for planting out on the balcony in May. See after plants of Ampelopsis Veitchii and A. hederacea (Virginian Creeper), Ivies both green and variegated, Clematis, Passiflora cærulea, Wistaria Sinensis, and other hardy climbers, for planting in front of the house or in the balcony and window-boxes. Sow Indian Corn (Zea Mays) in boxes of light rich earth.

Flowers are now in great variety, amongst which are charming sprays of Orchids, Stephanotis, White Lilac, Guelder Rose, Roses, Callas, beautifully bloomed; Hyacinths, Tulips, and Narcissus, still fine, especially the Hyacinths; Solomon's Seal, a plant whose beauty is enhanced by being forced; Lily of the Valley; nice Amaryllids, Gardenias, Mignonette, Cinerarias, single and double Zonal Pelargoniums, spring Heaths, Azaleas, Camellias, Rhododendrons, Acacias, Cytisus, Spiræas, Tropæolums, Carnations, Fuchsias, Deutzias, double-flowering Stocks, Cyclamens, Chinese Primulas. In addition to these, plants of Dracænas, both with green and coloured leaves, Begonias, Palms, Ferns in the form of the Maiden-hair, and some of the more graceful kinds of Pteris;

also various kinds of Club-mosses, such as *S. apoda*, *Kraussiana*, and *Martensii*; plain and variegated kinds of Box, *Aucuba*, *Thujas*, &c. There is likewise a good variety of flowers from the open air, such as double red Daisies, Forget-me-nots, Pansies, Primroses, Anemones, Daffodils, Hepaticas, Gentians, Violets, Wallflowers, and others.

May.—Cuttings may still be inserted of soft-wooded bedding-plants for the balcony, as *Alternanthera*, *Coleus*, *Iresine*, *Fuchsias*; while Sweet-williams, herbaceous Phloxes and herbaceous and border plants, may be propagated by division. Sow seeds of *Mignonette*, ornamental Grasses, Stocks, Wallflowers, and other annuals and biennials for blooming next spring. Also sow *Tropæolums*, as *T. Lobbii*, *T. peregrinum* (Canary flower), often miscalled *T. canariense*, *Convolvulus*, *Maurandia*, and other ornamental climbers, in your window and balcony boxes. Annuals sown now in the open air will flower equally well, but later than those sown in pots, cases, or frames in March as recommended. It is now a good time to make up outdoor hanging-baskets for the balcony, using for this purpose *Lobelia speciosa*, Ivy-leaved *Pelargoniums* (*Geraniums*), common Irish or small-leaved *Ivies*, *Linaria cymbalaria*, *Creeping Jenny* (*Lysimachia*), *Musk* (*Mimulus moschatus*), and hardy Ferns. The larger the baskets are the better, as a good body of soil keeps in a more equable state of moisture, and does much in promoting success. Some plant of distinct and striking outline should be planted for a centre, and one of the best plants for this purpose is a small American *Aloe* (*Agave Americana*), or its variegated variety. *Yuccas* are also well adapted for this purpose, and may be used with good effect.

Flowers will now be abundant and of excellent quality. Those in pots consist chiefly of Pelargoniums of all classes, well flowered, and herbaceous Calceolarias, charmingly marked and well grown; Gardenias, indispensable on account of their sweetness; Golden-rayed Lilies; graceful little Fuchsias; spring-flowering Heaths in great variety; Roses of most kinds, more especially the pretty dwarf Chinese sorts; and many other plants of interest. To these may be added fine-leaved plants such as Dracænas, Ferns (principally Adiantums), graceful kinds of Pteris and Polypodium, Palms, Cyperuses, and Club-mosses. Bouquet-flowers mostly consist of light-coloured Tea Roses, Stephanotis, white Azaleas, blue Cinerarias, double-flowering Stocks, sprays of various Orchids, Gardenias, Lily of the Valley, Ferns, &c. Button-holes include a Gardenia flower with a few leaves; light Rose with leaf; red Pink; spray of Lily of the Valley and Fern; Stephanotis and Fern; Hoya, cluster of flowers, and Fern; Nemophila, and a few other flowers worked into them. Hardy plants are now in great plenty; amongst them are Pansies, Sweet-williams, Stocks, Alyssum, blue Gentians, double-flowering Ranunculuses, Mimuluses, Carnations; also, Tropæolums, Sweet Peas, and other plants of similar kinds.

June.—A few early annuals will now be blooming freely. China Roses in small pots are very pretty. Syringe plants freely if infested with green-fly, which is very common at this season of the year. Echeverias, Mesembryanthemums, and Phyllocactus will now be in flower, and should have a sunny position. Cuttings of new or rare Geraniums, Fuchsias, Heliotropes, and many other soft-wooded plants, may now be struck much more freely than in autumn. Fuchsias

struck from cuttings this time last year will now be fine blooming plants, and will be succeeded by those struck during the spring of this year (April). Lily of the Valley in pots will now be very pretty along with the graceful, soft, rosy-flowered *Dielytra*. *Calceolarias*, both herbaceous and shrubby, will now be blooming freely. Cuttings of the latter may be inserted on a little bed of light earth, surfaced with sand, in any shady corner. Tie *Chrysanthemums* neatly to slender green-painted sticks to prevent damage from winds, and do not let them want for water or they will lose their lower leaves and look unsightly. Plunge all spring-flowering bulbs and shrubs in the open border (if not done already) and water them well in dry weather. Those bulbs which have not already flowered, as Lilies, should be watered regularly and neatly tied; as their buds develop, lift them carefully and wash the pots previous to their removal to the room or balcony. Carefully attend to annuals and grasses in pots; watering, staking, thinning, and weeding as may be required. Succulents, as *Echeverias*, *Phyllocactus*, *Agaves*, and *Cereus*, may now be placed on a sunny border or balcony outside, if not in flower. Bear in mind that nearly all the plants herein described grow as freely outside as indoors during the summer. The principal exceptions are tender Ferns, and those plants recommended for Wardian cases.

Amongst flowers for bouquets, *Eucharis*, *Stephanotis*, *Gardenias*, Tea and Moss Roses, *Ixias*, *Sparaxis*, Pinks, and blue Cornflower, play a prominent part. Hardy flowers of all kinds are plentiful, and pot-plants are attractive. Amongst the latter are Lilies, *Fuchsias*, *Hydrangeas*, *Calceolarias*, *Pelargoniums*, both show and bedding varieties; Heaths, Azaleas, *Petunias*,

Musk, Sweet Peas, and Pansies. These last are grown in small 60 or 48 sized pots : and in addition to the flowering-plants, there are various ornamental plants with beautiful foliage, such as nice little Palms, Pandanus, Cyperus, Ficus, Aralia, Dracænas, Begonias, Ivies of sorts, hardy Ferns, and Virginian Creeper. Many of the much-neglected succulents make pretty pot-plants, and may now be obtained. The tenderest kinds grow well in a dry Wardian case placed at a sunny window ; but there are many that require even less protection.

July.—During this month flowers will be plentiful ; and consist of Cockscombs, Japanese Lilies, Fuchsias, Geraniums, and Hydrangeas. Annuals, as Asters, Phlox, Balsams, Celosias, Acrocliniums, Rhodanthes, Helichrysums, and ornamental Grasses, are also very pretty. For dinner-table decorations and bouquets we have Asters, Cornflower, Pentstemons, white Water-lilies, Cyclamens, Roses, and many other flowers. Plants will now require careful attention and constant watering during hot dry weather. Sow Mignonette in pots for winter flowering, and put in cuttings of Geraniums, Fuchsias, and other bedding-plants. Show or fancy Pelargoniums that have done blooming should be placed outside, and carefully pick off decayed leaves, flowers, or seed-vessels from those plants which remain. Climbers, as Tropæolums, Clematis, Hop-plant, Cissus antarctica, Ivies, Virginian Creepers, Maurandia, Passion-flower, and Myrsiphyllum, should be trained in neatly, or allowed to droop in graceful folds from the window-trellis or balcony. Ferns and Selaginellas should be syringed daily with soft or rain water. Destroy insects directly they appear, and occasionally sponge the foliage of

Ficus, Cissus, and Aralias, to remove dust and add to their freshness and health. Those plants that are grown inside the window should have air daily, and should be turned occasionally to prevent their "drawing" to the light and becoming one-sided. Look to Azaleas and other plants outside, and syringe them occasionally to keep down red-spider. Plants set outside should have a layer of coke-ashes to stand on, or worms will work their way into the bottoms of the pots, and prove a great nuisance. If they are troublesome already, a dose of lime-water will clear them out. Prick off or pot the young Cyclamens sown in the spring, using a compost of sandy loam and leaf-mould with the addition of one-fourth well-rotted manure. Plants in pots consist chiefly of Pelargoniums, Cockscombs and other Celosias, Gladioli, Japan Lilies, Fuchsias, yellow Calceolarias, Petunias, and a few ornamental-leaved Dracænas, Crotons, Palms, Ferns, little Conifers, Myrtles, and other ever-green shrubs. One of the prettiest of flowering-plants at present is *Hydrangea paniculata grandiflora*, the white frothy-like flowers of which are produced in great abundance, and contrast admirably with the brilliant scarlet blossoms of *Vallota purpurea*, fine plants of which are coming largely into market. Of cut-flowers, both from out and in doors, there is a good supply; and it is astonishing to see in the market at this season such quantities of Fern-roots as are to be seen in it daily. Asters form the chief feature, and they are particularly well grown; for each plant in a 48-sized pot is furnished with from six to nine blooms. Oleanders, too, though only about a foot in height, are each surmounted by one or two spikes of beautifully-developed flowers. *Solanum capsicastrum*, covered with brilliant scarlet

berries, has just made its appearance; and there are still plenty of Gladioli, Japan Lilies, Vallota, Begonia Weltoniensis, Bouvardia jasminiflora, Pelargoniums Fuchsias, and a various assortment of dwarf evergreens, little Conifers, Dracænas, Ferns, and Selaginellas. Cut-flowers consist of late kinds of Roses, a few Orchids, and blooms of other plants already mentioned.

August.—Ivy-leaved Pelargoniums are amongst the most effective of all window or balcony plants, and are now very beautiful. Epiphyllums may be grafted on stocks of Pereskia, Opuntia, or Cereus, and placed in the close case. Coleus, Iresine, and Alternantheras are now very pretty, the foliage being richly coloured. Sponge Dracænas and Agaves, and syringe Ferns. Now is a good time to commence collecting and drying fronds for winter decoration. Window-boxes planted with blue Lobelia, Dactylis variegata, Poa trivialis variegata, Iresine Herbstii, Coleus, Mesembryanthemums, or Portulaccas, and surfaced with fresh green Selaginella hortensis, are very showy. They may be varied by the introduction of choice succulents, margined with Isolepis gracilis, one of the most useful of all decorative plants. For table-decoration we have Dracæna rubra, D. congesta or D. terminalis, Ficus elastica, Yucca aloifolia variegata or "quadricolor," and small-growing but elegant Palms. Train climbers, pick off all decayed leaves, and water carefully where required. Cobcæa scandens and Eccremocarpus scaber are now blooming along with the beautiful blue Passiflora cœrulea (Passion-flower). Heliotropes, Mignonette, Aloysia citriodora, and other sweet-scented plants in small pots, are plentiful. Asters are now coming in in good condition. They

are carefully lifted from the open ground and potted into small pots a few days before they are used. Fuchsias, Lilies of various kinds, the brilliant scarlet Scarborough Lily (*Vallota*), little Ferns, Lycopods, and small Conifers, still continue to make up the supply. White Asters figure largely in some of the bouquets, along with Tea Roses, Bouvardias, *Rhynchospermum*, Orchids, Maiden-hair Ferns, and Grasses. Small Myrtles and Conifers, *Euonymus*, and other evergreens, find a ready sale. Large consignments of wreaths, crosses, and bouquets of Everlastings or Immortelles, are received from the Continent at this season.

September.—The Virginian Creeper is now beginning to assume its autumnal tints; and the common Hop is very ornamental, bearing pale-yellow clusters of flowers among its deep-green lobed leaves. Flowers are still plentiful. Carefully attend to your Chrysanthemums, giving them liberal supplies of manure-water two or three times a-week. *Rochea falcata*, Mesembryanthemums of the “*M. blandum*” section, *Sedum* (*Fabarium*) *spectabile*, Oleanders, and many annuals, will now be in flower. These judiciously and tastefully arranged, along with the general stock of foliage-plants and evergreens, will keep the window gay for several weeks. Nice little plants of *Solanum capsicastrum*, which have been grown outside during the summer, will now be very ornamental in the window. Their bright orange-coloured berries and deep-green foliage recommend them as general favourites. Look out for your Hyacinth, Crocus, Tulip, and Jonquil (*Narcissus*) bulbs. In buying bulbs, remember that the largest are not necessarily the best on that account. Choose firm, clean-looking bulbs, and remember that the heaviest are considered

the best. Single Hyacinths will give more satisfaction than double-flowered ones. It is not necessary to give a high price for "named bulbs" or "new varieties," since the older kinds, which cost only a few pence each, are not a bit the less beautiful, and, indeed, often flower much better. Pot your bulbs as soon as received in turfy loam $\frac{1}{2}$, leaf-mould $\frac{1}{4}$, rotten manure and coarse sand $\frac{1}{4}$, adding more sand if the soil is not light and open. Water well after potting, and cover them with sand or ashes out of doors. This covering should be two or three inches thick, and not only protects them from early frosts, but prevents their pushing themselves out of the soil when rooting. Cover your bulbs entirely with soil when potting them. Some gardeners recommend the crown of the bulb to be left above the surface, but it is quite immaterial, since when planted outside in the borders, which are colder and wetter than pots, they are planted two or three inches deep. Some of your largest Hyacinths may be kept and placed in glasses of water. Do not forget to plant a few Crocuses, early Tulips, and Hyacinths in your hanging-baskets for spring-blooming. Now is the time to clear them of all summer-flowering plants that are past their best. Nice winter-baskets may be made up by planting them with succulents, as Echeverias, Sedums, and Sempervivums, and a few fresh evergreen shrubs or trailing-plants. Those best suited for the purpose are Euonymus, of sorts both green and variegated, Ivies, Box, Berberis Darwinii, which bears a profusion of bright orange flowers in the spring; and around the margins leave spaces, in which insert your bulbs (see chapter on "Hanging-Baskets"). Bulbs of *Nerine sarniensis* (Guernsey Lily) and *Amaryllis belladonna* (Belladonna Lily) may

now be bought for a few pence each. Purchase those that are already showing their flower-spikes, and pot them in the compost recommended for Hyacinths. Place them in a frame or in the window, and water regularly. Carefully look over the border or plot where your hardy bulbs in pots, as Crocuses, Dogstooth Violet (*Erythronium*), Grape Hyacinths (*Muscari*), Scillas, and Narcissus, are plunged. Prepare some tall labels and mark each group, so that you will know exactly where they are to be found, in case you wish to force them on before they push through naturally in the spring.

Flowers.—*Vallota purpurea* is at present the most brilliant flower in the market: associated with it are Fuchsias, dwarf Chrysanthemums, *Begonia Weltoniensis*, Pelargoniums, Heaths, Cyclamens, and Chinese Primulas. Of cut-flowers there is a goodly supply of Gladioli, white Dahlias and Asters, Violets, single and double Pelargoniums, Rosebuds, Epiphyllums, white Camellias, Tuberoses, Gardenias, Bouvardias, blue Centaureas, Orchids, and many others. There is also the usual quantity of Ferns, Mosses, Palms, and other evergreens. Asters in small pots, Lilies of the *L. speciosum* type, Mignonette, Balsams, Myrtles, *Vallotas*, and foliage-plants, still make up the supply. Small succulent plants, as Aloes, *Cereus*, *Opuntias*, and *Stapelias*, are still obtainable, and recently flowering bulbs of the Belladonna and Guernsey Lilies have made their appearance. Some very beautiful wreaths are being made of *Immortelles*, and very elegant bouquets are still being composed of *Stephanotis*, Tuberoses, Jasmine, pink Pelargoniums, and Orchids. A few Violets have made their appearance during the past week, and are valuable for adding to bouquets on account of their delicious fragrance.

October.—The decorative plants and flowers now in season are plentiful, and consist of variegated Ivies, Euonymus, Aspidistra, and other foliage-plants; Fuchsias, Vallotas, Bouvardias, Asters, Roses, Violets, Cyclamens, Camellias, Eucharis, blue Cornflower, Helichrysums, Gomphrena, Rhodanthe, and other autumn-flowering everlastings. Hardy shrubs in pots for window-boxes consist of Ivies, Aucubas, green and variegated Euonymus, Junipers, Box, Thuja, and Portugal Laurels. Chrysanthemums are now coming into flower, and will last until after Christmas. Little Palms in pots will now be found useful; and if these have been inured to cool treatment by having been grown outside during summer, they will be better for window-culture than those brought suddenly from a hot stove or greenhouse. The best Palms are *Corypha australis*, *Chamærops humilis*, *Rhapis flabelliformis*, *Livistonia borbonica*, *L. altissima*, *L. rotundifolia*. These, with Chrysanthemums, and other flowering-plants, will give a fresh appearance to the window for two or three months. Sponge over your plants once a-week, especially the Palms, Ficus, Dracænas, Aspidistra, Curculigo, and others with smooth, hard foliage.

Many kinds of bulbs and flower-roots may now be purchased, either for indoor or open-air culture. These consist of Anemones, Hyacinths, Muscari, Narcissus, Crocuses, Snowdrops, Cyclamens, Arums, Eranthis, Ranunculus, and others. Many kinds of herbaceous plants are best planted at this season. See about sowing annuals, and such other flower-seeds as prosper best when sown in the autumn (see List). Cannas, Dahlias, Wigandias, and other sub-tropical plants, should now be taken up and stored away in sand. In some out-of-the-way places the more hardy kinds

of Cannas need not be taken up, if their roots are well covered over with stable-manure or leaves. Chrysanthemums are now very showy, and should have plenty of air during bright sunny weather, as they are liable to damp. This is the finest of all autumn flowers for the smoky city. Those who have an opportunity, should now look into the gardens of the Inner Temple (Fleet Street, London), and see what can be done with the Chrysanthemum as a florist's flower.

Bedding-plants are for the most part over; and all those that show signs of exhaustion had better be removed at once. Now is the time to think of winter window-gardening outside; and for this purpose nothing is better than common or Irish Ivy, as already recommended, together with small Conifers, as Thuja, Juniper, and Retinospora; while evergreen shrubs, as Aucubas, Euonymus, Portugal Laurels, common Box, and variegated Hollies are invaluable. These things may now be carefully removed from the open borders, and should be planted in the window-boxes, or in tubs on the balcony.

November.—During the damp and foggy days of this month, give your plants all the light possible, and keep the leaves of both foliage and flowering plants clean by careful sponging with soap and water, or clear water alone. If soap is used, carefully wash off every particle with clean tepid water. Chrysanthemums cleaned and brought into the window, or on the balcony, during fine mild weather, will now be flowering freely. Take up roots of the Christmas Rose (*Helleborus niger*) and pot them in sandy loam and leaf-mould, ready for removal indoors, when they throw up their white or delicate rosy-

tinted flowers. Bring in another little batch of bulbs and roots, as *Dielytra*, *Lily of the Valley*, and *Spiræa* from the sand-bed, so as to keep up a successional supply. Both these plants and spring-flowering shrubs, as *Prunus*, *Deutzia*, and *Persian Lilacs*, may be forwarded by placing them in one of Barr's heated plant-cases. This little contrivance, so useful to the amateur for striking cuttings or raising seeds, will now be disengaged for a month or two, and cannot be put to a better use than for forwarding spring-flowering plants; but in this respect they have to receive general treatment, along with the shrubs and spring-flowering bulbs planted with them. The best of all Conifers for balcony decoration are the smooth or glossy-leaved kinds, as these [do not retain the soot deposited on them in smoky positions. Glossy-leaved shrubs and trees always do better in towns than rough or woolly-leaved kinds, simply because they are easily cleaned by sprinkling, and every shower leaves them fresh and free from foreign deposits. *Thuja aurea*, *T. dolabrata*, and *T. Donniana*, all do well in either rooms or balconies; but they must be liberally supplied with water, especially during the hot summer months. My friend Mr Peter Barr grows these very nicely, and regards them as the most valuable of all coniferous plants for room or balcony culture.

Amongst cut blooms are Roman Hyacinths, a large quantity of Camellias of all colours, Gardenias, *Calanthes*, *Zygopetalums*, *Cypripediums*, and other seasonable Orchids; *Chrysanthemums*, of which the whites are always the most in demand, and blue *Cinerarias*, that have a fine effect when mixed with white flowers in bouquets. Of (forced) white Lilac, there is a goodly quantity in the market, and the

white Arums or Trumpet-flowers are also supplied in moderate quantities, as are likewise Zonal and Cape Pelargoniums, Rosebuds, Violets, and Bouvardias. Of Indian Daphne there are a few flowers. Pot-plants consist of some very pretty Solanums, well furnished with berries; nicely flowered little plants of Laurestinus, berry-bearing Aucubas, Heaths, Primulas, Cyclamens, and a large variety of Chrysanthemums.

December.—Chrysanthemums and winter-flowering Begonias will now be in flower, and, together with hardy evergreens, will keep the window or apartment tolerably gay. Begonias are very useful for window-culture, and their flowers have a beautiful crystalline or frosted appearance under artificial light, like the flowers of the Guernsey Lily, or some Orchid blooms. The best Begonias for winter blooming are the following:—

B. fuchsoides	B. insignis	B. Dregii	B. Weltoniensis
B. nitida	B. erecta multiflora	B. Daviesii	B. Wagnerii
B. Saundersii	B. manicata	B. Ingramii	B. Sedenii

These grow tolerably well in the window of an apartment in which a fire is kept constantly during the coldest part of the year; but care must be taken not to over-water them, as they are subject to damp off. *Isolepis gracilis* and *Acacia lophanta* are now two of the freshest of window foliage-plants. Keep succulents, as Agaves, Aloes, Echeverias, Sempervivums, Sedums, Crassulas, and Stapelias, quite dry, and, if possible, give them the sunniest spot in the whole house. Those planted in baskets are fully exposed to the light and sun, and may have a little water occasionally. During very severe frosts, the more tender plants in the windows of unheated apartments

should be set on the floor every night, and covered with a cloth, so as to protect them from the cold. The choicest of all your plants may be collected together on the approach of sharp weather, and can then be arranged in the windows of apartments where a fire is constantly kept burning; but, even in this case, it is sometimes advisable to set them down and cover them over as above directed, since it is nothing uncommon to have a bright glowing fire at one end of the room and a few degrees of frost at the other. Frost enters most readily at the windows; so that, during the sharpest of the winter months, it is an excellent plan to arrange your plants on tables which can be set close up to the window during fine sunny weather, and removed to warmer quarters when likely to be injured by severe frost. Be very careful in watering, only giving just sufficient to keep the soil *moist*, not wet; and give air during warm sunny weather, so as to dry up superfluous moisture. If bulbs are not yet planted, as already recommended, procure them at once. In most cases they are fifty per cent cheaper than in the commencement of the season. Now is the time to finish planting bulbs in window-boxes and balconies outside for early spring blooming.

The supply of flowers is quite equal to the demand, and of Orchid blooms there is a good variety, including the following: *Oncidium flexuosum* and *ser-ratum*, *Aërides virens*, *Angræcum sesquipedale* and *A. eburneum*, *Odontoglossum Alexandræ*, *O. Hallii*, *O. luteo-purpureum*, *O. tripudians*, and *O. Schlieperianum*; *Calanthes*, *Zygopetalum Mackayi*, *Cypripedium barbatum*, *C. villosum*, and *C. insigne*, *Cœlogyne cristata*, and *C. speciosa*, and the Chinese *Renanthera coccinea*; of Tulips and Hyacinths, two or

three are placed in a pot, with a little Fern in the middle, thus presenting a regular bouquet-like appearance. Tastefully-arranged baskets are also filled up with Hyacinths, Tulips, Cyclamens, crowns of Lily of the Valley, and Ferns and Club-mosses; but as a central object, nothing has a more pleasing effect than the green *Cyperus alternifolius*.

PART II.—ORNAMENTAL.

INTRODUCTION.

WE now propose to treat of flowers and plants as domestic adornments, they being the most beautiful of all natural objects for this purpose. Flowers are easily obtained by those who desire them, and are looked upon more as necessities than luxuries in many homes of refinement and taste. Beautiful flowers for the hair, or bouquets for evening dress, are now the rule rather than the exception; and an almost universal love for pearly blossoms and fresh green foliage exists among all classes of society. The rarest and choicest of exotics are used for decorative purposes; but if these cannot be procured, a handful of common garden blossoms or wild-flowers and grasses may be employed, and, if tastefully grouped, will form pleasing ornaments. Carefully avoid using too many flowers, as this is the rock on which nearly all our floral decorators split. Place a few Fern fronds, a branch or two of Asparagus, and a spray or two of any elegant Grass, in your vases or stands; then add the flowers. Practice is the best teacher in the arrangement of floral decorations; and a very little study will soon suggest

how to employ the best combinations. Crowding in flower after flower indiscriminately, just where there happens to be an open space, must be carefully avoided, and the outline or contour of each blossom must be preserved just as when they are growing. Heavy decorations of flowers, fruit, and foliage, carelessly jumbled together, are now, happily, giving place to a purer and more natural style, in which the flowers are allowed to fall or recline on masses of verdure with all the grace and freedom of nature itself. Slender Palms and elegant Ferns should spring in gentle curves from the snowy cloth, just as if they were growing unrestrained in their native habitats. We should always remember that Floriculture, or the arrangement of floral decorations, is "an art which does mend nature—change it rather; but the art itself is nature." One of the greatest charms of floral ornaments and decorations of all kinds is the immense and ever-changing variety of plants and flowers that we can use for the purpose. The importance of floral adornments for the dinner-table, and sweetly-perfumed blossoms tastefully arranged as domestic or personal ornaments, is duly and deservedly appreciated by most of our Horticultural Societies. The introduction of beautiful flowers into our apartments and everyday domestic arrangements has much to recommend it; for we cannot too often feast our eyes on natural beauty, and improve our minds by that close communion with nature which never fails to please us just in proportion to the light that is within. Floral decorations are generally attractive when arranged by tasteful and loving fingers at home; and if we grow our own flowers as well, we derive additional pleasure and enjoyment from their use as domestic adornments.

BOUQUETS, WREATHS, AND VASE DECORATIONS.

In every bright and happy home this is peculiarly the ladies' province, and but few of the sterner sex can hope to rival them on their own ground. We may scramble up the fence and bury sharp thorns in our flesh while gathering Roses, or plunge down the steep bank and wade along the muddy margin of the limpid stream while searching for the bright blue Forget-me-nots, or the pearly Water-lilies. We may do all this, but the best of us must pay all due respect to feminine taste in the arrangement of flowers. The finest bouquets in Covent Garden are arranged by ladies, and the chief prizes at all our best floral exhibitions are taken by fair bouquetists; nor do we envy their well-earned success. In commencing to speak of cut floral decorations, we will first allude to the bouquet.

Our first experience in this direction dates back to the time of the more antiquated predecessor of our modern bouquet—the old-fashioned posy or nosegay, which, we are pleased to add, may still be seen in all its primitive sweetness at many a simple village bridal. The old posy, or poesy as it is sometimes written, was a thoroughly honest and genuine production—no wires, no millinery, no “flowers on stilts” there,—nothing but flowers—sweet old-fashioned blossoms, that recall many pleasant memories and associations of by-gone days. The old nosegay was not restricted as to size, nor particularly regular in its arrangement; but it always included fragrant and bright-coloured flowers: hence the name it bore. To speak of a posy carries us back to quiet country villages where sweet-scented Jasmine and Woodbine, purple Clematis and monthly

Roses fight lovingly for a place beside the rustic porch; while the little plots in front of white thatch-roofed cottages afforded a variety of bright blossoms for the nosegay of the past. Here are the old-fashioned, sweetly-perfumed flowers of our childhood. Scarlet Fuchsias in great patches on each side the little walk, Bachelors' Buttons and Dusty Miller, Stachys or Lamb's-ear, Mignonette, Rosemary "for remembrance," and great Cabbage Roses, tinted like the first blush of innocence and love; together with red Valerian and great patches of Pinks and Sweet-williams, now, alas! too rarely seen in modern gardens, so great is the rage for Orchids and glaring "bedders." Pleasant it is to linger amid the flowers of the old-fashioned posy, the make-up of which did not call for much taste, neither did its formation occupy much time. Blossom after blossom was added, with a sprig or two of Mignonette and Rosemary now and then for their grateful fragrance, the whole being bound round with a piece of string, after which it occupied the place of honour on the best room table. The fragrance of an old-fashioned nosegay always carries our memories a long way backwards over life's rough highway. Again we tread the fragrant rushes strewed by loving fingers over the milk-white stone floor of an old-fashioned parlour in a country farmhouse. It is the Sabbath, the day of rest, and a holy calm seems to have settled over the little thatched cottages of the hillside hamlet. The old mill-wheel is still, and even the rooks in the high elms seem to caw and croak more reverently than is their wont. The cool breeze as it enters the open casement is but just strong enough to fan the fresh incense of the Cabbage Roses and Jasmine into the room, where their fragrant odours mingle with those exhaled by the never-forgotten posy in

an old brown jug placed on the bright old oak table. We were children then, and with reverent awe listened, as the last gilded rays of the setting sun stole through the old diamond panes, to solemn words read from the Holy Book by the grey-haired shepherd of a little flock now widely separated and scattered in different quarters of the world. Some are dead ; but of those that still live there is at least one who remembers with feelings nearly akin to reverence the posy placed every Sabbath on the simple family altar of bygone days. The modern bouquet is more artificial, and for its formation we not only want choice flowers, but wires and lace-paper, or real lace and ribbons of the finest satin, as the case may be ; while often its fair possessor will enclose its base in a jewelled horn of plenty, the gems of which scintillate and sparkle like all the dews of Golconda combined.

The flowers suited for bouquet-work are many, and they vary according to the season of the year. Those of graceful form, pure distinct colours, and wax-like consistence, are generally most admired, and the latter are more lasting than flabby thin-petalled kinds. Thick-petalled flowers that will keep some considerable time after being cut are especially useful for the best bouquets, or such decorations as are mounted on wires. Always dip your cut-flowers, sprays of foliage, and Fern fronds in a vessel of clean water before making them up into either wreaths, dinner-table decorations, or bouquets. This operation adds greatly to their durability. Do not shake them afterwards, as that would cause delicate flowers to drop their petals, but swing them gently backwards and forwards in the hand, which will dry them sufficiently without injury. Most flowers commence to droop and wither after being kept in water for twenty-four

hours; a few can be revived by substituting fresh water, and a pinch of saltpetre in it will tend to keep them bright and fresh. But badly-withered flowers can be made fresh by placing them in a cup of boiling hot water, deep enough to cover at least one-third of the stems; by the time the water has cooled entirely, the flowers will have become bright and erect. Now cut off the ends of the stems about an inch, and place them in cold water, and you will be surprised at the reviving influence of this treatment. Thin-petalled white and light-coloured flowers, however, will not become so fully restored as high-coloured thick-leaved blossoms. As to colours, pure white, blush, pink, rose, lilac, mauve, light and dark blue, scarlet, and crimson are all effective, the two former being best for wedding wreaths and bouquets. Yellow and orange may be used in some cases, or when flowers are scarce; but these colours are very glaring, especially when contrasted with purples or bright blue, and require very tasteful handling in order to be really effective and in good keeping. Some flowers are much more effective than others under artificial light, and it is as well to bear this fact in mind when arranging bright-coloured bouquets for ball-rooms or wreaths for ladies' hair. As to the durability of flowers, nearly all the Orchids last and preserve their shape and colour for a long time. The chaste *Eucharis (amazonica) grandiflora*, one of the finest of all white flowers either for ladies' hair or the centre of a bridal bouquet, will last for several days. *Stephanotis* and *Gardenias* keep well, much better than *Camellias*, which require careful handling, as the least bruise or drop of moisture on the petals spoils their purity. These last should be cut just after opening, as they are apt to shed their petals suddenly, unless very carefully mounted.

Bouvardias, Ixoras, Jasmines, Tuberoses, and Daphne, are very useful and lasting. Spiræas, as *S. palmata* and *S. Japonica*, the former of a bright rose, the latter white, furnish nice graceful sprays for breaking the stiff outlines made by more formal flowers. Amongst spring-flowering bulbs and forced flowers we have abundant supplies for any purpose, Rosebuds, the Tea-scented kinds, as *Saffrano*, *Gloire de Dijon*, *Maréchal Niel*, *Madame Falcot*, and others, being specially attractive. Lily of the Valley, single white and pink Hyacinths, and white Narcissus, are very useful. Hyacinth-pips, when mounted singly on wires, last a long time, and associate well with other choice flowers. Among forced shrubs we have double white *Prunus*, white and purple Lilacs, *Deutzia gracilis*, *Acacias* of sorts, and Azaleas, some of the double white varieties of the latter being specially beautiful and durable for bouquets; sprays of *Epacris* and Orange blossom (the latter specially for bridal wreaths), *Mignonette*, together with well-developed shoots of *Myrtle* and light graceful branches of *Asparagus scandens*, *A. consanguinea*, or of the elegant glossy-leaved *Boston Vine* (*Myrsiphyllum*), now so extensively grown both for cutting and as a window-plant in America. These are very acceptable for either bouquets, wreaths, or for twining round the standards of the march glasses or stands used in table-decorations. Many spring flowers are well adapted for arranging with choice exotics for bouquets, and also for dinner-table decorations. Among these we may specially allude to the Christmas Rose (*Helleborus niger*), Snowdrops, Crocuses, Hepaticas, Anemones, Scillas, and Narcissus blooms. Flowers of the German and English Iris, when laid neatly on a cool fresh carpet of *Selaginella* or Fern fronds, are little less

effective than the gorgeous *Cattleyas* and *Lælias* of our *Orchid-houses*. Happily there is an increased taste for lovely spring blossoms and hardy flowers, many of which peep up through the snow and sparkle with all the iridescent hues of the solar spectrum, while even under artificial light they hold their own with the tenderest hothouse flowers.

Having first selected your flowers, the mechanical part of bouquet-making is simple enough; but no printed directions will help you much in the matter of that delicate sympathy and refined taste which is of such excellent service to the bouquetist. Many of our lady friends seem to have an innate love for the beautiful, and can no more form a stiff or inharmonious bouquet than a person with a good ear for music can sing or play out of tune. A little experience in the art itself will teach more than a volume of written instructions. Bouquet-wire, both for stems and very thin for binding, can be purchased at any florist's (who will also show you the best sizes to use), together with a sheet or two of good cotton wool. Have the latter of good quality, as inferior kinds contain large quantities of dust, and will injure delicate white flowers. Zonal and fancy *Pelargoniums*, *Camellias*, *Azaleas*, and other flowers, often shed their petals unless touched in the centre with a drop of gum or isinglass—the latter being clearest and best for pure white flowers as *Azaleas* and *Camellias*. A bottle of mucilage or isinglass and a camel's-hair pencil should always be kept in readiness for this purpose. Cut your wire into lengths of about six to eight inches (unless bought already cut), and mount the flowers on these by gently inserting one end into the calyx, and pressing it carefully upwards, so as to obtain a firm hold. Now put a little damp cotton

wool or fresh green moss around the base or calyx of the flower, and wrap it firmly, but not too tightly, with your thin binding wire, which is sold on reels ready for use. In New York, two thousand barrels of the tree Lycopodium (*L. dendroideum*) are used every year for bouquet-making and forming wreaths. It is now principally brought from Maine, having become scarce in Connecticut and New York State.

In mounting Camellias, which are apt to give way and lose their petals, a drop or two of clear isinglass may be let fall right down the centre of the flower; do not smear it about with a brush, or the flower will be spoiled. After having wrapped the base of the flower with cotton wool, drop a little isinglass or mucilage between the wool and the backs of the petals, so as to hold the whole firmly together. Having mounted your flowers, select one for the centre. Roses, Gardenias, Eucharis, *Pancretium*, or Camellias, do very well for this purpose, care being taken to mount them firmly and perfectly straight on the wire. Now arrange the others around this according to taste either in zones or segments, binding the stem wires firmly as the work of arrangement proceeds. If the bouquet has a tendency to become one-sided, place a thin piece of straight stick to the centre flower to keep it firm. One advantage possessed by wire stems is, that any flower may be placed just where it is required by merely bending the wire between the thumb and the finger. The colours that harmonise best together will soon be learned from experience. Pink or soft rose, and pale-blue Forget-me-nots are always effective, especially if margined with silvery *Rhodanthes* or other white flowers, and elegantly fringed with either Maiden-hair or *Davallia* Ferns. Fronds of the *Gleichenias* are amongst the

most beautiful of all for either bouquet-work or dinner-table decorations. In selecting either Fern fronds or fresh green spray of any other plants, as *Myrsiphyllum*, *Acacia*, *Lomatia*, or *Asparagus*, take care to have them thoroughly developed and somewhat hardened, nothing helping to spoil the effect of any floral arrangements more than fugacious flowers or foliage. Grasses are amongst the most elegant and durable of all plants, if judiciously arranged among the foliage and flowers. Wire shapes are sometimes used for bouquets, the flowers being simply inserted through the little squares and tied beneath. These are, however, not in general use. Bouquets made entirely of Tea and other Roses, arranged with their own foliage, are very sweet and extremely beautiful. These do not require wires, and will keep fresh for several days.

After the flowers are arranged, the bouquet may either be finished off with the elegant paper fringes and wicker-work bouquet-holders sold by all florists for this purpose, or they may have a fringe of real lace over the ordinary bouquet-paper, and be neatly tied with satin ribbons about an inch in breadth. These ribbons should be of a white colour, with a little blue or pink worked in the bow if for the ball-room; but if for a bridal, of course they should be of pure white only. In America, a wedding or bridal bell is now considered almost as indispensable as the ceremony, and usually occupies a place in front of the pier-glass, having floral balls in proportion to its size hung on either side of it. The framework of the bell is of wire, and it is made up of *Camellias*, *Tuberoses*, and *Carnations* in season, all of which must be pure white. The balls are made of the same flowers, and have on them a monogram or design in red, blue, or green, as the fancy may suggest.

The elegant spray of flowers here figured is well worth notice, and teaches a valuable lesson on judicious contrast and variety in the arrangement of flowers for effect. In the first place, the flowers are not crowded; and closer examination shows us that there are three distinct types of vegetation. A spray



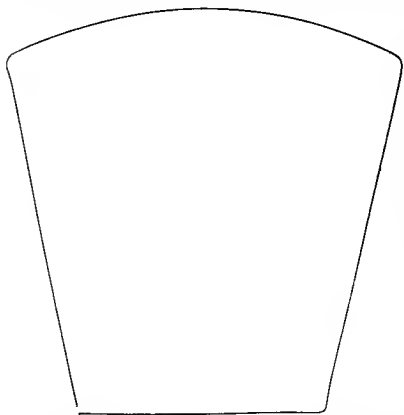
A simple Spray of Flowers.

of shrubby Spiræa forms a fresh green background, relieved here and there by its small white star-shaped flowers; and on this is laid a sprig of white Azalea, and a shoot of Fuchsia laden with its gracefully pendent coral-tinted flowers. It will be observed that we have contrast of *colour* as well as of *form* in this little group. Green, white, and crimson or scarlet, always

contrast well ; while the three secondary tints of green afforded by the foliage of the Azalea, Spiræa, and Fuchsia, give a most harmonious and pleasing finish or undertone to the whole. The engraving is a charming study of flower-form, and illustrates most forcibly how effect may be obtained in the arrangement of a minimum quantity of flowers and foliage.

Button-hole bouquets and coat-flowers are now becoming very fashionable, and when tastefully made up, they certainly form charming little ornaments for evening dress. The little bouquets usually sold by florists are composed of one or two flowers, neatly backed by a spray or two of Fern, or a few green leaves. A charming "button-hole" may be formed of white Jasmine, or either white or rosy Bouvardias and a sprig or two of Forget-me-not (*Myosotis*) ; but any small distinct-coloured flowers that last well may be used for the purpose. For simple coat-flowers nothing is better than either a Gardenia or one or two Tea Rosebuds, backed by their own foliage. Moss Rosebuds are very beautiful when in season ; while small Camellias—especially the bright rosy-flowered little *C. Sasanqua*—may be used during winter and spring. The winter-flowering or perpetual Carnations, furnish very nice scented blossoms, well adapted for coat-flowers ; as also are Lily of the Valley and pearly white Tuberoses. Care should be taken to keep them within bounds as to size, for nothing looks worse than a large, coarse, button-hole bouquet or coat-flower. If coat-flowers are regularly worn, ask your tailor to make a receptacle at the back of the coat-collar just below the button-hole to receive a slender glass tube. These hold sufficient water to keep flowers fresh for a whole evening, and are invisible if the above precaution be taken. These tubes may be

bought at any florist's for about a shilling a-dozen; but some prefer a little bit of oiled silk of this shape



and size. The stems of the flowers and Ferns are kept moist by a few sprigs of wet sphagnum, and the silk is bound round the whole close below the flowers. If a tube is not to hand, this is the next best substitute, and is generally forth-

coming if the ladies are appealed to.

Crosses, circles, shields, banners, initials, or monograms, and other artistic devices in flowers, are easily made, as the flowers are fixed on wire shapes. Any wire-worker will make you these of any shape and size. Some use strips of wood or lath for forming shapes, but those of neat wire are preferable. I have used hollow shapes filled with damp sphagnum, into which the bases of the flower-stems were introduced, and these when filled last much longer in fresh condition than those mounted on naked wires.

Wreaths for ladies' hair are best mounted on a few slender wires, and firmly bound to a stouter one. The best flowers for this purpose are Eucharis, Gardenias, Camellias, Roses of various kinds, Lapagerias, Lilies, hardy and greenhouse Rhododendrons, especially the pearly wax-like Sikkim Himalayan species; Water-lilies, Orange-blossom (for bridal wreaths), and many Orchid flowers, as *Odontoglossum Alex-*

andræ, *O. pulchellum* and *O. citrosmum*, *Lycaste Skinneri*, *Angræcum sesquipedale*, *Cœlogyne cristata*, *C. ochracea*, *Phalænopsis grandiflora*, *P. amabilis*, and other species of this noble family. To mount single flowers, wrap a piece of fine steel wire ten or twelve turns around a piece the thickness of an ordinary knitting-needle. This forms a neat little spring, close to which the flower should be mounted very firmly, so that there is no risk of its becoming detached ; now fasten the other end firmly on a stout hair-pin, and the flower can be fixed in its place without any difficulty. The flowers for ladies' hair should possess beauty of form in addition to clear and distinct colours ; and great care must be taken in selecting the Fern fronds or spray to accompany them. Young fronds or tender shoots will wither and collapse after a few hours (or even less) in an arid, gas-laden atmosphere. Inattention to trifles like these, insignificant as they may appear when the



A graceful Wreath.

youngest fronds look so tempting in all their freshness; often proves a source of annoyance to the fair wearer when she discovers them withered and crumpled before the evening's enjoyment has fairly commenced.

The following account of ancient bridal wreaths will doubtless prove interesting to our fair readers: "Wedding garlands or wreaths are of remote antiquity; they were used among the Romans. Vaughan (1606) states, that 'when the marriage day was come, the bride was bound to have a chaplet of flowers or hearbes upon her head.' Garlands at weddings were used also by the Jews. Wreaths of this kind were used among the Anglo-Saxons. At the termination of the marriage ceremony in the church, the bride and bridegroom both were crowned with wreaths of flowers, which were kept in the church for that purpose. Chaplets of flowers used in the Eastern Church on this occasion are said to have been blessed. At a later period, sprigs of Myrtle and ears of Corn were sometimes used. Chaucer, in his 'Clerk of Oxenforde's Prologue,' introduces Grisylde, a 'verray faithful mayde,' dressed out for her wedding; the wreath or 'coroun' is mentioned:—

'Hir heeres han they kempt, that lay untressed
 Ful rudely, and with hire fynghes smale
 A coroun on hir heed they hani-dressed,
 And set hir ful of nowches gret and smale.'

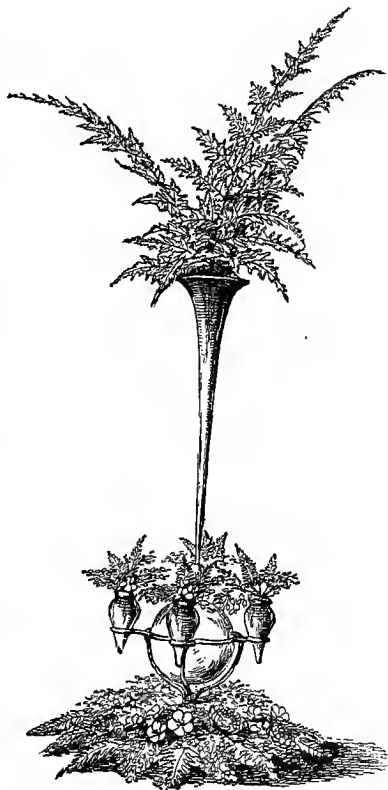
In Henry VIII.'s reign the bride wore a wreath of Corn-ears; sometimes of flowers. Nichols, in his 'Churchwardens' Accounts of St Margaret's, Westminster,' gives the following entry under date 1540: 'Paid to Alice Lewis, a goldsmith's wife of London, for a serclett to marry maydens in, the 26th day of September, £3, 10s.' Field, in his 'Amends for Ladies,' 1639, mentions garlands being placed 'upon the heads of the maid and widow that are to be married.' Dallaway writes of the Greek Church, that 'marriage is by them (of this Church) called the matrimonial coronation, from the crowns of garlands

with which the parties are decorated, and which they solemnly dissolve on the eighth day following.’”

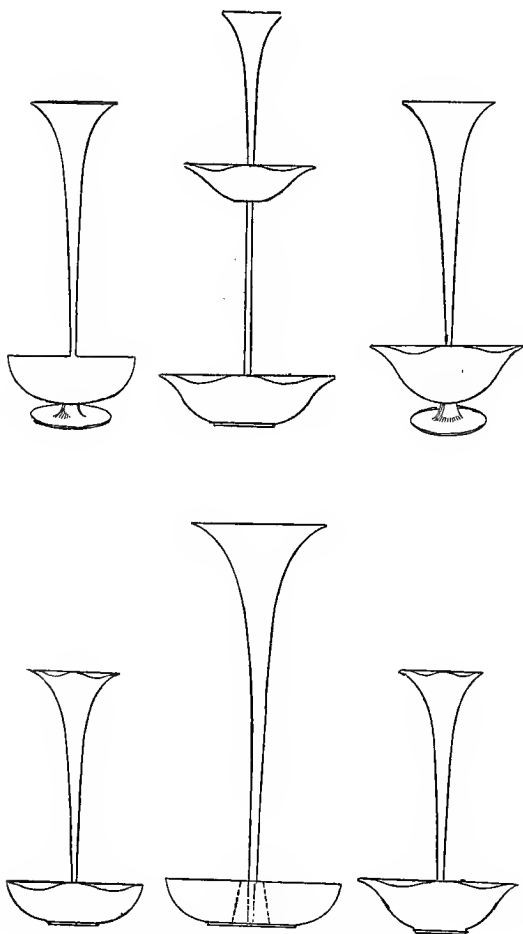
Drawing-room vases, especially the trumpet-shaped forms made of white glass, look very effective filled with flowers. Do not arrange them into a bouquet, but

place a few Fern fronds and gracefully-drooping Grasses in your vase, and these will form an appropriate background for the brighter-coloured blossoms. In all decorations avoid crowding a quantity of flowers together until the individual beauty of each is lost. Floral decorations can scarcely be too light and elegant, a few bold flowers of good form and clear colours being always more effective than a large heterogeneous collection jammed together in confused disorder.

As much variety as possible should be obtained; and this is best arrived at by using very



Dinner-table or Drawing-room Centre-piece for Flowers.



Plain Glasses for Flowers.

few flowers—one or two of each kind being quite sufficient in the same vase. “Sometimes the effect of large flowers is spoiled by intermixture with puny flowers of other plants, or an attempt to *green down* the blaze of colour by Fern or other leaves. The proper leaves for many large flowers are their own, or some other large kind. It may be fancy more than correct taste, but it seems to us that even Fern fronds are rather out of place with such cut-flowers as Rhododendrons. We remember we once learned from a confectioner to royalty a lesson which is as applicable to the dressing of flowers as of fruit, though not perhaps to the same extent. He said, ‘Each fruit should be dished up garnished with its own leaves.’ Why not each flower? An attempt to conform to such a law would give more freshness and variety to our floral devices than aught else we could try. What should we think of the ladies if, with all their changes of dresses, they invariably used the same trimmings? To a large extent this is just what we do with our flowers—stiff or graceful, sober or gay, we fringe them all alike with the same Ferns. Would it not be better taste to try their own leaves first? There is no fear of not using enough Fern; but distinctness and freshness could oftener be reached if we laid it aside now and then for other greens. Many of the Coniferæ form good substitutes, barring the smell when bruised; and Asparagus, common Grasses, and numbers of other plants, may be used with good effect.” Many flowers much too large for bouquets and wreaths may be used for vases, such as, Pentstemons, Chelone, Foxgloves, Gladioli, Lilies, and Roses; the latter are sometimes arranged in elegant wicker-baskets with good effect, and are sold so arranged in Covent Garden during the summer

months. Our illustration shows one filled with Maréchal Niel Roses arranged in wet moss or sand, their



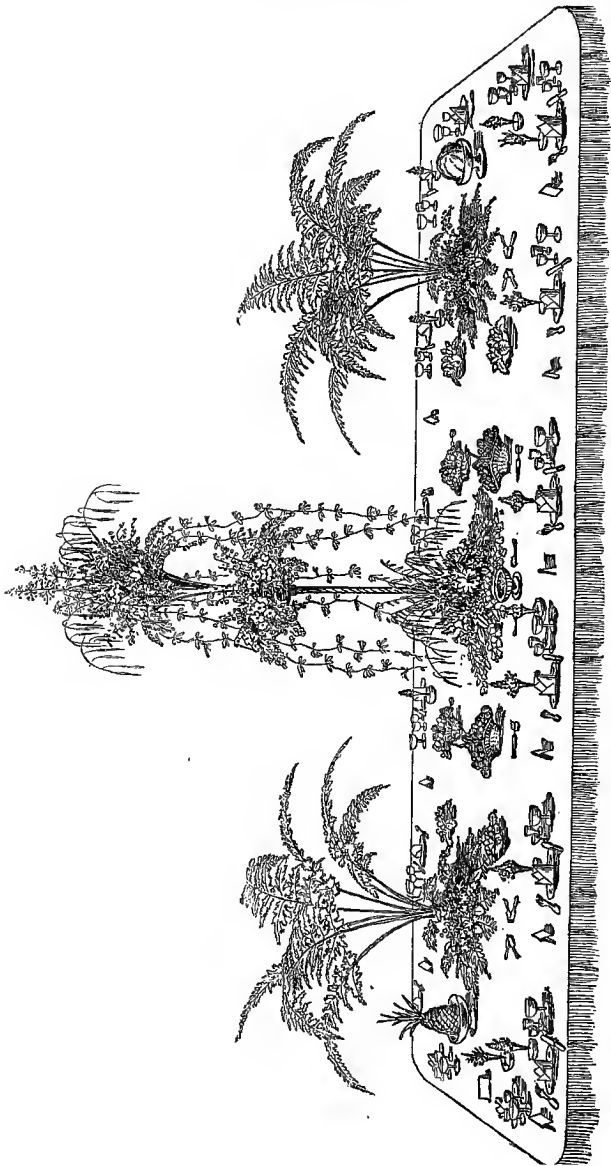
Basket of Maréchal Niel Rose.

own foliage being the only and best background for the pale, soft, golden flowers.

FLORAL DECORATIONS FOR THE DINNER-TABLE.

Of late years it has been the custom to ornament the dinner-table either with living plants or cut-flowers, or the two tastefully combined, and we can but endeavour to encourage and promote this elegant innovation. The heavy and costly epergnes, or the great heaps of flowers and fruit formerly tolerated on the festive board, have now been superseded by more pleasing arrangements. The simple and artistic decorations for the dinner-table lately so popular are the result of a laudable attempt to infuse intellectual refinement into the most commonplace matters of our everyday existence. We all know how refreshing a bouquet of

newly-gathered flowers all glistening with dew looks when placed upon the breakfast-table on a cool, fresh summer's morning, and we hope yet to see this taste for beautiful flowers at our daily repasts extended to all classes. Dinner-table decorations are in season all the year; but during the autumn and winter season these floral embellishments are specially desirable. Their arrangement need not be of an expensive character, while a most charming variety may be indulged in to almost any extent by those who possess a keen sense of the beautiful in nature and art. The general arrangement for a small party of six or eight persons is to have three light March stands, the central one a few inches taller than the others; or even if they are all of the same height, a little tact in arranging the longest spikes of flowers or sprays of foliage in the central vase will remedy this sameness and formality. Another arrangement is to have a March stand for the centre-piece, and a pair of simple glass vases—the plain trumpet pattern being preferable—one on each side; while occasionally, for a very small party, one stand neatly furnished will be sufficiently effective. As to the manner in which flowers should be arranged, no amount of written instructions would teach so much as a glance at the accompanying illustration—which has been carefully made from elegant groups. Next to Ferns, ornamental Grasses occupy a prominent position, some of the most beautiful species being invaluable for dinner-table decoration. There is a delicate grace about them not possessed by any other plants, and they have the additional advantage of lasting for any length of time when carefully dried. Some of the more delicate-growing Horse-tails are valuable aids in this way, and keep fresh for a long time in water; while feathery sprays of the common



A tasteful Dinner-table Decoration, arranged by Miss Annie Hassard.

Asparagus have few equals for delicate green freshness and beauty. Nearly all Ferns may be pressed into this service; and amongst flowering-plants the most useful for this purpose vary according to the season, but preference should be given to bold flowers of graceful form and decided colours. Eucharis, Vallota, many kinds of Lilies, Crinum, Pancratium, and white varieties of Fuchsia, are specially to be recommended. The wax-like flowers of both the rosy and white Lapageria may be neatly mounted on wires and suspended from the margins of the vase, or from a light and graceful arch (see fig., p. 147), where they look natural, and have a good effect. Sprays of Jasmine, white Bouvardias, and pearly Stephanotis, will suggest themselves for this use, and some Orchids are very chaste and beautiful. The use of the choicest exotics may be indulged in, if they are procurable; but they are by no means absolutely essential in order to com-

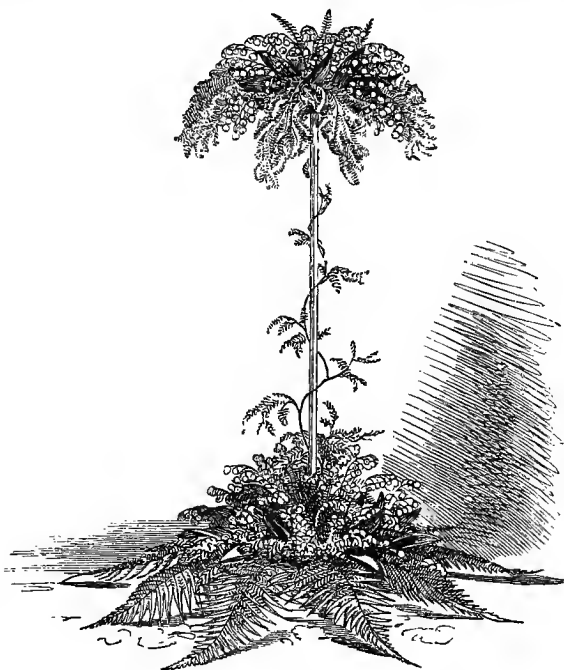


March Stand tastefully arranged with Flowers, Ferns, and Grasses.

pose a truly effective vase. The decorations here figured contain very few flowers, and still they were very beautiful and much admired by all who saw them. The bases of the stands should be concealed by a fringe of large Fern fronds, on which may be laid flowers of the snowy Eucharis and the fiery Scarborough Lily alternately. Among these, the beautiful buds and flowers of the pearly Eucharis peep here and there, bright as the stars on a fine autumnal night, and the effect of the lower part is still further enhanced by the judicious use of *Lagurus ovatus* and other graceful ornamental Grasses. The tier above fringed with Maiden-hair Ferns, beneath which hang the beautifully-formed blooms of both the rosy and white-flowered *Lapagerias*, is very effective. The other flowers here, as below, are Eucharis and *Vallota*, with the addition of *Franciscea calycina* and *Rondeletia speciosa*. The trumpet-shaped vases above are lightly filled with spikes of *Chelone barbata* or scarlet *Pentstemon* and light Grasses, the whole forming a most charming arrangement. The vases are filled with water ; but the flat receptacles below, which are concealed by the flowers and drooping foliage, should be filled with wet sand, which is equally as good for preserving the flowers, and also affords a firmer hold, each flower remaining in it exactly where it is placed.

In arranging floral decorations of any kind to look well under artificial light, some attention must be given to the choice of colours best suited for the purpose. Many flowers which are beautiful and bright during daylight, are not so when seen under artificial illumination, and should never be employed. Blue flowers, so effective in mid-day arrangements, are dull and inattractive at night. Purple, lilac, and mauve

should never be used, as they are all more or less dingy under gas-light. Preference should always be given to large flowers of decided shades of red, or to those of pearly whiteness. These show well, and never fail to please when tastefully set off with fresh



Dinner-table Decoration, composed of Ferns, Selaginella, and Lily of the Valley flowers and foliage.

green Ferns. Some small flowers of good quality and purity of colour, as Lily of the Valley, *Hotteia japonica*, and *Scillas*, are very beautiful arranged in flat-topped Marchian stands, as shown in our illustration. The flowers suitable for dinner-table decorations are wellnigh endless in their variety, and the most effec-

tive are named in the Calendar for occasional reference. Living plants of various kinds are often used with good effect, and such plants can often be used several times in succession during the season. Those most lasting for this purpose are Palms, many of which are very light and beautiful. Ferns of various kinds come in very handy, especially the hardier kinds, and many other species of flowering and foliage plants are striking and effective when well grown. Crotons, Caladiums, Dracænas, Pandanus, Yuccas, Agaves, especially the small-growing species as *A. filifera*,



Caladium as a Vase-Plant.

A. gemmiflora, and *A. hystrix* are applicable. *Ficus elastica* (the common India-rubber), which grows freely outside during the summer months, makes an effective table-plant when a foot or eighteen inches high. Some of the *Dracænas*, as *D. rubra*, *D. gracilis*, *D. congesta*, and others suitable for win-

dow or room cultivation, also make nice little table-plants. The Umbrella Sedge from Madagascar (*Cyperus alternifolius*) and its white variegated variety grow freely in a moderately cool temperature, and come in handy either entire or when cut. Nice little plants of *Ericas* or *Epacris* are useful for table-work, especially during the winter and

spring months. *E. hyemalis*, *E. colorans*, *E. Wilmoreana*, *E. hybrida*, and *E. gracilis* and its varieties, are all good. All the *Ericas* grow outside in a cold frame during the summer, and only require a temperature a degree or two above freezing-point in the winter, but must be kept free from damp. Small Conifers, as *Thujas* and *Retinosporas*, or little Fir-trees, may also be used when other plants are not attainable. Fuch-



Maranta as a Vase-Plant.

sias make charming plants for our present purpose when grown in frames outside, or even on the balcony or in the window; they make fine little plants if treated as hereafter recommended.

We might go on to any extent with our enumeration, but as this is a question of taste, our readers may take any plant which strikes them as being

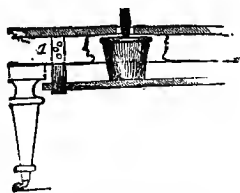
beautiful for this purpose. One thing is necessary, or, if not always essential often extremely convenient, and that is, to grow all plants intended for the decoration of the dinner-table in pots as small as possible—for the less conspicuous the pots are, the less trouble it is to conceal them when arranged on the table. Some have recommended sinking the pot through the table-top; but as this is not generally applicable, we



Dinner-Table decorated with Palms.

only allude to it here as a hint in case our readers may think well to adapt their dining-tables for the purpose. In clubs, hotels, or even private houses, the polished tops of the dining-tables may be constructed so as to be removed, and then a top of plain deal can be substituted pierced with holes for the reception of the pots. Our illustration shows a dinner-table decorated with Palms, the pots being concealed below

the table-top as shown below. The manner in which the pots are supported is shown in the accompanying illustration. The pot-covers or vases commonly used for hiding earthenware flower-pots when placed on the table are not always in good taste. White and pale blue enamelled kinds may be tolerated, but gaudy affairs of crimson, purple, scarlet, or gold should be avoided. The pots may be concealed easily enough



*Pot concealed below
Table-top.*

by draping them with common small-leaved Ivy, *Ficus repens*, *F. falcata*, or *F. minima*; *Selaginella hortensis*, Creeping Jenny (*Lysimachia nummularia*), scandent Periwinkles (*Vinca*); or with Fern fronds pressed into the soil and gracefully bent over the sides. If the plant is not symmetrical or well furnished, a good effect may be obtained by filling a flat glass dish with either damp sand or clay, into which elegant sprays of Fuchsias, Ericas, Bouvardias, Euphorbias, Azaleas, Cyperus, Grasses, and other plants can be fixed, and the arrangement then neatly finished off with a few Vine-leaves or Fernfronds. Our figure here given shows a beautiful though simple arrangement in which a plant of *Bouvardia jasminiflora* sunk through the top of the table is finished off with Maiden-hair Ferns, on which are laid a few Azalea and Chrysanthemum flowers. Such an arrangement as that here figured is quite sufficient for a small dinner or breakfast party, and can be put together in a few minutes if the sprays are cut and arranged in the way above described. In the case of rare or valuable plants, they cannot, of course, be cut up; but we are not obliged to employ plants of

this kind, since we have commoner plants quite as beautiful and often even more effective. When stands are to be used for table-decoration, choose those of



Dinner-Table Group.

plain glass—the more simple they are the better, provided their shape is elegant. Those commonly known as March stands are very useful, indeed they

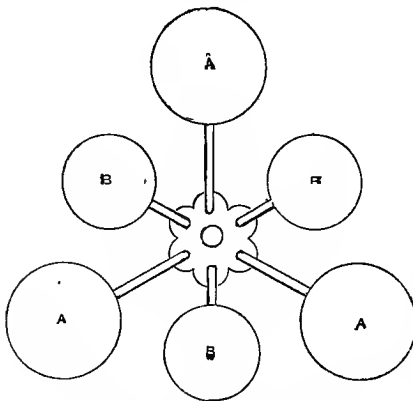


Fig. A—Plan of Convertible Vase.

are the best for our purpose, and may be arranged with a very small quantity of flowers. An elegant compound flower vase is that we here figure (figs. A and B show that different-shaped side vases may be used). It was designed by W. Thomson, Esq.,

one of our highest authorities on artistic floral decorations, and deserves to become popular, as it is applicable

to all purposes, and may be arranged with but little trouble in a variety of different styles. At the risk of repetition I must point out that many forms of both wild and cultivated grasses, including Wheat, Barley, Oats, and Rye, are amongst the most effective, and certainly the most graceful, of all plants for our present purpose. We here figure a crystal stand or vase which is for the most part filled with grasses. They furnish the *pièce de resistance* of the whole arrangement, with the addition of a very few flowers for colour and variety, while the base is relieved

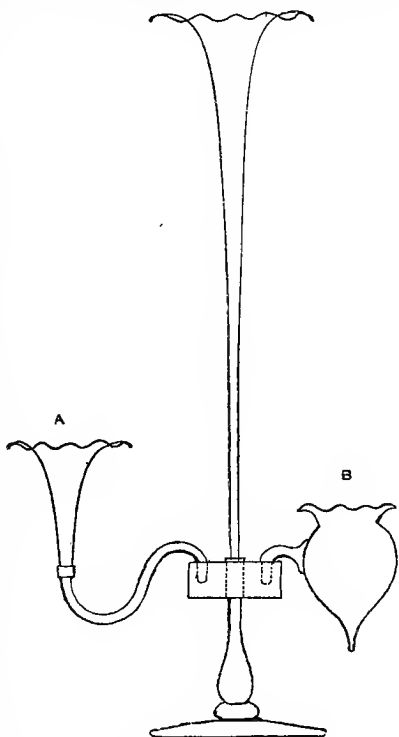


Fig. B—Convertible Dinner-Table Vase
(sectional view).

with a few green Fern fronds interspersed with common bright-coloured blossoms. This vase carries elegance to its utmost limit, and the choicest exotics could not rival it for graceful beauty of form. Grasses are within the reach of the humblest artisan, and with the addition of a few Roses, Lilies, or Iris flowers from his narrow strip of flower-garden, would form very

beautiful arrangements to grace the table of his little parlour, not only at meal-times but throughout the



Vase decorated with Grasses.

day. We have spoken of flat dishes and March stands filled with flowers, and of table-plants which may be used either alone or in combination with these; but any one with average intelligence will speedily invent other artistic forms of table-decoration. Mr W. Thomson has suggested and speaks very highly in the 'Garden' of an arch like the one figured below. The frame is formed of neat wire-work, the wires themselves being covered with the long fresh spray-like branches of *Myrsiphyllum asparagoides*,

one of the most elegant plants for the purpose (see fig., p. 147.) The flowers drooping from the span are the lovely wax-like blooms of *Lapageria rosea*, mounted on wires so as to stand out from the green bower in a natural manner. The two plants at each end of the arch are *Lomatia filicifolia*, or other allied species of that genus, the elegantly cut foliage of which will keep fresh for six or eight weeks after being cut. The plant in the centre is *Yucca aloifolia variegata*; but

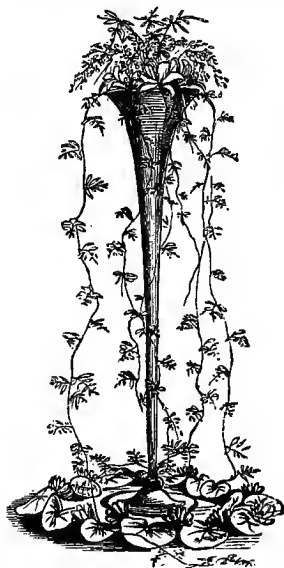
Agave filifera densifolia or *A. striata* would do just as well: indeed the immense variety to be obtained in table-decorations constitutes one of their principal charms. Many very beautiful combinations may be made by employing simple trumpet-shaped glasses or vases (see fig., p. 148). Various kinds of these, to suit all tastes, can be obtained at most glass-works or warehouses, in all sizes from 9 inches to 3 feet in height. They are graceful in outline, and require but few flowers to fill them effectively. The



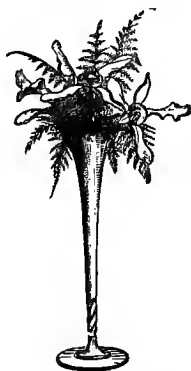
Dinner-Table Arch.

example here given is filled with fresh green moss into which a few Fern fronds are inserted, while two or three distinct richly-coloured flowers are laid in among the fresh and moist vegetation. The drooping sprays are those of *Lygodium (scandens) Japonicum*; but slender sprays of *Wood Ivy*, *Ficus repens*, lesser *Periwinkle*, *Asparagus scandens*, or the elegant *Myrsiphyllum*, will give nearly the same effect. From the examples given (p. 148) it will be seen that the old-fashioned heavy arrangements are out of date: indeed

the more elegant and simple these decorations are the better, and they are much more in accordance with good taste. In addition to the central vases or main decorations, a small glass vase should be placed before each guest containing a flower or two, as a Rosebud,



Trumpet-shaped Glass Vase.



Vase with a few Orchid Flowers and Ferns.

a spray of *Stephanotis*, an Orchid, or any other effective flower, backed by either a spray of *Selaginella* or a small Fern frond. These vases are made in various sizes of both plain and ruby-coloured glass, and are generally from 6 to 9 inches in height. When tastefully filled they are highly ornamental, and care should be taken to provide fresh and elegant flowers for them, as, being close under the eyes of the guests, any little imperfection is the more easily seen and noticed, since in their case the individual beauty of the flower or two

they contain is noted, while in the more pretending vases down the centre of the table the general effect makes up for any little defect in individual excellence. It may have been noticed that we have not alluded to table-decorations in which fruit and flowers are arranged together. We do not do so, because we believe fruit ought not to be so arranged. Fruit is placed on the table for the purposes of dessert; and we look upon the system which would include it in a decorative design along with flowers and Ferns as being in bad taste, since most of the guests would hesitate to destroy or disturb the combination set before them. The best and simplest way of arranging fruit is to place it on the ordinary dessert plates or dishes, neatly dressed up with its own foliage, as described in our next chapter. Fruit is decidedly ornamental when set up in the way we recommend; but we should not lose sight of the fact that it is placed on the table not only to be looked at but also to be eaten—that is, if the guests desire it. In this opinion I am borne out by Mr J. Hudson, one of our most successful table-decorators in London, and whose beautiful combinations are universally admired when set up at the Crystal Palace and other floral exhibitions.

Palms for the Dinner-Table.—Few plants are so well adapted for the decoration of the dinner-table as Palms, and nearly every species in cultivation is valuable for this purpose when in a young state. Some of the slow-growing species may be used for several years in succession, while the other and quicker-growing kinds are easily grown on for this purpose from seeds. These elegant plants are not only as graceful as the most delicate Ferns, but far better fitted to withstand the aridity of apartments heated by either coal-fires or gas. Plants from 1 to

2 feet in height are, as a rule, most useful for table-decoration; but, in exceptional cases, where the tables are very large, plants 3 or 4 feet high may be employed with excellent effect. Palms for dinner-table work should be grown in small pots—a 48-pot, or at most a 32, being amply large enough for a plant 2 to 3 feet high. Much of their elegant appearance is lost if the pots are large in proportion to the plant; and the only extra labour entailed on the cultivator by the use of small pots is the necessity for watering them more frequently, especially during the dry hot summer months. If provision is made for letting the pots through the table-tops—a course as yet not very generally adopted—the size of the pots is not a matter of much consequence, since they are then concealed from view. The best soil for Palms of all kinds is a good fibrous loam, intermixed with sufficient sand to keep it fresh and open, and the pots must be thoroughly drained. Some cultivators add a little peat to the above, but it is not essential, except in the case of the more delicate kinds. In potting, press the soil down firmly; for, of all plants, Palms affect a stiff hearty compost, and will do far better in it than in any light loose soil.

For a small or moderate-sized dinner-table, three plants will be amply sufficient; but at large parties, where very long tables are employed, the plants can be multiplied in proportion to the space at command. These plants form an agreeable change from floral compositions arranged in Marchian stands, and a table ornamented with Palms can be arranged very effectively in a few minutes; while no other plants whatever equal them in the freedom and grace with which their plumose glossy foliage springs in elegant curves from the snow-white cloth. Palms may now

be purchased of any of the leading nurserymen at moderate rates, or the cultivator may procure seeds and propagate his own plants year after year. By adopting the latter method, plants of all sizes may be obtained, and they will form useful permanent ornaments for the plant-stove or conservatory, or even for the decoration of apartments, as practised in several Continental countries even where facilities for their cultivation are less common than here at home.

Perhaps in no other class of plants can we obtain more agreeable variety than in the use of Palms, if carefully selected with reference to their size and habit of growth. The plumose section are, as a rule, best suited to our present requirements; but in practice we have repeatedly used small specimens of the Fan-leaved *Chamædoras*, *Livistonias*, and *Geonomas* with good results. For a small table, a tall central plant of *Latania aurea* or *Cocos Weddelliana* may be supported on either side by a plant of *Livistonia altissima* or small plants of *L. borbonica*. Next to the elegant *Cocos Weddelliana* we have *Chamædora graminifolia* or *C. elegans*, both very useful when in a young state; while nearly all the *Dæmonorops* are elegant plumose species, admirably adapted for table-work — *D. plumosus*, *D. accidens*, and the subject of the above illustration, *D. fissus*, being the best. *Geonomas* are very compact and useful, several of them forming miniature stems, something like



Table-Palm.

Chamædoras, but much dwarfer. Our illustration also shows the application of the new enamelled vases, which associate well with the other dinner-table ornaments, or are pretty additions to the side-board in ordinary apartments. In practice, if ornate vases are not to hand, it is generally best to surface the pots with fresh green moss, or Selaginella or drooping Fern fronds can be inserted round the sides, so as to hide the dull red mass of earthenware; or the pot can be wreathed with green and variegated forms of Ivy, Periwinkle, or the fresh young growth of *Myrsiphyllum asparagoides*. We append a list of some of the best and most easily grown Palms for indoor decorative purposes:—

Areca—	Chamædora—	Geonoma—	Martinezia—
alba.	lunata.	Martiana.	caryotæfolia.
Catechu.	microphylla.	pumila.	Lindeniana.
lutescens.	Sartarii.	Schottiana.	Maximiliana—
monostachya.	Wendlandii.	Guilielma—	regia.
Calamus—	Cocos—	speciosa.	Morenia—
aspermus.	Weddelliana.	Licuala—	corallina.
hystrix.	Dæmonorops—	elegans.	fragrans.
Luisianus.	(Calamus) acci-	peltata.	Oncosperma—
melanchætes.	dens.	Livistonia—	Van-Houtteana.
Carludovica—	plumosus.	altissima.	Phoenix—
rotundifolia.	fissus.	borbonica.	reclinata.
Ceratolobus—	Elaëis—	humilis.	sylvestris.
glaucescens.	Guineensis.	Jenkinsiana.	tenuis.
Chamædora—	Geonoma—	Malortiea—	Rhapia—
elegans.	congesta.	humilis.	flabelliformis.
Ernesti Augusti.	elegans.	simplex.	humilis.
glaucifolia.	ferruginea.	Mauritia—	Welfia—
graminifolia.	macrostachys.	flexuosa.	regia.

ARRANGING FRUIT FOR DESSERT.

Fruit of all kinds are very effective for dinner-table decoration when tastefully and judiciously dished up, although the chief object in placing fruit on the

dinner-table is, that it may be eaten, and consequently we must avoid working it up into complicated designs along with flowers and Ferns, or other permanent floral decorations. Fruit may either be grouped in an epergne or arranged on simple dessert-dishes. Dessert plates and dishes of porcelain are now very tastefully decorated, while some furnishers employ simple dishes or small baskets of glass with good effect. Fruit generally looks well dished up with its own foliage, provided always that it is fresh and clean. During the autumn months, however, the bright crimson and yellow-tinted leaves of Virginian Creeper, Grape Vine, Berberis, Portugal Laurel, or Maple, may be used as affording an agreeable variety. Monotony or sameness is always to be avoided in decorations of all kinds; for, next after skilful grouping, a pleasing variety affords us the most satisfaction in return for our labour. Some fruits, more especially Grapes and Plums, require careful handling, or their delicate bloom is destroyed, and much of their beauty lost. Grapes always look well arranged with their own foliage, two bunches of white and one of black, or *vice versa*, forming a nice dish. Lay the base of the foliage inwards, so that the serrate or fringed margins may form a neat border around the edge of the dish or plate. Some use the elegantly-curved foliage of *Malva crispa* for Grapes as well as Peaches, while Strawberry-leaves are very appropriate and generally obtainable. Ivy and Fig leaves are sometimes used, but their odour is rather offensive to some persons. I have seen Grapes, Plums, and Peaches very tastefully grouped on a cool fresh bed of *Selaginella (densa) apoda*, which had previously been grown in shallow circular pans just the size of the dessert-dishes, and in which it was placed. Straw-

berries also look well on this material, although their own foliage is most appropriate. A neatly-arranged dish of Strawberries is a very suitable ornament for the breakfast-table. To arrange them, first fill the bottom of the dish with fresh green foliage, so as to form a cushion for the fruit. The bottom layer can be formed of the smaller fruit, in order to make a firm base for the finest berries. Now take the largest and freshest fruit, and wrapping each in one of its own leaves, arrange them in a circle round the sides of the dish, filling in the centre with the smaller ones, unless you have enough of the large ones to fill the dish. Add layer after layer, each being about an inch less in diameter than the one before, until the whole is finished. If neatly done, the fruit looks deliciously tempting as it peeps out from the fresh green leaflets. Figs require careful handling, if fully ripe, and look well grouped on a flat dish or plate with three or four of their own leaves.

For a small party of, say, eight or ten persons, half-a-dozen dishes of fruit will be amply sufficient; but these can be farther augmented by adding supplementary dishes of preserved Ginger, Plums, Muscatels, Apricots, and Peaches, all of which are very acceptable, especially during the winter months, when fresh fruits, except Apples, Pears, and Grapes, are scarce. If possible—that is, if the table is large enough—the fruit should be arranged along with the March stands or table-plants; but if there is not ample space to do this without crowding, it is better to arrange the fruit-dishes or crystal baskets, whichever may be preferred, on the sideboard, so as to be brought forward when the more substantial dishes are removed. If the dishes are placed on the table, any tasteful arrangement may be adopted. It is considered fashionable

now to dine *à la Russe*; and in this case the dishes of fruit and floral decorations are grouped together, and serve as ornaments during the earlier portion of the repast. Silver or plated dessert-knives and grape-scissors should be provided, as those of steel are stained so quickly by acids. Do not crowd the fruit upon the dishes, especially in the case of fine or handsome specimens, as by so doing much of its beauty is lost.

Half-a-dozen Peaches or Nectarines make a handsome dish. A very agreeable variety can be infused into the dessert by using the various tropical fruits and nuts which are now imported into this country in considerable quantities. Plantains and Bananas, Figs, Dates, Muscatels, Litchis, Almonds, Custard-Apples, Guavas, Granadillas, Prickly Pears, and Oranges, look very nice when neatly arranged on any fresh green foliage; but they must be used to augment rather than to supply the place of Grapes, Peaches, Pears, and other home-grown fruits. Leaves of *Passiflora (racemosa) princeps* are sometimes used with good effect in the arrangement of fruit, as are also the light green fronds of *Polypodium cambricum*, or Welsh Polypody. Melons and Pines are generally set up on a dish to themselves; but sometimes they are grouped artistically in an epergne along with Black and White Grapes, Peaches, Nectarines, and other fruits. Apples and Pears are arranged in the same way as Peaches, half-a-dozen good fruit forming a nice dish for a moderate party. Small fruits, such as Raspberries, Gooseberries, Currants, and Mulberries, are generally picked with their stalks intact, the very finest only being used; and these are either arranged loosely in the dish on a carpet of fresh leaves, or grouped like Strawberries.

EVERLASTINGS OR IMMORTELLES FOR
WINTER DECORATION.

Many of the Everlastings or Immortelles are strikingly beautiful and effective when neatly arranged either in the form of wreaths, crosses, bouquets, or in ornamental vases. Certainly they lack the fresh sweetness of newly-gathered blossoms; but, on the other hand, they have the additional advantage of being permanent, and are serviceable when fresh exotics or hardy flowers are either expensive or difficult to obtain. For permanent winter bouquets they are especially useful, and may be grouped along with dried Fern fronds, autumnal foliage, sprays of Selaginella, or dried Grasses, the latter being very elegant additions even to the choicest of fresh exotics. For variety, skeletonised leaves and seed-vessels may be added, the ivory whiteness of which, when prepared as herein recommended, contrast well with the bright-coloured flowers and green Ferns to which we have already alluded. Everlastings or Immortelles are largely used on the Continent in the manufacture of ornamental wreaths, crosses, and other elegant designs for the decoration of tombs and shrines; while their importation to this country forms a prominent part of the autumn business of our leading decorative florists. One great advantage possessed by these flowers is, that when carefully handled they may be rearranged and used in new and pleasing combinations time after time. As ornaments either for the chimney-piece or drawing-room table they are very attractive, though care must be taken to avoid crushed or crowded arrangements. If, as sometimes happens, the stems are too short, they can be mounted

on wires—indeed, the plan is more applicable to these flowers than to many of those which are freshly cut (see p. 129). After the bouquets are arranged, they may be placed in elegant terra cotta, Parian marble, glass, carved wood, or other vases, and the whole covered with a crystal shade, which protects them from dust and other impurities. In this way bouquets will last clean and fresh for several years. Most of the Everlastings are borne by annual plants belonging to the composites; and the plants are easily raised from seeds sown in a warm sunny border early in May. In pots for window-culture they may be sown a month or six weeks earlier. Seeds of both Immortelles and ornamental Grasses can be purchased from any of the seedsmen for a mere trifle, and are specially useful as window or balcony plants during the summer, after which their flowers may be cut and preserved for winter decorations. If, however, one does not care to grow them from seeds, the flowers and sprays may be bought from any florist for a few shillings in the autumn, either loose for arrangement at home, or in the shape of bouquets, wreaths, and crosses already made up.

The kinds most useful for the purposes above alluded to are the rosy and white-flowered *Acroclinium*s, *Helichrysum*s, as *H. bracteatum* and *H. monstrosum*, which have large flowers, produced in quantities in the open border, and very variable as to colour, running through all the shades of yellow, orange, red, purple, crimson, and white. Other small-flowered species, as *H. arenarium*, *H. elegans*, *H. capitatum*, *H. apiculatum*, and *H. strictum*, grow freely in a sunny position on a warm sandy soil, producing their flowers in great abundance. *Helipterum Sandfordii* is another charming yellow-flowered half-hardy annual

well worth growing for bouquets and winter flowers. The most beautiful of all Everlastings are those borne by the *Rhodanthes*. These charming little plants have pale glaucous foliage, and flower freely when about a foot high, if treated as recommended above. They are also invaluable as pot-plants for greenhouse or window decoration, while their delicate silvery or rose-tinted flowers may be grouped with the choicest exotics without offending in any way the most refined taste. These plants are cultivated largely by the London market-growers for the supply of Covent Garden Market, four or five seedling plants being pricked out into a forty-eight pot and grown on in a cool frame until they flower. The kinds at present in cultivation are *R. Manglesii*, *R. Manglesii major*, both bearing delicate rosy flowers ; *R. atrosanguinea*, crimson-purple ; *R. maculata*, rosy-purple, with a dark circle round the eye ; and *R. maculata alba*, the most beautiful of the whole group, the flowers and buds being of the most delicate silvery whiteness imaginable. Some of the *Waitzias* are well adapted for window decoration ; and occasionally the flowers, which are either yellow or reddish-purple, may be utilised for bouquets. *W. aurea*, *W. acuminata*, *W. corymbosa*, and *W. grandiflora*, are all effective and worth general cultivation. Several species of *Xeranthemum* are amongst the most beautiful of all the *Immortelles*, and ought to be much more popular than they are at present ; *X. album*, *X. atropurpureum*, and *X. imperiale* being the best. In addition to the above, all of which may be grown in a sheltered herbaceous border, we have several greenhouse plants that produce flowers of the Everlasting type. One of the finest of half-hardy Everlastings, though mostly grown in pots in the greenhouse, is

Gomphrena globosa, a charming plant, its varieties bearing rosy-purple, flesh-coloured, and pure white flowers. Again, *Phœnocomma prolifera*, *Aphelexis purpurea* and its varieties, all bear large, rosy, star-shaped flowers, well adapted for permanent decorative purposes. The plants above referred to are natural or true Everlastings, all the preparation they require being to cut them soon after the buds expand, and lay them on shelves in a dry dark room, or they may be tied up loosely in bunches and suspended from a line, where they dry in a few days. The flowers should be cut before they become fully expanded, and a dry sunny morning should be selected for the purpose—flowers cut when damp being apt to spoil by rotting. Several of the *Statice*s and *Gypsophila elegans*, though not strictly speaking Everlastings, may be dried easily, and are then very elegant additions to the winter decorations. The most beautiful Immortelles are, however, stiff and formal when arranged alone; and of all other plants, ornamental Grasses are the most useful for adding variety and grace to groups of these flowers. Occasionally a few bright-tinted autumnal leaves may be added, these being now prepared and varnished by many of the American as well as by English decorative florists. These, with the skeletonised foliage previously referred to, will infuse an agreeable variety into a tasteful arrangement of these flowers, and form a natural ornament as permanent as those composed of artificial flowers, and a great deal more interesting. The best Grasses for bouquets and decorative vases are, *Agrostis argentea*, *A. elegans*, *A. nebulosa*, and *A. laxiflora*, all very graceful and effective. All the Quaking-grasses (*Briza*) are good, as *B. compacta*, *B. major*, and *B. gracilis*, while *Brizopyrum siculum* is very use-

ful for bouquet-work, and especially for edgings. All the species of *Chloris*, such as *C. barbata*, *C. ciliata*, *C. cucullata*, *C. elegans*, and *C. radiata*, are useful, producing fine and gracefully-radiating spikes quite distinct from the general forms of Grasses. The same remark applies to the different forms of *Eleusine*, all of which are very effective. The common Love-grass, *Eragrostis elegans*, and *E. cylindriflora*, are both very finely divided, as are all the species in the genus. *Hordeum jubatum* and the common Hare's-tail Grass—*Lagurus ovatus*—are both useful for either bouquets or vases; while the Feather-grass—*Stipa pennata*—and several allied species are well known, and their silky plumes, which sway to and fro with the slightest breath of air, are much admired. Ornamental Grasses, though beautiful, are not much appreciated by the generality of cultivators; still many florists are now beginning to use them largely for decorative purposes. Doubtless amateurs will follow suit. There is an

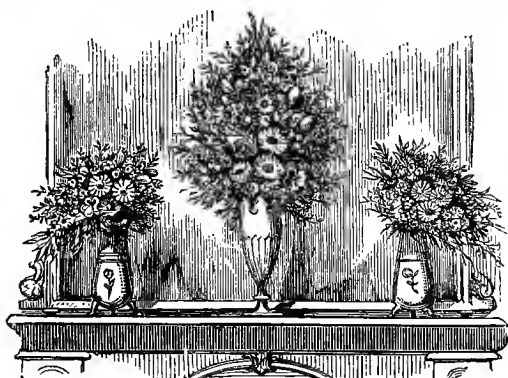


Basket of Flowers and Grasses.

immense variety of elegant species well suited for bouquets, and assortments of twenty or thirty varieties will be supplied by any leading seedsman for a mere trifle. It is almost needless to mention that both Grasses and Everlastings may be

mixed with ordinary flowers, either when fresh or in the dried state. Of late years it has become the custom to use both Immortelles and preserved autumnal foliage along with the evergreens for Christmas decorations.

The Maple, Oak, and other leaves are very beautiful, varying from pale yellow, through all the shades of red and brown, to the deepest crimson tint imaginable; and being sold loose, they can be arranged according to fancy. With the materials we have here indicated, some very elegant arrangements in the way of wreaths, crosses, bouquets, and vases may be made, according to the taste and ingenuity of the artist. Our illustration shows three ornamental vases neatly arranged with Grasses and Everlastings as chimney-piece decora-



Chimney-piece Vases, with Flowers and Grasses.

tions, for which they are well adapted. Another elegant arrangement is to fill a shallow basket with flowers and Grasses, as shown above, thus forming a graceful ornament for either the drawing-room or parlour table.

In addition to those flowers which are naturally permanent, it has lately become part of our florists' business to import large quantities of Roses, Pelargoniums, and other flowers, which have been artificially dried in heat and sand, as described on page 173. These in many cases possess their natural

colours and perfume, but slightly impaired, and may be used either separately or along with the true Immortelles, as recommended above. Some ladies may like to dry flowers grown by themselves; and we feel sure they will find the system, as there recommended, both simple and effective. Most of the dried flowers imported to this country come from Germany, where the florists dry them in immense quantities every year. Beautiful ornaments may be made by crystallising bouquets of different kinds of Grasses and ears of corn. Most of our common British species may be gathered from the meadows or roadsides, and come in admirably for this purpose. Common Oats, Barley, wild and cultivated Rye, different species of Bromus, and bearded or horned Wheat, are all useful as affording variety. These should be gathered during bright dry sunny weather, and then neatly arranged according to taste. The Grasses should not be crowded too closely together, or they look stiff and formal. Now suspend them over a tub or other vessel; and having made a solution of alum in boiling water, pour it over them when scalding hot, taking care that it reaches every part of the bouquet. Use a pound of alum to a quart of water, or more in proportion. After having poured the solution over them, let them remain for at least twelve hours, and then you will find them dry, with a sparkling crystal glistening from every spray. When finished, these are beautiful ornaments, and last for a considerable time if kept clear from dust.

ARRANGEMENT OF PLANTS IN ROOMS.

The arrangement of decorative plants in rooms for effect demands some degree of taste, just as the

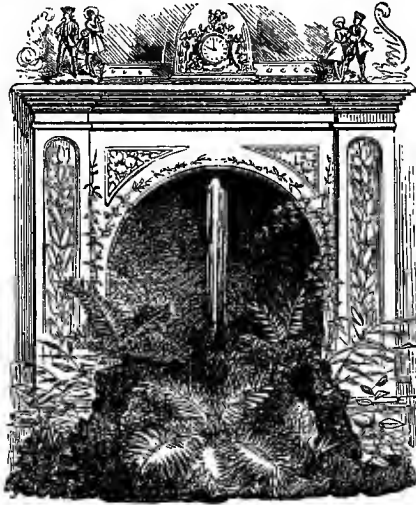
composition of a beautiful bouquet or elegant wreath of flowers does. Plants judiciously arranged look better and grow better than when neglected, consequently this subject is well worth the attention of all



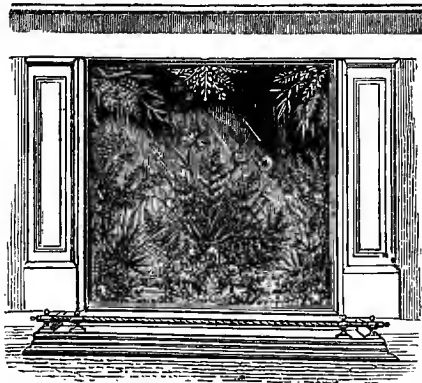
Ornamental Flower-pots and Stands, with Plants of Ficus elastica and Mauritia flexuosa.

who grow plants for the decoration of apartments. Plants when grown in a well-constructed greenhouse obtain abundance of light from all points; but in an ordinary apartment the case is different, all the light

being derived from one or two windows, and from one side of the room only. Soft-wooded plants, or those



Fireplace decorated with Ferns and Trailing-plants during the Summer.



Ornamental Screen of Ferns and Grasses for Fireplace during Summer.

with soft leaves, should be arranged as near the window as possible ; and if they are rearranged once

a-week and turned round to the light they will be all the better. Hard-leaved plants, as Palms, Agaves, Ivy, Ficus, and the Kangaroo Vine (*Cissus antarctica*), may be grown in any part of a well-lighted room, and if tastefully grouped will add very materially to its

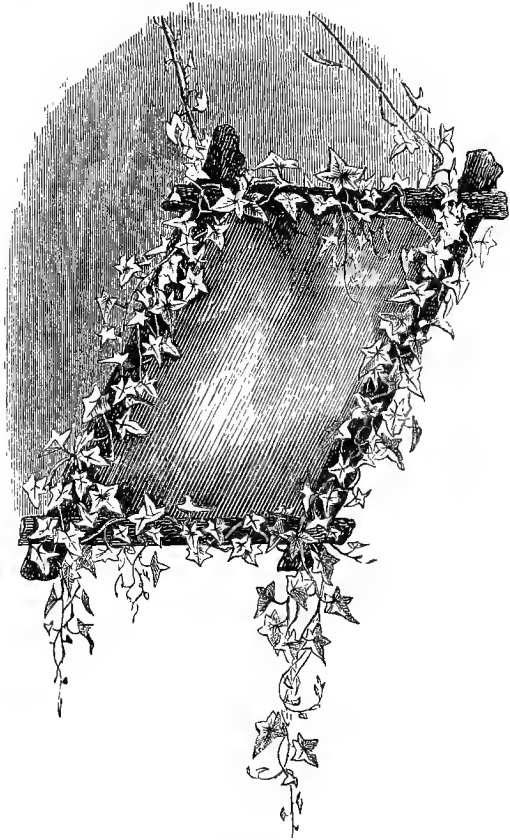


A Drawing-room Bracket.

appearance. Zinc pans neatly enamelled or painted may be used in the case of large pots which have to be set down on the floor or carpet. For smaller plants which require elevating near the light, neat rustic jardinettes or ornamental flower-stands may be used with excellent effect. A good bold plant

may be chosen for the centre, and the smaller kinds can be grouped around it in a tasteful manner. Avoid all stiff or formal arrangements, and get as much of the free and unrestrained grace of nature in your window-boxes and flower-stands as possible. Do not train beautiful trailing-plants over ugly ladders or globe trellises, but allow them to droop naturally from a bracket or hanging-basket. Brackets as shown in our figure are very useful for *Begonias*, *Ficus*, *Isolepis*, and other plants. For the centre of your window or flower-stand, a *Yucca*, *Ficus*, *Agave*, *Dra-cæna*, *Curculigo*, or any other distinct and effective plant, may be used with good effect. *Yucca quadri-color* grown out of doors during the summer becomes beautifully tinted with crimson, and is a noble plant for the centre of the flower-stand during winter. *Agave variegata* or *Ficus elastica* may be used in the same way. For edgings nothing can be better than small succulents in pots, such as *Echeveria globosa*, *E. secunda*, *E. californica*, *Sempervivums*, or *Echinocactus Eyriesii*. If something more graceful is required, *Isolepis gracilis* and *Festuca glauca* may be arranged alternately, and are very effective—the one being of a fresh green colour, while the other is pale blue. If wire-stands are employed they should be furnished with zinc pans to prevent any moisture from falling on the floor or carpet after the plants are watered. Ivy grows well in the shade, and may be employed for trailing around sofas or couches (page 168), rustic picture-frames, positions in which its beauty is seen to the best advantage; and if the frame contains the portrait of some departed friend, Ivy is perhaps the most appropriate of all plants for the purpose here suggested. When Ivy is grown for wreathing picture-frames, plant it in a wedge-shaped

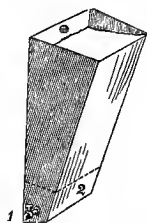
tin or zinc receptacle, and hang it on a nail in the wall behind the picture. Where Ivy is trained on the wall outside the window, a few long shoots can easily be



Ivy-draped Mirror.

introduced and trained over a neat arch inside ; and its fresh green foliage will render the look-out much more beautiful by softening off the harsh angu-

larifies of the builder or architect. Many succulent plants are well suited for the decoration of apartments during the winter months if kept dry. They may be



Tin in which to plant Ivy for Mirrors, &c.

grouped on a table or sideboard opposite the light, and will prove far more interesting than a lot of debilitated Geraniums. Plants of permanent interest are always useful, and add greatly to the appearance of such flowering-plants as may be from time to time grouped with them. Those who possess conservatories and greenhouses can always bring tender plants into the house for decorative purposes, removing them again when they have done flowering or are showing

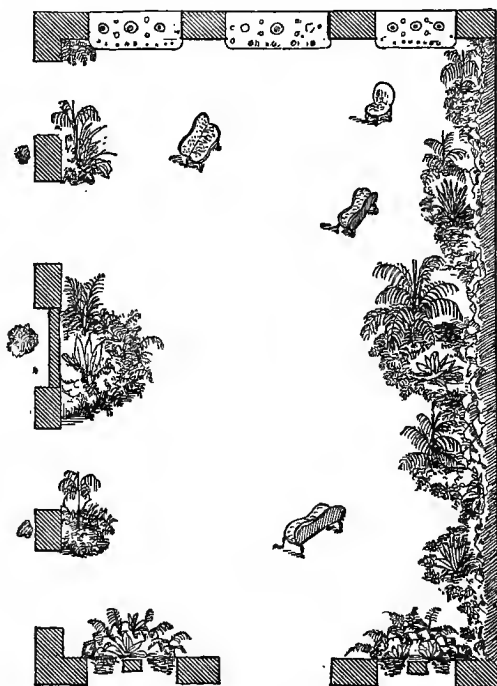


Yuccas, New Zealand Flax, Palms, India-rubber, and Ivy grouped around Sofa Arbour in the Drawing-room.

signs of exhaustion. In this way many plants can be used for the decoration of apartments or ball-rooms

without doing them any permanent injury. The plants generally employed by floral decorators for this purpose are Palms of all kinds ; *Dracænas*, as *D. congesta*, *D. robusta*, *D. terminalis*, *D. rubra*, and many others ; *Phormium tenax*, *Curculigo recurvata*, *Cycas circinalis*, *C. revoluta*, *Ficus elastica*, *F. macrophylla*, *F. lanceolata*, *F. falcata*, *F. Chauvierii*, and *F. dealbata* ; while the pretty little *F. (repens) stipulata*, and its even more elegant variety *F. minima*, are much used for wreathing slender pedestals or stands. For forming fresh green carpets nothing equals *Selaginella Kraussiana (hortensis)* ; and this or wreaths of common Ivy may be used to conceal the pots of foliage-plants, or Hyacinths, Lilies, and other flowering-plants, as may be required. *Cyperus alternifolius* is a fine decorative plant, and quite distinct from anything else ; while all the *Aralias* are bold and stand well in rooms, especially if they have been grown in the open air during summer. Ivy, *Aralias*, and many other half-hardy shrubs and herbaceous plants, may be grown in corridors or on the staircase-landings where there is sufficient light ; or these can be decorated temporarily with tender plants. The staircase itself may be covered with crimson baize and then looks very beautiful fringed on each side with Ferns, *Isolepis*, Palms, and flowering-plants such as *Begonias*, Lilies, *Vallotas*, *Chrysanthemums*, or *Spiræas*. The corners, and often the sides, of reception saloons or ball-rooms are now most beautifully decorated with groups of graceful Ferns, Palms, Cycads, and *Yuccas*. We here introduce a ground-plan to show how this is done, and it will be found to explain our meaning better than any amount of descriptive matter. Mirrors or pictures may be festooned with Ivy wreaths, and garlands or flat bouquets may be suspended beneath

the gas-brackets. Choice flowers of bold form and distinct colours may be used in any quantity, provided that they are tastefully and judiciously arranged. Stephanotis, Tuberoses, choice Orchids, Lilies, Eucharis, and other exotics, may be laid on cool beds of Moss or Selaginella beneath graceful Palms and



Plan of Plants in a London Mansion.

elegant umbrella Sedges (*Cyperus*). Plants of the Trumpet-lily (*Richardia*) are specially effective when grouped with statues or elegant vases, while flowers and foliage of the common white Water-lily (*Nymphaea*) or Gladioli are very pretty in tasteful groups. Our figure represents a ground-plan of the recep-

tion saloon at Bridgewater House, St James, W., as furnished with Palms, Ferns, and flowering-plants for a grand ball at which the Prince and Princess of Wales were present. Unfortunately our engraving does not show the exquisite blending of colours, or even the free grace and beauty, of the original ; still some ideas as to arrangement are here suggested. The saloon was carpeted with crimson baize, which served to enhance the fresh greenness of the rare exotics employed ; while the contrast was rendered still more apparent by the bright glowing colours of the flowers being associated with the cool grey granite columns that supported the spacious galleries above. During the past season Mr John Wills, one of our most extensive floral decorators, has used huge blocks of real ice tastefully arranged in the form of obelisks and rockeries. These, when illuminated from behind and wreathed with *Ficus repens*, *Creeping Jenny*, *Ivy*, *Lygodium scandens*, or *Virginian Creeper*, are very beautiful, and give one a most delicious idea of coolness even during the hottest of summer weather. At a ball given by the Prince and Princess of Wales to the Czarevna of Russia in the large conservatory of the Royal Horticultural Society at South Kensington, ten tons of the finest ice were employed in building an illuminated rockery. This was draped with drooping ferns and graceful trailers, while the base was fringed with slender-growing Ferns and small pots of *Isolepis gracilis* and *Selaginella*. The effect of the whole when surrounded by crimson baize and illuminated from within, was strikingly effective and much admired. In using ice in this way, provision must be made for collecting or carrying off the water from the ice when thawing. In the case of solitary blocks or obelisks they can be arranged over claret-casks sawn in half and concealed by Ferns and trailing-plants of various kinds. Blocks or obelisks of

sparkling ice are sometimes used on the dinner-table with good effect. In this case tables with deal tops are used, and the cask or vessel to collect the drip is concealed beneath: wreathed with fresh trailers and well lighted these are very handsome. In grouping plants the largest should of course stand behind, care being taken to give due prominence to the central plant in each group. Even common plants may be made to look effective in apartments if a little taste, forethought, and judgment be exercised in their arrangement. For grouping in baskets we have numerous elegant trailers, the best for room-culture being *Saxifragã sarmentosa* (Sailor-plant), *S. Fortunei*, *S. tricolor*, *Sedum spectabile* (*S. fabarium*), *Fragaria Indica*, *F. vesca*, and *F. semperflorens*, *Linaria cymbalaria* (Toadflax or Coliseum Vine), *Tradescantia zebrina*, *T. viride*, *Thunbergia alata*, *Convolvulus mauritanicus*, *Lophospermum scandens*, *Lonicera aurea reticulata*, *Asparagus decumbens*, *Myrsiphyllum*, *Cereus flagelliformis*, *Crassula lactea*, *Panicum variegatum*, Ivy-leaved Geraniums, *Tropæolum tricolor*, *T. Lobbi*, *T. peregrinum* or Canary Creeper, *Selaginella Kraussiana* (*S. denticulata*), *Lysimachia nummularia* (Creeping Jenny), *Vinca minor*, both green and variegated kinds, *Ampelopsis Veitchii* (*A. tricuspidata*), and all the beautiful hybrid Clematises.

The arrangement of plants in close cases and shades is simple, but care should be taken to place the strongest-growing plants in the centre and the smaller ones at the sides. Do not crowd your cases or shades with common plants, but reserve them for interesting Ferns or other little curiosities that will not grow in the open atmosphere of an ordinary apartment. Interesting collections of tender Ferns and Pitcher-plants may be grown in these handy little contrivances with but

little trouble. The following list comprises some of the prettiest and most interesting plants for a closed plant-case, in a heated room: *Selaginella denticulata*, *S. apus* (*S. densa*), *Nertera depressa* (*Coral-berried Moss*), *Dionæa muscipula* (*American Flytrap*), *Drosera rotundifolia* (*Sundew*), *D. dichotoma* (*D. binata*), *D. spathulata*, *Cephalotus follicularis* (*Australian Pitcher-plant*), *Darlingtonia Californica* (*Californian Pitcher-plant*), *Sarracenia purpurea* (*Huntsman's Cup*), *S. flava* (*Side-saddle Flower*), *S. Drummondii*, *Nepenthes phyllamphora* (*True Pitcher-plant*), *Platynerium grande*, *P. alcorni* (*Stag's-horn Fern*), *Mammillaria acanthophlegma*, *M. crucigera*, *M. bicolor*, *Klenia fulgens*, *K. tomentosa*, *Stapelia* of sorts (*Carrion Flowers*), *Masdevallia Lindenii*, *Odontoglossum Alexandræ*, *Opuntia cylindrica*, *O. microdasys*, and many other plants equally interesting that will be found described or named in Part III.

HOW TO DRY FLOWERS AND FERNS FOR WINTER DECORATIONS.

In order to dry flowers, one or two systems may be adopted according to the kinds which are to be experimented upon. As we have already pointed out in alluding to Everlastings, all they require is to be cut when in the bud, or before they are fully expanded, and hung in a dry room from which light, especially bright sunlight, is excluded. Many kinds of ordinary stove, greenhouse, and hardy flowers may be dried very nicely in boxes of clean white sand,—a method we shall now describe. Get a box about 2 feet long by 15 inches broad, and not more than 3½ inches in depth. Instead of a wooden bottom,

fix a piece of wire-gauze or netting $\frac{1}{2}$ inch above the bottom, so that it does not touch the board or shelf on which the box is placed. Now take a quantity of fine white sand, and render it perfectly clean by repeated washings in fresh water; after which heat it over a clear fire, and stir a small piece of stearine in amongst it to prevent its adhering to the petals. Place the box on a thin board, and cover the net with a thin layer of sand, on which such flowers as are to be preserved may be placed. Carefully fill the flowers with sand without distorting their shape, and shake or tap the box gently to settle all firm. When one layer of flowers is covered add another, and so on until the box is full; after which set it on a shelf in the greenhouse where it will be fully exposed to bright sunshine. The time required to dry the flowers will vary according to the state of the atmosphere and weather, but a week is generally sufficient. When they are ready for removal, lift the box gently off the board or false bottom and the sand trickles out, leaving the flowers intact. It is strictly essential for the flowers to be cut during fine dry weather; and they should be quite separate while drying in the box.

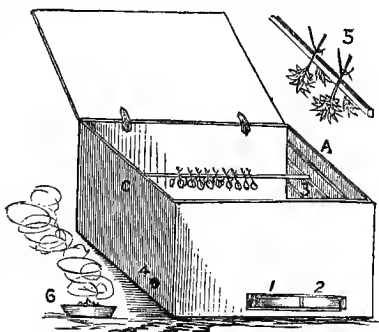
A great variety of Aconitums, double Pelargoniums, Delphiniums, Roses, Violas, Pansies, and other flowers, may be dried in the above manner in perfection. All the Statices, Phloxes, and fancy Pelargoniums are beautiful treated by this method, which is that generally adopted by the German florists for drying flowers in quantity. A little practice soon makes one an adept at drying flowers; and if the colours fade too much, they can be added with water-colours and a camel's-hair brush; after which they should be coated with a little thin transparent varnish. Pitchers

of *Nepenthes* (Pitcher-plants), *Cephalotus*, and *Sarracenia* dry beautifully in the way above described, care being taken to fill their cavities with sand, and to bed them in firmly. In the winter months this process may be carried on by placing the boxes on hot-water pipes, or in a warm cupboard by the fire; but in the latter case a much longer time will be required. The urn-shaped appendages of Pitcher-plants are very effective and interesting when nicely dried and varnished. Their colours keep better than many would expect; and they are distinct for grouping along with dried Ferns, Grasses, autumnal foliage, or skeletonised seed-vessels and leaves. Grasses dry well cut just before they come into full flower, hung up as recommended for *Immortelles*. Ferns are very beautiful, and dry well between the leaves of books, old newspapers, or sheets of soft bibulous paper, after which they can be arranged in tasteful designs or on screens. I have dried hundreds of species in old newspapers, and they are now as fresh as when cut from the plants. *Selaginellas* dry and keep their colour quite as well as Ferns. Very pretty screens and ornamental window-decorations are now made by enclosing dyed and varnished Fern fronds between two sheets of clear glass. Gold and Silver Ferns (*Cheilanthes* and *Gymnogramma*) look very delicate arranged among the fresh green species, while Grasses and skeletonised foliage may be added with excellent effect. There is scarcely any limit to the great variety attainable in these elegant embellishments to homes of taste; indeed variety is one of their principal charms. In London during the past few years many windows may have been noticed gracefully embellished with dried Ferns of a fresh green colour. Ferns of many kinds are arranged on both clear and frosted

glass covered with another piece of glass of equal size, fastened together, then mounted in either polished wood frames or direct into window-frames, when, if the Ferns are gracefully placed, they look very natural and beautiful. On frosted glass the effect is peculiarly soft; and we have seen staircase-windows and door-panels fitted in this manner, which were strikingly pleasing in effect. These same decorations are also applied successfully to cabinet-work and mirrors, when the Ferns are mounted on silvered glass. The looking-glass fire-screens fitted into grates are likewise similarly decorated, as are plateaux and *jardinières*. As cheval-screens on clear glass, and with a bright fire or lamp shining through them, the Ferns show to much advantage. Panels of white silk decorated with Ferns and covered with clear glass answer admirably for boudoirs. Sea-weeds may be used in the same manner for aquariums, and with equal success. Occasionally other plants are used, as branchlets of Asparagus and leaves of Yarrows. There are, however, numbers of leaves quite as well worthy of a place in decorations of this kind as are the Ferns, and we hope decorators will yet introduce many of these into their really artistic and clever window-screens and other indoor embellishments. The introduction of such pleasing natural objects as Ferns and graceful foliage in the embellishment of the house is certainly a step in the right direction, and one which deserves all encouragement.

Smoking flowers with brimstone is a very good, simple, and cheap way of drying flowers, especially Asters, Roses, Fuchsias (single ones), Spiræas (red-flowered kinds, such as *callosa*, *Douglasii*), Ranunculus, Delphiniums, Cytisus. The Roses ought to be quite open, but of course not too fully blown. The first

thing necessary is to procure a chest suitable in size to the quantity of flowers intended to be dried. I find the best size for general use is one about 3 or 4 feet square. In the under part of one side of the chest there should be a small opening (1), to be closed by a bar (2), through which the basin containing brimstone (6) must be put into the chest.



Box for drying Flowers.

This opening must be covered inside with perforated tin, in order to prevent those flowers from spoiling which hang immediately over the basin. The chest should be air-tight, and, in order to render it so, paper the inside thoroughly. When the chest is ready for use, nail small laths (A 3) on two opposite sides of the interior, at a distance of about 6 inches apart; on these lay thin sticks, upon which you can arrange the flowers (C). Care should be taken, however, that the flowers on the sticks, as also the sticks themselves, are not too close together, or the vapour will not circulate freely through the vacant space around the flowers. The best way to hang the flowers is to tie two of them together by the ends of their stalks with a piece of mat or thread, and afterwards place them upon the sticks so as to prevent them from touching each other (5). When the chest is sufficiently full of flowers, close it carefully, place a damp cloth on the sides of the lid, and some heavy stones upon the top of it; after which, take some brimstone broken into

small pieces, put it in a small flat basin (6), kindle it with a match, and put it through the opening (1) in the bottom of the chest and shut the bar (2). It is a good plan to make an air-hole (4) on opposite sides of the chest, which will assist the ignition of the brimstone, and which should be closed when the latter burns freely. Leave the chest undisturbed for twenty-four hours, after which time it must be opened, and if the flowers are sufficiently smoked they will appear white ; if not, they must be smoked again, when a little more brimstone may become necessary. When sufficiently smoked, take the flowers out carefully and hang them in a dry airy place in the shade for the purpose of drying, and in a few days or even hours they will recover their natural colours, except being only a shade paler. To give them a very bright shining colour, plunge them into a mixture of ten parts of cold water and one of good nitric acid, drain off the liquid, and hang them up again in the same way as before. Thus treated they will keep for years.

The above directions have been supplied by my friend M. Gustave Wermig, who has had large and varied experience in this direction, having managed the processes herein described for some of the largest florists and exporters in Germany.

HOW TO COLOUR OR DYE FLOWERS, FERNS, MOSSES, AND GRASSES.

Dyed flowers are, in our opinion, but slightly better than artificial ones ; still there are, doubtless, some who admire them as winter ornaments ; and for their benefit we append the following instructions from the 'Garden' as to their preparation :—

“Dyeing is especially used for the red *Xeranthemum annuum* fl. pl., red Asters, and all kinds of ornamental Grasses. Mix ten parts of fresh water with one part of good nitric acid, plunge the flowers in, shake off the liquid, and hang them up to dry, as described in my last articles. In this way *Xeranthemums*, which should be cut when entirely open, will acquire a beautiful bright red tint; while Grasses only become a little pale red on the tops, but will keep afterwards for many years, and may, if needed, be coloured otherwise at any time. Asters generally, when treated in this way, are not so fine as if dried in sand, or smoked with brimstone. To colour flowers and Grasses blue, violet, red, scarlet, and orange, use the different kinds of aniline, or Judson’s dyes, which answer perfectly. The aniline dye should be dissolved in alcohol before it is fit for use, in which condition it should be kept in well-closed bottles until it is required. It may also be purchased in a dissolved condition of any respectable chemist. To colour by means of aniline, take a porcelain or any other well-glazed vessel, pour in some boiling water, and add as much dissolved aniline as will nicely colour the water. According to the quantity of aniline used, the colour of the flowers will become more or less bright. After the water has cooled a little, plunge in the flowers or Grasses, and keep them in it till they are nicely coloured; then rinse in cold water, shake off the liquid, and hang them up in the open air to dry. To obtain a fine blue, take aniline *bleu de lian*, boil the colour with the water for five minutes, and then add a few drops of sulphuric acid before using. For violet, use one part aniline violet and one part of aniline *bleu de lian*; for red, aniline fuchsin; for scarlet, one part of aniline fuchsin and one of aniline violet; for orange, aniline *d’orange*; for lemon colour, picric acid, which

should be dissolved in boiling water, and then thinned with a little warm water. Dip in the flowers, but do not drain off the liquid. All kinds of ornamental Grasses can be thus coloured (especially *Stipa pennata* and *Ammobium alatum*), white *Xeranthemums* and most other everlasting flowers. *Immortelles*, however, as well as the other kinds of *Helichrysums*, must be treated differently. Their natural yellow colour must first be extracted by dipping them in boiling soap-water, made with Italian soap, and afterwards dried in an airy, shady place. The flowers generally become closed when thus treated, and should be placed near an oven and subjected to the influence of a dry heat, when they will soon reopen. This is very important, if they are intended to be coloured; if not, they will remain fine pure white *Immortelles*. Judson's dyes give a beautiful colour, but it does not keep well, and becomes gradually paler. For this purpose dissolve as much dye in cold water as will colour it nicely, and then dip the flowers, but do not allow them to remain in after they have taken the colour; if kept in too long, they will not again open their flowers. The chief point in every mode of colouring *Immortelles* is to place them first in a dry, warm atmosphere, where they will open their flowers well; and, after colouring, they should again be exposed to heat, by which means they will nearly always reopen them. Very nice-looking *Immortelles* are also produced by colouring only the centre of each flower scarlet, which is done very rapidly with dye, by means of a small pencil or a thin wooden splinter, which is dipped into the colour and afterwards applied to the centre. This is generally done by little children in those establishments in Germany and France which supply

the trade with everlasting flowers. Finally, I shall give a very cheap and very good recipe to colour ornamental Grass and Moss a beautiful green. If a dark green is required, take two parts of boiling water, one ounce of alum, and half an ounce of dissolved indigo carmine; plunge the Moss or Grass into the mixture, shake off the liquid, and dry the Grass or Moss in an airy, shady place. In the winter, however, they should be dried by means of fire-heat. If a light green is required, add to the above mixture more or less picric acid, according as a more or less light shade is required.

“I have now communicated all I know about the art and secret of preserving flowers, which has become so very important to our flower-trade during the last ten years.”

FERN-FROND DESIGNS.

Nature-printing gives excellent results, and we now propose to treat of a plan by which very pretty designs may be made at little trouble and expense. Many of our lady readers may like to make designs or pictures of Fern fronds and other foliage, and a little application and manual dexterity will suffice to effect this, if the following directions are carefully followed: The materials necessary are Fern fronds and leaves, a few sheets of white drawing-paper, or, better still, Bristol boards, a stick of common Indian ink, an ordinary tooth-brush, an ounce of small entomological pins, and a common saucer or palette in which to mix the ink. A few other little extra conveniences will be found necessary by the operator, but these will easily be supplied, as required, by a little forethought and in-

genuity. In order to form a design, take a sheet of paper and fasten it securely to a flat drawing-board ; if it be damped and glued round its edges, so much the better ; but if Bristol boards are employed, all they require is four pins at the corners. Now arrange your Fern fronds or leaves as gracefully as possible on the paper, for the more neatly they are arranged the better will be the design produced. Secure the Ferns to the paper by sticking the small pins all over them, especially around the edges of the fronds, as every little lobe and pinnule must be securely pinned down to the paper, as the work of arrangement proceeds. Do not arrange one frond over another, and, when the group is completed according to taste, proceed as follows: Take your stick of Indian ink, and rub it with a little water in a saucer ; now dip your tooth-brush into the ink, and setting the board, on which your Fern design is placed, upright against a larger board or other support, proceed to sprinkle it with the ink by drawing a pin across the bristles of the brush. This throws ink in small drops and spots all over the exposed parts of the paper not actually occupied by the fronds. By careful manipulation, a delicately-shaded effect may be obtained ; and it will be noticed that, after the brush is first dipped, the ink is thrown in larger spots, and they gradually become smaller and smaller, until the brush is empty. With practice, the margin around the design can be shaded off into the white paper, so as to produce a very delicate and pretty effect. After the tint is worked on deep enough, and the whole is dry, the fronds may be removed, and the form of each will be found in white, surrounded by the tinted ink ground. A very little practice will suffice to enable any one with moderate ingenuity to make charming ornaments for screens,

albums, or portfolios. By the above simple method, when well done, every little pinnule is as true in shape as in the Fern itself, and the representations thus obtained are the best of portraits. Large bold fronds or leaves are best to commence with ; but the most delicate Maiden-hair and Filmy Ferns can be copied with fidelity by practice, all they require being a little more delicacy in the manipulation. If desired, the midrib and principal veins can be drawn in with a fine lithographic or etching pen and Indian ink after the fronds are removed. A pretty design for an album or portfolio may be made by using a bold leaf, such as that of *Ficus elastica*, Maple, or Lime, as a centre, arranging a border of Ferns around it ; this forms an oblong or heart-shaped space, in which a verse of poetry may either be written or printed and illuminated. Another plan is to cut a scroll out of paper, and pin it down, surrounded by a border of small Ferns ; then, on removing the paper and Ferns, the white space remains for a motto or text. Our readers are now in possession of the way to form very pretty designs, and one of their greatest charms consists in the immense variety of size, form, and arrangement that may be adopted according to taste. The ink employed can be varied in tint by mixing it with water-colours, or the pure colours may be used alone instead of the ink. Burnt sienna or sepia gives a very nice effect ; and other tints, either in water-colours or Judson's dyes, may be adopted according to taste. By employing a different tint with each group, a great variety of effect may be obtained ; and in this way a large album might be filled with the most graceful designs, so varied in colour, outline, and expression that no two pages would present subjects which resemble each other.

HOW TO SKELETONISE LEAVES AND SEED-VESSELS
FOR WINTER DECORATIONS.

Skeletonised foliage and seed-vessels, when carefully prepared, and arranged tastefully beneath a glass shade, form charming ornaments for the drawing-room table or sideboard. Being of an ivory whiteness, they show well, arranged on either crimson or black velvet, their texture rivalling that of the finest lace. The preparation of these beautiful objects forms a pleasing amusement during leisure hours, especially for our lady friends; nor are they without scientific interest, since a comprehensive series, carefully prepared and correctly named, would be specially useful to the botanist. They are very pretty arranged on coloured paper in an ornamental album, or formed into elegant designs by gluing them on a Bristol board, along with dried Fern fronds and light feathery Grasses. The best method of preparation we have yet tried is that given by Mr Robinson in the 'Garden,' and which we here introduce in the author's own words:

"The old method, as most of my readers are aware, was simply to immerse the leaves beneath water for several weeks until the epidermis and parenchyma had decayed; then, taking them out, to rub off the decayed fleshy or cellular matter in a bowl of clean water. To say the least of this method, it was very unsatisfactory, and often yielded results far from pleasing, without taking into consideration the great amount of patience needful to complete the process. Now, thanks to chemistry, we have another and a better plan, not occupying as many hours as the old decaying method took weeks to accomplish. An excellent

recommendation for processes of this kind is their simplicity; as anything complicated, or requiring expensive requisites in its performance, is sure to be scouted, or, at most, to gain but few adherents. Most of my lady friends to whom I have recommended the undermentioned process for skeletonising leaves, have fallen so much in love with it as to follow it up constantly in the autumn, merely for amusement. The result has been the production of many an elegant drawing-room ornament, either



*Cross of Skeletonised
Leaves.*



*Wreath of Skeletonised
Leaves.*

placed in the vase or mounted for framing beneath glass, as a permanent record of their industry. First dissolve four ounces of common washing-soda in a quart of boiling water, then add two ounces of slaked quicklime, and boil for about fifteen minutes. Allow this solution to cool; afterwards pour off all the clear liquor into a clean saucepan. When the solution is at the boiling-point, place the leaves carefully in the pan, and boil the whole together for an hour. Boiling water ought to be added occasionally, but sufficient

only to replace that lost by evaporation. The epidermis and parenchyma of some leaves will more readily separate than in others. A good test is to try the leaves after they have been gently simmering (boiling) for about an hour, and if the cellular matter does not easily rub off betwixt the finger and thumb beneath cold water, boil them again for a short time. When the fleshy matter is found to be sufficiently softened, rub them separately, but very gently, beneath cold water until the perfect skeleton is exposed. The skeletons at first are of a dirty white colour: to make them pure white, and therefore more beautiful, all that is necessary is to bleach them in a weak solution of chloride of lime. I have found the best solution is a large teaspoonful of chloride of lime to a quart of water; if a few drops of vinegar are added to the bleaching solution it is all the better, for then the chlorine is liberated. Do not allow them to remain too long in the bleaching liquor, or they will become very brittle, and cannot afterwards be handled without injury. About fifteen minutes is sufficient to make them white and clean-looking. After the specimens are bleached, dry them in white blotting-paper beneath a gentle pressure. Of course in this, as in other things, a little practice is needful to secure perfection. Simple leaves are the best for young beginners to experiment upon: Vine, Poplar, Ficus, Beech, and Ivy leaves make excellent skeletons. Seed-vessels of the Thorn-apple (*Datura Stramonium*), and the Cape Gooseberry, *Physalis edulis*, and *P. alkakengi* are easily prepared, and afford variety. Care must be exercised in the selection of leaves, as well as the period of the year and the state of the atmosphere when the specimens are collected, otherwise failure will be the result. The best months to

gather the specimens are July to September. Never collect specimens in damp weather, and none but perfectly-matured leaves ought to be gathered."

FLORAL ODOURS AND PERFUMES.

Our fair readers may be interested to learn where, for the most part, the flowers grow, the sweet perfume of which is found in those pretty *flacons* on their dressing-tables. The chief places of their growth are the south of France and Piedmont—namely, Montpellier, Grasse, Nimes, Cannes, and Nice; these two last especially are the paradise of Violets, and furnish a yearly product of about 13,000 lb. of Violet-blossoms. Nice produces a harvest of 100,000 lb. of Orange-blossoms, and Cannes as much again, and of a finer colour: 500 lb. of Orange-blossoms yield about 2 lb. of pure Neroli oil. At Cannes the Acacia thrives well, and produces yearly about 9000 lb. of Acacia-blossoms. One great perfumery distillery at Cannes uses yearly about 140,000 lb. of Orange-blossoms, 140,000 lb. of Rose-leaves, 32,000 lb. of Jasmine-blossoms, 20,000 lb. of Violets, and 8000 lb. of Tuberoses, together with a great many other sweet herbs. The extraction of the ethereal oils, the small quantities of which are mixed in the flowers with such large quantities of other vegetable juices that it requires about 600 lb. of Rose-leaves to win one ounce of Otto of Roses, demands a very careful treatment. The French, favoured by their climate, are the most active, although not always the most careful, preparers of perfumes: half of the world is furnished by this branch of their industry. The celebrated Attar of Roses, or Rose-oil, comes almost wholly from the

southern slopes of the Balkan mountains. There are at least one hundred and fifty places where its preparation is carried on, the most important of all being Kizanlik. The Roses are planted in rows, like Vines. The flowers are gathered in May, and, with the green calyx-leaves attached, are subjected to distillation. 5000 lb. of Roses yield 1 lb. of oil. As may be expected, so valuable an article is often adulterated. The added substance is "rosia" oil, often called Geranium-oil when procured from Egypt. This oil comes from species of Grass.

From Italy we obtain Iris or Orris root and fragrant Bergamot. One of our learned professors has made some interesting researches which lead him to assert that vegetable perfumes exercise a healthful influence on the atmosphere, by converting its oxygen into ozone, and thus increasing its oxidising influence. The essences that develop the largest quantities of ozone, are those of Cherry Laurel, Cloves, Lavender, Mint, Juniper, Lemons, Fennel, and Bergamot; and others, including Anise, Nutmeg, Cajeput, and Thyme, also develop it, but in more limited quantities; while the flowers of Narcissus, Hyacinth, Mignonette, Heliotrope, and Lily of the Valley, also develop considerable quantities of ozone in closed vessels. Flowers destitute of perfume do not develop this subtle health-producing substance; while those having a slight perfume, develop it only in small quantities. As a corollary from these facts, he recommends the use of fragrant flowers around dwellings in marshy or malarious districts, and in districts infested with animal emanations, as the powerful oxidising influence of ozone will, to a large extent, neutralise their bad effects.

In order to extract the odour from Roses, Violets,

Pinks, and other fragrant flowers, proceed as follows : “ Get a glass funnel, with the narrow end drawn to a point. In this place lumps of ice sprinkled with common salt, by which a low temperature is produced. The funnel should be supported on an ordinary retort-stand, and placed in close proximity to the flowering-plants, when water and the ethereal odour of the blossom will be deposited on the interior of the glass funnel, from which it gradually trickles down to the point and slowly drops into a glass bottle placed immediately below. The perfume thus obtained is a very pure abstract, but will become sour in a day or two unless mingled with a little pure alcohol. To obtain the odours in perfection, the flowers must be in the freshest and most perfect condition ; and by this process, simple as it is, many odours may be obtained either for comparison or study.” Another method of obtaining perfumes from flowers is to immerse them in pure animal fat for a few days, and afterwards extract the perfume by pouring alcohol over the whole.

A good recipe for scent-powder, to be used for wardrobes, boxes, &c., far finer than any mixture sold at the shops, is the following : Coriander, Orris-root, Rose-leaves, and aromatic Calamus, each one ounce ; Lavender flowers, two ounces ; Rhodium wood, one fourth of a drachm ; Musk, five grains. These are to be mixed and reduced to a coarse powder. This scent on clothes is as if all the fragrant flowers had been pressed in their folds.

LEAF-PRINTING FROM NATURAL SPECIMENS.

For the following excellent instructions I am indebted to Mr W. Robinson, conductor of the ‘Gar-

den,' who has kindly permitted me to use them in this work.

“There are several different methods in use for printing or photographing leaves, some of which are exceedingly simple. First select the leaves, &c., then carefully press and dry them. If they are placed in a botanical press, care must be exercised not to put too great a pressure on the specimens at first, or they will be spoiled for printing. I have always found an old book the best for drying the examples to be used. Fibrous leaves, such as the Birch, Oak, and Maple, make the best photographs. Never think of printing leaves which are either covered with hairs, or are rough and uneven; it will only lead to unsatisfactory results. Mature leaves only should be gathered, not succulent or young leaves; neither attempt to print any leaf with a thick epidermis, such as Bay-leaves. The best for a beginner are the fronds (leaves) of Ferns, the Maiden-hair, Parsley, Hart's-tongue, and Polypody, Sea Spleenwort, the little Wall-rue Spleenwort, and Centipede Spleenwort; nay, you can scarcely choose any Fern that will not produce excellent results. The most lovely album pictures I have ever seen were printed from Fern fronds by one of the following processes. Not only are they pretty objects, either framed for mantelshelf ornamentation, or in the album, but botanists, and more especially every gardener who is interested in pteridology, should print the fronds of every species of Fern they can procure, afterwards mount them in a blank book on the left-hand page, then on the right-hand page write the name and habitat, with a description by which it may be recognised, the method of cultivation, and any other useful memoranda; by this means, in a short time, he will have compiled a volume full of deep

interest and utility. Many persons cannot afford to purchase expensive works on pteridology, yet they may soon form a permanent record for their own reference, which will be more valuable to them than any other work. I throw in these remarks as a hint worth notice by practical horticulturists.

“Requisites.”—The really useful requisites for Fern photography are two pieces of glass of the size you intend your pictures to be ; common window or crown glass without air-bubbles, which may be bought from any glazier, will answer the purpose admirably. For the last process described, one of the glass squares should be cut in two equal parts and a strip of muslin pasted over the division to form a kind of hinge. Then you will require paper, which should also be of one regular size. If a photographer was asked as to the best kind, he would at once recommend the albumenised paper, which he uses for his carte portraits ; but as I wish to point out how to work cheaply as well as efficiently, I would request my readers to use only the best wove letter-paper. With a sharp-pointed penknife you may afterwards cut it the size you wish. I must warn the inexperienced not to use what is known in the stationery trade as ‘laid paper.’ We often see on the quarter-ream packet of note-paper, the words ‘the best cream laid note :’ never use this ; it will not succeed if you do. On the laid paper the peculiar wire-marks left by the manufacturer are to be seen when held up to the light ; eschew this by all means. The wove papers are devoid of these marks. White paper only, of course, should be used.

“The above are the needful requisites to work with, or the ‘stock-in-trade.’ It is well, however, to have at hand a few American clothes-pegs, or spring clips,

which may be purchased for a penny each from most ironmongers. Of course a few chemicals are required. In working with these, great cleanliness must be observed. Hard or spring water must not be employed; use, if you can procure it, nothing but distilled water, or what will answer equally as well, clean and pure rain-water. The chemicals requisite are nitrate of silver, prussiate of potash, bichromate of potash, blue vitriol or sulphate of copper, and hyposulphite of soda. Keep the chemicals in bottles properly labelled, to prevent any accidents and confusion; they will not be kept so cleanly if preserved in papers.

“Photographic Printing.”—We will first describe the most simple mode of photo-printing, and then proceed to more difficult and complex formulas. Dissolve in a clean half-pint medicine bottle, four drachms (half an ounce) of prussiate of potash in about four table-spoonfuls of rain-water. When it is all dissolved, so that none is visible in the bottle, pour half of the solution in a dinner-plate, and float on its surface for a few minutes a sheet of paper of the size intended. After sufficient of the chemical is absorbed, hang it up on the edge of a shelf, by sticking a pin through one of the corners, to dry. All these operations should be performed in a dark room. A candle, however may be used, because the rays of light emitted by a candle, being yellow, do not affect the sensitised or prepared paper. A better plan, perhaps, is to brush the solution over the paper by means of a large camel-hair pencil. Let cleanliness be observed, or the attempt will end in failure and disappointment. Lay upon one of your glass sheets three or four folds of white blotting-paper; upon this the dried and sensitised prussiate of potash paper, with the prepared surface uppermost, and upon this place the Fern frond

or other selected and dried leaf. Upon the leaf lay the other sheet of glass (perform all this in the dark room), then, to keep the leaf and sheets from moving, fasten one of the clothes-clips on each end. Place the glass in the open air, under the direct influence of clear sunlight if possible. If the day is at all cloudy, it will take much longer to print; but with a clear sky, &c., it will probably be half an hour or thereabouts before it is sufficiently exposed. Be sure, however, to expose it a sufficient length of time; a little practice will soon teach you how long to leave it in the sun. Now watch the paper, and you will gradually observe the part not covered by the leaf changing from a yellowish hue to a bright blue. The latter will deepen until it is almost black. When you believe it is sufficiently exposed to the sun's rays, remove the leaf, glasses, &c., and you will find printed on the paper a yellow outline of the leaf on a deep blue ground. Now wash the paper in water, changing it frequently, until you observe the yellow change to a white—the whiter the better. By this means all the chemical is dissolved from the paper, leaving the part where the leaf lay, a clear, distinct white. If the glasses are removed too soon, the picture will be pale, and if they are left too long in the sunlight the blue ground will fade.

“The Best Process.”—The best process of Nature-printing is, without doubt, the following, although it requires much more care, patience, and neatness than the foregoing. As the prepared papers are exceedingly sensitive to light, the directions in respect to a dark room must be strictly adhered to. The chemicals, which should always be dissolved in bottles ready for use, are as follows: First, a solution of nitrate of silver, containing 1 drachm or 60 grains to each ounce of pure or filtered rain-water. Any druggist will pre-

pare this solution in a few minutes with distilled water, which can be relied upon for good results. Then a solution of hyposulphite of soda is needed, containing two ounces to each half-pint of water. To work well, and secure reliable prints, use only the albumenised paper, which is kept ready for sale by every photographic chemist; and, if possible, procure a glass rod, to save the hands from being stained. Always have the bottles containing the solutions correctly labelled. When you have cut the paper to the size required, pour the nitrate of silver solution on a shallow dish, and float the pieces of paper separately with the prepared surface on the liquid for about ten minutes. In doing so, take care no air-bubbles are beneath the paper, or it is useless for printing; when you detect any bubbles, gently lift up the paper with the glass rod, and taking hold of the corner with the finger and thumb of the left hand, remove the bubbles by touching the part with the rod. A little practice will soon make you perfect in sensitising the paper. After floating the papers for about ten minutes take them out, and drain them for a few minutes on the dish, so that no silver may be lost; then hang them up in a dark closet by pinning the corner on a string suspended across the room. In sensitising the paper always wear old kid gloves, as well as any old garments you may happen to have at hand; the solution being so liable to spoil the clothes and injure the skin that this advice is very needful. It is well to prepare a quantity of papers beforehand; they will keep for several days; the only difference is that newly-sensitised papers print much more rapidly—some people say they give better pictures, and probably it is so; however, if they are to be kept, take care no sunlight is admitted to them. The printing part of the process

is exactly similar to the first method, only it needs watching more carefully, and in using the glasses place the one cut into two parts and hinged at the bottom beneath the blotting-papers and Fern frond: when the printing is going on you can turn them up and examine the picture; only do not displace the leaves ever so slightly, or the picture will be useless. A good rule is to print the picture much darker than you intend it to be when complete, because in the fixing process it becomes much lighter. After being exposed, wash the print in clean water to take away the excess of silver; you cannot wash it too well. Then having placed the hyposulphite of soda solution in another dish, place the picture beneath it. Do not float it as in the bath, but constantly keep it moving about with the fingers for about fifteen minutes, not longer. This is to fix the impression and make it a permanent picture. Then wash it, changing the water frequently. Do not allow a drop of the fixing solution to remain on the paper, or it will stain it yellow, which, if nothing more, will make it unsightly. All you have now to do is to dry the picture, either in a book or betwixt folds of blotting-paper, beneath a gentle pressure. The last process is, after all, the best, yielding permanent and truthful results. Some Fern variety, which perhaps has never been figured in any book, by this means can be printed "true to nature," and can be referred to with pleasure in after-years. I have seen a fair-sized volume containing on one page a nature-printed or photographed Fern frond, and on the opposite page, as described above, a short but correct and faithful description, &c. This was the best volume on British Ferns and their varieties I have ever seen."

A Simple Process.—Good impressions of leaves and

Fern fronds can also be obtained by laying the leaf or frond on a smooth surface, and giving it a slight coating of printers' ink with a soft leather dabber or the ball of the hand, after which the leaf must be placed on a sheet of white paper that has previously been damped by being placed between sheets of moist blotting-paper. Now place the paper and the leaf in any old, flat book, and subject it to firm pressure in a copying-press. The chief thing to be looked after is not to use too much ink, and it should be well worked with the dabber on a piece of smooth slate before it is applied to the leaf. By inking both sides of the leaf and placing it between two sheets of paper, two impressions can be taken at once, so as to show both sides of the foliage.

HOW TO FORM A HERBARIUM OF WILD OR CULTIVATED FLOWERS.

A herbarium, or collection of dried Ferns, Mosses, and flowering-plants, is very useful to the cultivator as well as to the botanist. Most of the beautiful Alpines, Sea-weeds, and other interesting plants, may be pressed and dried in old books or blotting-paper with but little trouble; and, like sketches, they recall many pleasant scenes, incidents, and associations far more vividly than dry details in our note-books or diary. The following instructions, which are slightly modified from the remarks of the eminent botanist and collector Dr Asa Gray, on the subject, will, we have no doubt, supply all the information required:—

“For collecting specimens, the only things needful are a small round trowel (or a large knife, strong enough to be used for digging up bulbs, small root-stalks, &c., as well as for cutting woody branches),

and a botanical box or vasculum to hold the specimens collected. These boxes are made of tin, and in shape resemble a sandwich-case, the lid opening for nearly the whole length on one side. They are made in various sizes; the most convenient and generally useful perhaps is one about fifteen inches in length by six inches across. A strong, well-japanned box of these dimensions will cost about half-a-crown.

“The specimens collected should be either in flower or in fruit. In the case of herbaceous plants, the same specimen will often exhibit both at the same time, and both should be secured whenever it is possible. Of small herbs, especially annuals, the whole plant, root and all, should be taken. Of larger ones, branches will suffice, with some of the leaves near the root. Enough of the root should be retained to show whether the plant is an annual or a perennial. Thick roots, bulbs, tubers, or branches should be thinned with a knife, or cut into slices lengthwise.

“For drying the specimens, a good supply of soft and unsized paper—the more porous and bibulous the better—is wanted, together with some convenient means of applying pressure. All that is requisite to make good dried botanical specimens is to dry them as rapidly as possible between many layers or sheets of paper, to absorb their moisture, under as much pressure as can be given without crushing the more delicate parts. The best drying-paper is that which is made specially for the purpose, and which may be obtained from Mr E. Newman, 9 Devonshire Street, Bishopsgate, London, E.; but the softer sorts of cheap thick wrapping-paper will answer very well. The drying-pads are made by stitching from eight to a dozen sheets lightly together round the edges.

“When the specimens are brought home after the day’s collecting, each plant should be carefully laid out in a folded sheet of thin, smooth, unsized paper, the flowers and leaves being arranged in the position which they are to retain when dried. The folded sheet with its enclosed specimen is then to be placed between two of the drying-pads, and these again between two smoothly-planed boards of suitable size. Placing the whole on a table or on the floor, a weight of half a hundredweight or more is put on the upper board, and the specimens are so left until about the same hour next day, when the pads are to be removed and fresh well-dried ones put in their place, the boards and weights being also replaced as before. The pads which have been used are to be hung up to dry, so that they may take their turn at the next shifting. This process must be repeated daily until the specimens are no longer moist to the touch, which for most plants requires about a week; after which they may be transferred to the sheets of paper in which they are to be preserved. If very thick pads are used, it is not necessary to change them every day after the first two or three days. It is also to be observed that several pairs of pads, each with its enclosed specimen, may be placed between the same pair of boards, but in that case the weight applied to the upper board must be proportionately increased.

“When the specimens are quite dry, they may be kept in folded sheets of neat and rather thick white paper; or they may be fastened on half-sheets of such paper, either by slips of gummed paper, or by glue applied to the specimens themselves. Each sheet should be appropriated to one species; two plants of different species should never be attached to the same sheet. The generic and specific name of the

plant should be written in the lower right-hand corner, where the time of collection, the locality, the colour of the flowers, and any other information which the specimens themselves do not afford, should be also duly recorded. The sheets should be all of the same size. The herbarium of Linnæus is on paper of the common foolscap size, about eleven inches long and seven wide; but this is too small for a herbarium of any magnitude. Sixteen inches and a half by ten and a half, or eleven and a half, is a more convenient size. The sheets containing the species of each genus should be placed in genus covers (made of a full sheet of thick coloured paper), which fold to the same dimensions as the species sheet, and the name of the genus is to be written on one of the lower corners. These should be arranged under the orders to which they belong, and the whole kept in closed cases or cabinets, either laid flat in compartments like large 'pigeon-holes,' or else placed in thick portfolios, arranged like folio volumes, and having the names of the orders lettered on the back."

CHURCH DECORATIONS.

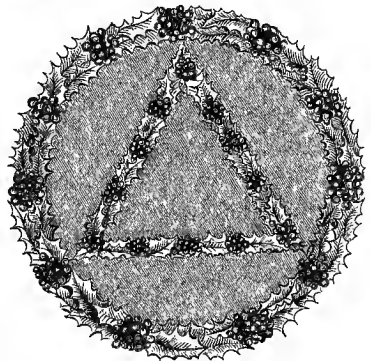
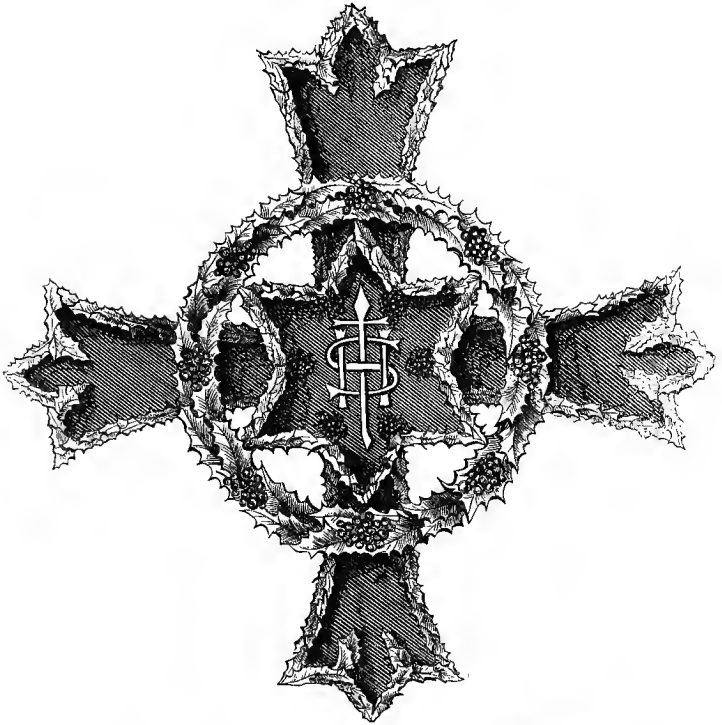
A few remarks on this subject may be of service to some of our readers, as the decoration of churches is now much more popular than it was a few years ago, and the decorations themselves are carried out with more good taste and refinement than was formerly the case. The first recollection we have of church decorations dates back to the time when it was considered sufficient to fill the ancient font at Christmas with an armful of Holly and Ivy, and to stick a few sprigs of Laurel, Holly, or Box in gimblet-holes

bored in the tops of the old-fashioned high-backed pews. All the decoration our church received was then done by a grumbling old sexton in a couple of hours; but now the case is widely different, for we have Easter decorations, and harvest decorations, in addition to the time-honoured display usually made at Christmas, and each of these occupy fully a week, while most of the materials are in readiness (thanks to our fair friends at the Rectory) even before that time. We are most decidedly in favour of the decoration of churches, provided always that the decorations are simple and appropriate. Beautiful flowers, evergreens, and silver Immortelles may be used for Christmas or Easter; while for the harvest thanksgivings we can also use corn, autumnal foliage, and fruits tastefully arranged. Flowers are admissible into our temples on all occasions, as the fairest and most beautiful works of the great Creator; they breathe only of purity, sweetness, and truth—while they teach lessons of peace, contentment, and humility to us all. “Consider the lilies of the field, how they grow; they toil not, neither do they spin: yet Solomon in all his glory was not arrayed like one of these.” The decoration of temples with beautiful flowers dates back for centuries, while it is at the present time practised in nearly every civilised country in the world. In Mexico and Peru it is customary to place the most beautiful Orchids and other choice flowers on the altars and shrines; and the custom is also popular in various parts of India.

The introduction of beautiful natural objects into our places of public worship is not done merely to satisfy the eye with pleasing forms and glowing colours, since any kind of artificial ornaments, provided they were graceful, would do this almost as

well as natural flowers. They are introduced, or ought to be used, as appropriate incentives to kindly thoughts and pure religious feelings ; hence we should avoid the employment of paltry effects in stained Immortelles or gaudy paper-flowers, as being in bad keeping with the object we desire to attain. If we bear the object of church decorations in mind, and endeavour to attain that object, there will be but little fear of inharmonious combinations, or the introduction of anything likely to offend the good taste of any one present. All laboured attempts at religious decoration are superfluous, and often spoil the effect one has in view. We use flowers and fruits to give an idea of God's bounty and providential goodness ; and the more simple our arrangements are, the more likely is this end to be attained. Simplicity and graceful beauty or elegance are more often synonymous than is generally supposed, and this is especially the case with regard to floral decorations for churches. Wreaths of Ivy and other evergreens are very useful in Christmas decorations, and are easily made on thick twine or cord. Small sprays or little branchlets are preferable to single leaves, as they go further, and are not so stiff and formal as those made with leaves stripped from the stems. To make a wreath, take a branch or spray of foliage, and commence at one end of your cord. Lay the branch along the cord pointing towards the end from which you start, and just loop it round with a bit of thin twine. Now add another spray and loop it in the same way. This last loop should also just catch the base of the first spray or branch, so that by tying in this way every branchlet is looped round twice, and thus firmly secured in its place. Clusters of white Immortelles or scarlet berries alternately are very effective in wreaths

of dark-green foliage. The twine used for tying should be cut into lengths 6 feet long, and should be looped round the stems without cutting. Longer lengths than this will be awkward to draw through the noose. Green and variegated Ivies, Hollies, and Euonymus, make nice wreaths, as also do sprays of Portugal Laurel, Aucuba, Juniper, Thuja, Yew, Tamarisk, and Box. Light and graceful wreaths look well twined spirally round columns, or carried round the tracery of Gothic arches, or the mullions of large windows. For the altar-cloth nothing looks better than a simple cross of silvery Immortelles and Grasses. This should be large enough to stand out clear and bright; but the size will be regulated by the dimensions of the cloth itself. We have tried many devices for the altar-cloth and pulpit, but nothing is better than a bold cross or the monogram IHS either in white Immortelles or scarlet berries. Texts tastefully formed in foliage and berries look well on scrolls or shields; while neat wooden shapes may be used for initials, monograms, and pleasing geometrical designs, such as crosses of various shapes, circles, or stars. Any carpenter or model-maker will make them in a few hours (see fig.) Some make these designs by gluing leaves and berries on pasteboard shapes. If the cloth is crimson or dark blue the Everlastings stand out clear and bright, and are then very effective. The flowers used in Easter or harvest decorations should be of graceful form, bright or distinct colours, and should be arranged so that the individual beauty of each blossom is seen in addition to the general effect. All kinds of Lilies are very suitable, especially *Lilium speciosum* and its varieties. The foliage and flowers of the chaste Trumpet-lily (*Richardia æthiopica*) are unsurpassed for the altar,



Church Decorations.

and last a considerable time after being cut from the plant. A good specimen of this plant, or two



Church Decorations.

or three small ones placed together, look remarkably well arranged on the font, especially if the latter is in a prominent position. Both flowers and foliage are of classic simplicity, and look remarkably well along with statuary or architectural details. For harvest thanksgivings a small sheaf of Wheat or Oats looks well, and very suggestive laid on the altar-table; while tasteful groups of Corn, Lilies, bright-coloured autumn leaves, and fresh green Fern fronds look well on the pulpit or reading-desk. If the pulpit, font, and pillars are of white stone, they look well draped with the Virginian

Creeper and Ivy, both of which should be allowed to droop unrestrained in elegant festoons of bright glowing crimson and green; while clusters of Apples, bouquets of Wheat and Oats, or bunches of Grapes, may be introduced here and there with good effect. The silvery or pale rosy plumes of the Pampas Grass (*Gymnerium argenteum*) and *Arundo conspicua*, mixed with branches of the Purple Beech, or the feathery foliage of the Sumach, when tinged with crimson in autumn, are very effective; and stems of *Arundo donax* or Japanese Maize may also be used for variety. All these are bold and distinct, and look well massed in a picturesque manner along with the glowing scarlet flowers of the Scarborough Lily

(Vallota), the Guernsey Lily (*Nerine Sarniensis*), or the delicate pink flowers of the Belladonna (*Amaryllis*). Group all your foliage and flowers as naturally as possible, and do not attempt anything in the way of unmeaning designs. Ladies, as a rule, do these kinds of ornamentation better than any one else, and seldom fail to make pleasing arrangements. It is as well to be careful in the use of yellow flowers, as many of these have a glaring or gaudy appearance, not in keeping with the quiet rich softness of colouring and peaceful harmony of arrangement which should at all times prevail within a sacred edifice.

FLOWERS FOR CEMETERIES.

As in all English-speaking lands the cemetery is to some extent a garden, and often, as in America, a noble and well-kept garden, a few words on some plants suitable for it may not be without value. If plants that look well all the year round are more apropos for any one spot than another, that is in the cemetery; but notwithstanding this, the gaudy flowers of the "bedding-out" garden are frequently planted on graves. While far from suitable in tone, they perish in winter, and frequently present a miserably ragged aspect after being cut down by the autumnal frosts and rains. Infinitely better are flowers of spring, whether they disappear in winter or no; and better still those which look well all the year round irrespective of their flowers. There are plenty of plants eminently suited for this very purpose—cheap, hardy, and easily obtained; and some of them of such vivid green, even in the middle of winter, that

they could not fail to please, in consequence of their deep and vivid green. The mossy Saxifrages are particularly remarkable for assuming their deepest and finest verdure when winter commences its reign, and almost every other plant begins to look ragged and decaying, or has lost its leaves. These, then, in nearly every instance, offer attractive objects for planting on and near graves. It is useless to specify individual kinds, for nearly all are equally good, and differ mainly in their tone of green, and slightly in size, one or two scarcely growing more than an inch, and others attaining the dignity of three, four, or five inches and even a foot high, when old. The native *S. hypnoides* and its varieties are as good as any ; while, if the silvery kinds are fancied—and very beautiful they are, looking as well or better at Christmas than at midsummer—*Aizoon*, *pectinata*, *crustata*, *pyramidalis*, *Hostii*, *intacta*, and others closely related to them, will be found to suit admirably. Those who do not know these encrusted Saxifragas may be the more favourably disposed to them when it is stated that their tiny leaves are margined with a row of silvery or white dots, and the leaves being very abundantly and compactly produced, the plants present a singularly neat appearance. A turf of these here and there among the emerald green kinds would look very beautiful. Even the Killarney Saxifrage (the London Pride) and its allies would do, but scarcely so well as the mossy and silvery sections, which generally produce white flowers in spring or early summer. All the preparation necessary for these plants is a slight lightening of the surface soil with sand where heavy, and that is rarely necessary in ordinary soils.

Among these pretty Alpines, &c., I would drop here and there a bulb or plant of some chaste and

pretty spring flower, like the common or Crimean Snowdrop, *Hepatica alba*, the white and delicately-striped Crocuses, *Bulbocodium vernum*, *Scilla bifolia alba*, *Leucojum æstivum*, *vernum*, and *pulchellum*, *Erythronium dens-canis album*, and any other spring flower that may be admired and obtainable. A few Violets would be very suitable if the soil were one in which they would flourish, which is not the case on heavy clays. Finally, a few neat dwarf and hardy shrubs—compact tiny evergreens—are excellent. In this way nothing surpasses *Erica carnea*, which is a perfect mass of charming flowers in spring, and hardy and free in almost all soils. Some of the dwarf and curious varieties of the common Ling, which are to be had in some shrub nurseries, are also good; while the pretty little Partridge berry (*Gaultheria procumbens*), with its bright red berries in winter and tiny close growth, cannot fail to charm. In a peat soil a good variety of dwarf Ericaceous plants might be tried. On nearly all soils the Bearberry (*Arctostaphylos Uva Ursi*) trails its recumbent evergreen growth healthfully along; and where there is considerable space, some of the dwarf hardy evergreen Rhododendrons, the bright-berried Skimmias, and dwarf green tapering Conifers, like the *Retinosporas*, may be tried with great advantage, with a few of the Ivies to train up rails, along chains, &c.; not to speak of other dwarf, evergreen, and interesting shrubs which may be found by examining any good shrub nursery.

From the limited space generally around graves, the planting of large or free-growing things is not to be recommended. The general planting with the larger trees of suitable character should be attended to by the managers of the cemetery. There are a great many Conifers and other trees and shrubs

which look very well in a young state, but which soon attain large and unsuitable dimensions; and these should be discarded as unfit for the surface and immediate surroundings of a grave. It is not sufficient to see the aspect of the plant when young; we should inquire also as to its usual ultimate development.

Graves are generally surrounded by a kind of external border for flowers with a narrow stone coping, the centre being either left as a grassy mound, or covered over with a stone. If any ironwork surrounds the grave, no prettier climber can be used than the *Aimée Vibert* Rose; its snowy-white flowers and perennial dark-green leaves render it the best kind for grave adornment. The *Convolvulus*, both purple and white, are beautiful climbers. Ivy, of course, is always at hand. Spring is especially rich in flowers for the grave. Snowdrops may be planted in the grassy mound; but prettier still are the lovely blue flowers of *Scilla sibirica*, either as an edging, or dotted promiscuously on the turf.

In the border, Crocuses of every colour may be planted; the single red and white Tulips are very effective, and Hyacinths, red, white, and blue, or other shades. Then there is the Narcissus, the Poet's and double, and the pretty silver-paper-looking flowers of *St Bruno's Lily* (*Anthericum liliastrum*)—all of which are desiderata; as are also the double Daisy, white and red—Primroses, single and double—Heartsease, and the Lily of the Valley. The new varieties of Forget-me-not flower freely; and we may also have the snowy blossoms of the Saxifrage (*S. granulata*). Nor should Anemones, both garden and the blue wild (*A. apennina*), be omitted; the latter is a most desirable flower. Periwinkles, blue and white, carpet the ground. Where there is room for small shrubs,

the golden *Arborvitæ* should be introduced. As summer advances, the choice of flowers is more varied. *Viola cornuta* flowers so freely, that each kind, white or blue, is a great addition to grave-flowers. *Gentiana acaulis* flowers well if not disturbed. The Mule Pink is an abundant flowerer; and the stately White Lily may be raised in pots and sunk in the border.

The tin troughs now made as crosses, circles, and in other forms, and filled with water, greatly extend the decoration of graves by means of cut-flowers. The Germans make wreaths of Ivy, which they hang upon their tombs. In the cemeteries at Paris, large sculptured marble vases are placed upon the grave-slabs, filled with the choicest exotics.



PART III.—DESCRIPTIVE.

INTRODUCTION.

PLANTS are not unfrequently grown for their beauty or ornamental character alone, and little or no attention paid to their history, native habitat, or nomenclature. All or any of the plants herein mentioned may be grown successfully by careful treatment, and the assistance of the appliances of which we have already spoken. Still they cannot but be more interesting to us when we know their correct names—names by which they are known to botanists or gardeners throughout the civilised world. These Latin or Greek names are not more difficult to learn than many words in our own language; and a very little study will enable any one to become proficient in this branch of plant-lore. In most cases I have added the common English names, as these often lead to the identification of the plant after other means fail. The native country is also added; and it will be as well to remind the amateur that the plants are *found growing wild* in the localities mentioned. I have had good opportunities of learning what ordinary people as a rule think on this subject, and there are but few who fully comprehend the fact that *every species is wild* on some

particular portion of the earth's surface. Some plants are extremely local in their distribution, the area they cover being limited to a few square miles. Others, again, as the common Plantain, or "White Man's Foot," and Groundsel (*Senecio vulgaris*), are found in nearly every portion of the globe. This and many other common weeds—the Thistle, for example—follow everywhere in the footsteps of civilisation, and occasionally prove a great nuisance to the settler or colonist. Composite plants, of which the Dandelion (*Leontodon taraxicum*), Cinerarias, Daisies, or Asters, may be taken as common types, are generally widely distributed, owing to their seeds being downy and easily transported from place to place by the winds. Other light seeds float down rivers and streams for hundreds of miles, and are thus distributed far and wide.

I should recommend the amateur to obtain the name of every plant he cultivates, and to write it legibly on a neat label of either wood or zinc. A well-named collection of plants is always interesting; and if the native country of each plant be added, so much the better. In the following pages I have given such short descriptions, cultural details, and general information as will be likely to interest the amateur cultivator.

PLANTS SUITABLE FOR ROOM, WINDOW, OR BALCONY CULTURE.

ABOBRA VIRIDIFLORA (*Scarlet-fruited A.*).—A very elegant half-hardy climber, nearly allied to the common Cucumber, and having dark-green glossy much-divided leaves. Its flowers are white, not very showy, but are succeeded by dark scarlet or crimson oval fruits, very

ornamental in appearance. Seeds sown early and planted out on a warm moist border after all danger of spring frosts is past, will make effective plants the



Abobra viridiflora.

first year ; while their fleshy, tuberous roots may be lifted and stored in sand for planting the following season. Seed or Tubers. Central America.

ABUTILON STRIATUM (*Orange-striped A.*) — This plant grows well in an ordinary window, or they may

be planted outside during the warm summer months. Abutilons are nearly allied to the common Mallows of our waysides, and have a somewhat similar habit of growth, but bear bright-green heart-shaped or palmate foliage, and drooping bell-shaped flowers. They strike freely from cuttings in a moderate heat, and flower in a young state. One of the most beautiful of all is a pure white-flowered variety of the above known as *Boule de Neige* (Snowball), which bears large flowers on long pendent stalks. This flowers freely during winter, and its pearly flowers are very valuable for bouquets and general decorative purposes. New Granada.

ACACIA ARMATA (*Prickly A.*) — This is a fine spring-blooming plant, and well adapted for window

or sitting-room decorations. Its branches are spinose, closely set with narrow deep-green glossy leaves, and pale-yellow globular heads of hair-like flowers. It is bushy in habit, and should be cut close in after flowering, so as to keep it dwarf and compact. It will grow outside in a sheltered position during summer, but requires room culture during winter. Cuttings. New Holland.

ACACIA (ALBIZZIA) LOPHANTA (*Fern-leaved A.*)—This plant is one of the finest of all evergreen foliage-plants for indoor window-culture. In habit it combines the elegance of the Palm with the fresh greenness of the most beautiful Ferns, and is the same all the year round. It is graceful in its growth, varying from 18 inches to 3 feet in height, grows well in any light soil, and requires a constant supply of water at its roots.

It is easily propagated from seeds or cuttings, and its refreshing greenness makes it quite a favourite.

ACANTHUS MOLLIS (*Smooth-leaved A.*)—This fine-leaved hardy plant is an



Acanthus latifolius.

effective object grown in a pot either for the balcony or indoors. It has large glossy foliage, beautifully

cut and very leathery. A plant *Acanthus* growing accidentally around a broken column is said to have furnished the idea from which the beautiful Corinthian capital was designed.

A. LATIFOLIUS (*Broad-leaved A.*) is also an effective plant (see fig. p. 213) propagated by division. Greece and Italy.

ACROCLINIUM ROSEUM (*Rosy Immortelle*).—A very pretty annual composite plant, easily raised from seed



Acroclinium roseum.

sown in April. It bears rosy everlasting flowers, and forms a choice window-plant if two or three seedlings are pricked off into a 48 pot. Champion Bay, West Australia.

ADIANTUM CAPILLUS VENERIS (*True Maiden-hair*).

—This is a British species of Maiden-hair, and though hardy, grows best

in a Wardian case. It is one of the prettiest of all the species, producing a tuft of fresh green fronds several times during the year. Very useful Fern for cutting. Europe.

A. CUNEATUM (*Wedge-leaved Maiden-hair*).—The wedge-leaved Maiden-hair is the one generally used in bouquets, for which its light graceful fronds are well suited. It does well in a case. Several other species of *Adiantum* grow vigorously in a Ward-

ian case, but these here alluded to are the best. Brazil.

A. FORMOSUM (see fig.) is a strong-growing plant,



Adiantum formosum.

very useful for general decorative purposes or for cutting. Formosa.

A. PEDATUM (*Bird's-foot Maiden-hair*).—A charming N. American species of Maiden-hair, perfectly hardy in a moist sheltered rockery, but does best in a Wardian case. It is a deciduous species, throwing up its fresh green fronds every spring. All *Adiantums* like humidity, and should have plenty of moisture during the hot months of summer. All those named in the list of Ferns may be grown under a glass shade or in a small plant-case.

ADLUMIA PURPUREA (*Purple-flowered A.*)—This

pretty hardy climber is rarely seen, although it makes a very attractive plant either for the balcony or



Adlumia (cirrhosa) purpurea.

America.

ADONIS VERNALIS (*Spring-flowering A.*)—A dwarf and compact growing plant, bearing a profusion of yellow star-shaped flowers in the spring. It

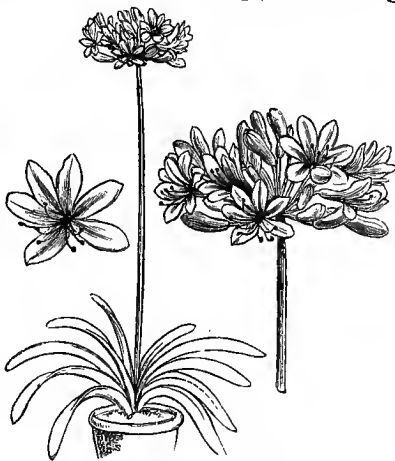


Adonis vernalis.

is perfectly hardy, and is propagated by division. Europe.

window-box outside; or it may be grown in a pot and trained around three sticks, as shown in our engraving. The plant is nearly related to *Dielytra* and our own native *Fumarias*, and grows best in a warm, moist situation. Seeds sown in spring. North

AGAPANTHUS UMBELLATUS (*Blue African Lily* or *Love-flower*).—This is a bulbous plant, having strap-shaped foliage and terminal clusters of bright blue flowers on stems 2 to 3 feet high. It is an excellent plant for balcony culture in pots. Give it an abundant supply of water during the summer. There is a variegated variety and also a green-leaved one bearing white flowers. Propagated by division.



Agapanthus umbellatus.

This plant grows well planted on the margin of a pond, or treated as a sub-aquatic along with the Trumpet-lily (*Richardia*). S. Africa.

AGATHEA CÆLESTIS (*Cærulean blue A.*)—Both this and its variegated variety are dwarf composite plants often used in flower-beds during the summer months. Grown in pots or window-boxes they make pretty little decorative plants, bearing a profusion of delicate daisy-like flowers of a lovely sky-blue colour. Cuttings. South Africa.

AGAVES (*American Aloes*).—Succulent plants from South America are admirably adapted for the permanent decoration of halls, corridors, and balconies during summer. The smaller-growing species are also well suited for window-culture. They only require protection from frost, and most of them throw up young plants or suckers from the base by which they

are propagated. They are called "century plants" from a mistaken notion that they only flower once every hundred years. Keep them quite dry from November to March.

A. AMERICANA (*Common American Aloe*).—This is the commonest species, having thick, glaucous, spinose



Variegated American Aloe.

leaves 2 to 6 feet in length. Young plants may be grown in a window.

A. MEDIO PICTO (*Striped American Aloe*).—This is a variety of the last with a band of yellow running down the centre of the leaf.

A. VARIEGATA (*Variegated American Aloe*).—An-

other variety having its leaves broadly striped with golden yellow. It is a common and very ornamental plant for rooms.

A. APPLANATA (*Mealy American Aloe*).—A dwarf compact species, the largest leaves being only a foot long, very thick at the base, and of the curious bluish or milky green peculiar to a large number of these plants.

A. BESSERIANA (*Besser's American Aloe*).—The handsomest of all small-growing Agaves, having sub-erect glaucous leaves about an inch wide tipped with a dark spine. It is a first-class window-plant, having five or six tolerably distinct varieties, all of which are worth growing.

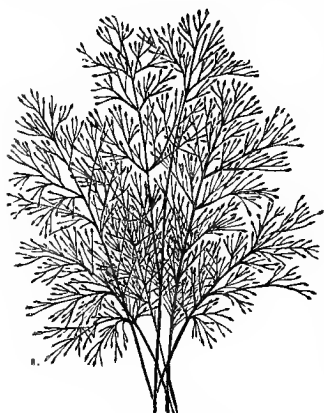
A. FILIFERA (*Thread-margined American Aloe*).—A compact, dense-growing, dark-green species, its rigid leaves being more or less furnished with bronze filaments along their margins. There are three or four varieties all adapted for room culture during winter, and balcony decoration during the summer months.

AGAVE (LITTÆA) GEMINIFLORA (*Twin-flowered American Aloe*).—This is a common plant of dwarf habit, the plant having pale-green leaves which look like a tuft of rushes. It is an interesting plant, easily propagated by seed. There are several varieties, some smooth, others with filaments along the margins of their smooth green foliage. All the Agaves may be grown in rooms and windows if protected from frost and kept dry during winter. Some are very beautiful, and their culture is highly recommended. Most of the species are Mexican.

AGERATUM MEXICANUM (*Mexican A.*).—A well-known blue or mauve flowered bedding-plant, easily propagated either from seed in the autumn or cuttings

in the spring. With little attention it makes a good pot-plant, and the flowers are both pleasing and distinct. Mexico.

AGROSTIS (*Cloud-Grass*).—A genus of pretty ornamental Grasses easily multiplied from seed sown from



Agrostis nebulosa.

March to May in small pots of light earth. Prepare half-a-dozen or more pots and sprinkle a few seeds over each. The seeds soon germinate, and if they come up so as to crowd each other, thin them out occasionally. They form pretty ornaments while growing, and the spikes keep well when dried for winter vases or bouquets.

A. nebulosa, *A. pulchella*, *A. elegans*, and several other species are worth growing, seldom attaining more than a foot or 15 inches in height. S. America.

AKEBIA QUINATA (*Five-leaved A.*)—One of the prettiest of half-hardy climbers, and one that grows very freely planted in a box of rich moist earth inside the window. It bears dark-green foliage, and clusters of deep purple flowers, the male and female blossoms being borne on separate stalks. This plant is a quick grower, and attains a height of twenty to thirty feet in a cool airy conservatory. In warm sheltered localities it stands outside without injury. It is propagated by cuttings or layers. A native of China, where it overruns hedges and bushes in a similar manner to our common Woodbine or Honeysuckle here at home.

ALOES (*Cape Aloes*).—These are interesting succulent plants, admirably adapted for culture in a window fully exposed to the sun. They are all natives of Southern Africa; one or two species producing the “bitter aloes” of commerce. Propagated by cuttings, and occasionally from seed.

A. ARBORESCENS (*Tree-like A.*)—A tall slender stemmed species, having spreading glaucous leaves, margined with green, and recurved at the tips.

A. PLICATILIS (*the Fan-leaved A.*)—A very old species, having been cultivated at Hampton Court centuries ago. Fine plants may be seen at Kew. Its pale-glaucous fleshy leaves grow in two rows up each side the cylindrical stem, giving it a plaited appearance, hence its name.

ALOE FRUTESCENS (*Shrubby A.*)—This is one of the most elegant of all the species, and, together with its congener, *A. variegata* (*Partridge-breasted A.*), is not uncommonly met with in cultivation as a window-plant, for which purpose it is eminently fitted, as it grows very freely in a moderate temperature, if protected from actual frost during winter. Our illustration (p. 222) was taken from a pretty little specimen grown in the hot and dusty window of a London coffee-house, where the facilities for plant-culture are not of the best; still it succeeds to perfection, in spite of the most erratic treatment. The only way an amateur is likely to kill Aloes, or indeed the generality of succulent plants, is by giving them too much water during the dark and cold winter months, and so causing them to “damp off.” Several other small-growing Aloes make capital window-plants grown in a compost of sandy loam and broken bricks, or old lime-rubbish; and if the pots are filled nearly

half full of broken crocks for drainage, so much the better. All the species come from the Cape of Good Hope.

A. SOCCOTRINA (*Succotrine A.*)—An interesting species, affording “bitter aloes.” It has pale-green foliage, slightly furnished with white spines. It is a very ornate species.



Aloe frutescens.

A. VARIEGATA (*Partridge-breasted A.*)—A common species, often grown and flowered most beautifully in cottage windows. Its leaves are arranged in three rows, with an inclination to be spiral, and are bright green in colour, transversely streaked with creamy white and glaucous green. It flowers freely every year, bearing drooping tubular flowers of a delicate rosy colour on a slender spike a foot to two feet in height.

ALONSOA INCISIFOLIA (*Cut-leaved A.*)—An old but rather uncommon plant, well suited for window-culture in pots. It is bushy in habit, and bears deep orange or orange-scarlet flowers (each having a dark eye) on terminal spikes. It flowers when about a foot high, and lasts a long time in bloom. Propagated easily from seeds and spring cuttings, and the young plants will flower the same year. *A. Warscewiczii* is another species well worth growing

(see fig.) They will grow freely and flower well planted outside during summer. Peru.

ALOYSIA CITRIODORA (*Citron A.*)—

This is commonly known as the "Sweet or Lemon scented Verbena," and is much cultivated in cottage windows for its refreshing citron-like odour. It

requires cutting down in February, so as to keep it bushy, and it then breaks out freely, and keeps fresh through the summer. This and "Musk" furnish two of our best and most distinct

vegetable odours, and should be grown in every room window. Cuttings. Chili.

ALTERNANTHERA AMABILIS (*Crimson-leaved A.*)—A dense-growing little foliage-plant, two or three inches high, having foliage of a bright coppery hue. *A. amœna* has leaves of a bright magenta-purple or crimson colour, and is one of the best. There are other species, all of which grow freely out of doors during summer, and are useful for the margins of balcony or window boxes, arranged along with dwarf-growing succulents. They are easily propagated from cuttings in the spring, and require a little gentle bottom-heat until they are rooted. Brazil.

ALYSSUM SAXATILE (*Gold-dust Madwort*).—A dwarf, dense-growing, hardy herbaceous plant, with glaucous leaves, and short spreading spikes of clear



Alonsoa Warszewiczii compacta.

yellow flowers in the spring. It is very showy when in flower, and comes from Transylvania. Propagate by division. Its ally *A. maritimum* (Sweet Alys-sum) is also a valuable plant for window-boxes.

AMARANTHUS CAUDATUS (*Love-lies-bleeding*).—An annual plant, well suited for the decoration of balconies during summer and autumn. It grows about two feet high, and has drooping spikes of a deep crimson-velvet tint. Seed in spring. E. Indies.

A. MELANCHOLICUS RUBER (*Ruby-coloured A.*)—This is another well-known plant well worth outdoor culture. *A. salicifolius* is one of the most elegant, having gracefully drooping wavy foliage of a bright coppery crimson. All do best treated as half-hardy annuals.

AMARYLLIS.—This is a much-admired genus of bulbous plants, bearing large, wax-like, brilliantly-coloured flowers. Some can only be grown satisfactorily in a hot plant-stove, but those named do well in pots or boxes on the balcony.



Amaryllis Belladonna (*Belladonna Lily*).

A. BELLADONNA (*Belladonna Lily*).—A lovely plant, flowering in September and October, bearing several white flowers suffused with delicate rosy lilac, on the apex of a spike a foot or more in height.

Bulbs showing flower may be bought from any nurseryman in Septem-

ber, and flower directly after being potted. Cape of Good Hope.

A. CRISPA (*Wavy-petalled A.*), (NERINE UNdulATA).—A lovely little species for flowering after the last named. Two or three bulbs should be planted together in a small pot. Its flowers are borne ten or twelve together on a scape a foot or fifteen inches high. Its blossoms are of a delicate rosy colour, the petals being beautifully crisped, or undulate. Division. China.



Amaryllis formosissima (*Jacobæa Lily*).

A. FORMOSISSIMA (*Jacobæa Lily*).—A very effective and free-flowering plant, bearing large blood-coloured flowers at the tip of a stout scape. In shape, the flower reminds us of a gorgeous Orchid, its three lower segments resembling a great lip. Grows well in a sunny window. North America.

A. (NERINE) SARNIENSIS (*Guernsey Lily*).—This flowers at the same time as the Belladonna Lily, and the bulbs may in most cases be purchased to-

gether. It bears a terminal cluster of bright rosy-scarlet flowers, which sparkle with crystalline brilliancy in the sun. It forms an effective autumn-



Amaryllis (Nerine) sarniensis (Guernsey Lily).

flowering window-plant, and is distinct. Keep the bulbs moderately dry when at rest. Division. Japan.

A. LUTEA (Yellow A.)—An uncommon hardy plant, with solitary yellow flowers, which are produced in company with the foliage in autumn, and remind one of a gigantic Crocus. It has an erect and compact habit of growth. Another species, the Virgin's A. (*A. Atamasco*), may also be grown in pots for variety. Division.

AMORPHOPHALLUS RIVIERI (Riviere's A.)—This is a comparatively new introduction, and is undoubtedly one of the very finest of all ornamental foliage plants for room-culture. The stout stems are green, spotted with white or pale rose, and are surmounted by umbrella-shaped heads of deep green foliage two

feet across. It is half-hardy, growing vigorously in a sheltered position in the open air from May to October. Propagated by dividing its tubers. China.



Amorphophallus Rivieri.

AMPELOPSIS HEDERACEA (*Virginian Creeper*).— This plant is well known as being one of the most ubiquitous and useful of all ornamental Vines. In London it is perfectly at home amid dust and smoke, draping windows and balconies, walls and trees, with elegant wreaths of bright green foliage during the summer months, while during September and October it changes to the most vivid crimson tint imaginable. It is rather bare and unattractive during winter; but by associating it along with Ivy and other evergreen climbers, this drawback is easily overcome. It grows

well in spite of all disadvantages. Planted down in the area, it clambers up the sides of the house, wreathes itself in graceful folds around the portico, or falls here and there into the most elegant festoons of leafage. It is an excellent plant for either pots or boxes, and will grow in a few inches of any common soil. Planted on each side of the window, it may be trained up a wire trellis, or even a string, so as to soften off the obtrusive angles of the masonry, and enable us to catch a glimpse of Nature's loveliness as we sit in our offices or apartments, calling to mind the green country lanes and hedges amid all the dust, bustle, and smoke of the great city. It grows rapidly, and is easily propagated by layers. Loudon called this "the most vigorous of all creepers, growing freely from Warsaw to Naples, in any soil or situation." N. America.

A. VEITCHII (*Veitch's A.*), (A. TRICUSPIDATA).—A very beautiful creeping Vine, adapted either for pot, vase, or basket culture in rooms, or planted outside for training along the balcony or up walls, to which it clings like Ivy. It has three-lobed foliage of a bright green colour, changing to purplish-crimson in the autumn. It is valuable as furnishing elegant sprays or natural wreaths for cutting, and is useful for all kinds of room or church decorations during the harvest festivities. Multiplied by cuttings or layers. Japan.

ANEMONES (*Wind Flowers*).—These are included in a genus of showy hardy herbaceous plants from Italy and Levant, several making effective specimens under pot-culture. They are fine plants for culture in boxes on the balcony, or in the open border. These, and all other hardy plants cultivated in pots for window decoration, should be plunged (after flowering) in a bed of sifted coal-ashes, or cocoa-nut

refuse. This keeps their roots cool, and in an equable state as regards moisture. When they show flowers, the pots can be washed, and then removed to the drawing-room to expand their richly-tinted flowers. The common *Hepatica* (*A. hepatica*) is one of the most beautiful of all spring flowers, and may be used in balcony-boxes with excellent effect along with *Arabis alpina* and its variegated variety, *Aubrietia purpurea*, or *A. græca*, *Saxifraga umbrosa* (London Pride), *S. crustacea*, a small-growing species, the leaves of which look as if set with little pearls, and many others. Any of these may be used for edgings, and the centres filled in with *Snowdrops*, *Crocus*, *Tulips*, *Hyacinths*, *Winter Aconites*, *Scillas* (*Squills*), *Bellis aucubæfolia* (*Red Daisy*), any or all the numerous beautiful varieties of the common hardy *Primrose*, white *Lilac*, red, crimson, and purple; and last, but not least, scatter a few seeds of *Myosotis dissitiflora* over the boxes in the autumn, or prick in a few plants, and your window-boxes will be a treat, both to yourself and neighbours, during the warm sunny days of spring. *Anemone*-roots may be bought from the florists any time during the autumn, and should be planted forthwith. The roots of some *Anemones* will grow after being stored in a dry place for two or three years, still they are considerably weakened thereby. The popular name "Wind Flowers," also belongs to the genus *Zephranthus*. *Anemone japonica*, *A. japonica alba*, *A. hortensis fulgens*, and *A. vitifolia*, make fine specimens, plunged in pots ready for removal to the window or balcony in autumn, when their flowers expand. All hardy plants should be kept cool, and have abundance of fresh air whilst flowering, after which they should be again plunged outside. *Anemone japonica*, and its varieties, is one of our best

autumn-flowering hardy herbaceous plants, and its large pure white flowers are very useful in a cut state. When taken up out of the ground and potted, it is also very serviceable in the conservatory or window-garden. For this purpose it wants a good soaking of water, and should be put in the shade for a few days until thoroughly established.

ANTHERICUM LILIASTRUM (*St Bruno's Lily*).—A highly interesting plant, with bundled fleshy roots,



Anthericum liliastrum.

not unlike the common white Lily (*Lilium candidum*), but very much smaller. It grows freely in the open border or in pots plunged outside. Its flowers are borne on stalks, and are of a delicate paper white. This is sometimes called *A. Czackia*. It is propagated by dividing well-established clumps in the autumn months. The flowers are very useful for either bouquets or dinner-table decorations,

and it is a plant every one should grow. Alps.

ANTIRRHINUM MAJUS (*Common Snapdragon*).—A well-known annual or perennial plant, and one of the very best for naturalising on dry banks, ruins, or old mud and plaster walls. Easily propagated from spring or autumn sown seeds. There is an immense variety of colours, scarcely two seedlings coming exactly alike. Seeds sown early in the spring (March), and treated like hardy annuals, flower very freely

the same year. They are useful for window-boxes and balconies, and well worth growing. Europe.

APIOS TUBEROSA (*Tuberous-rooted A.*)—A very elegant twining plant, having finely-divided foliage and oblong clusters of pale pea-shaped flowers. Our illustration shows its habit; and as it is very easily grown, and far from in- attractive, it deserves cultivation. Seeds and roots. America.



Apios tuberosa.

APONAGETON DISTACHYON (*Branched A.*)—A very beautiful and perfectly hardy aquatic from the Cape of Good Hope. It will grow in a stone trough or even a ditch, and is easily grown in the window planted in an inverted bell-glass or small aquarium. It should be planted in good loam. It flowers nearly all the year round, but especially in the spring months. When healthy its fresh green oblong leaves float on the surface of the water, being borne on long stalks, which vary in length according to the depth at which its roots are planted. Its elegant fork-like spikes are scaly and of ivory whiteness, with small black flowers at their base. *A. acuminata*, *A. minor*, and *A. monostachyon* vary slightly from the above, but may all be grown as beautiful and interesting aquatics. Propagated from seed.

ARABIS ALPINA (*Spring A.*)—This is a common, woolly-leaved, dense-growing plant, hardy on rock-work or dry banks, where it bears thick masses of pure white flowers in the spring. It is most useful for edging, boxes and balcony-gardens. There are several variegated forms of this—all beautiful. Division. Europe.

ARALIA.—This genus contains several fine-foliaged plants, nearly or quite hardy in sheltered positions.



Rice-paper Plant (Aralia papyrifera).

All are adapted for room-culture in winter and balconies in summer. They are all increased by suckers or root-cuttings.

A. CRASSIFOLIA (*Thick-leaved A.*)—An erect-growing species, having alternate leathery leaves a foot long, and of a deep olive-green colour. The leaves are slightly lobed along the edges, and the midrib is dull orange, while the leaves are brown beneath. New Zealand.

A. LEPTOPHYLLA (*Slender-leaved A.*)—One of the most effective species, with a slender habit of growth, bearing six or seven leaflets of a dark-green colour and drooping habit. It is useful for rooms, halls, or for dinner-table decoration. Japan.

A. PAPYRIFERA (*Rice-paper A.*)—One of the noblest of the group, and interesting, as furnishing the pith from which the Chinese manufacture their delicate rice-paper. It is very effective for rooms or balconies



Japanese Aralia (A. Sieboldi).

during summer when grown in pots. It is hardy in warm situations. Formosa and China.

A. SIEBOLDI (*Glossy-leaved A.*), (*A. JAPONICA*).—A noble decorative species, having a slender stem and a crown of glossy foliage on long stalks. It is one of the best for room and balcony culture.

A. SIEBOLDI VARIEGATA.—Similar to the last, but its glossy leaves are blotched with creamy white.

A. SIEBOLDI AUREA is stronger than the last, its

foliage being blotched and margined with golden-yellow instead of white. Japan.

A. TRIFOLIATA (*Three-pointed A.*)—An erect-growing species, with thick leathery three-lobed leaves of a dark-green colour above, lighter beneath. In a small state it is very useful for window-culture or for table-decoration. New Zealand.

ARDISIA CRENULATA (*Wavy-margined A.*)—A very beautiful little evergreen shrub, bearing a profuse quantity of bright scarlet berries, from which the plant is very easily propagated. The young plants should be potted into small pots and grown near the light, or they are apt to run up rather lanky, and lose their bottom leaves. Give them a dose of clear manure-water once a-week, and keep them clean. Even when not in fruit this is one of the most beautiful of glossy-leaved shrubs, its leaves being very elegantly waved or crenate along their margins. W. Indies.

ARISTOLOCHIA SIPHO (*Siphon A.*, or *Dutchman's Pipe*).—This is well adapted for planting in front of the house along with Ivy and Virginian Creeper, with both of which it contrasts well. Its leaves are large, 6 to 8 inches broad, heart-shaped, and of a bright green colour. Its flowers, which are borne from the old wood in the spring, are green streaked with brown, being bent like a siphon, hence the specific name. Planted as above recommended it is an effective object trained over the porch or balcony. Mulready thought this one of the noblest of hardy climbing plants, and a sketch of its picturesque foliage may be seen among his drawings in the South Kensington Museum, along with original designs for planting the grounds adjoining his residence with fine trees. Layers. N. America.

ARUNDO CONSPICUA (*Silvery-plumed A.*)—This is

rather a tall-growing but extremely elegant Reed, bearing silvery plumes on leafy stems 4 to 6 feet high. In pots it does admirably, forming a noble balcony ornament, and it is perfectly at home in the open border. Its spikes are produced in August. Division. Europe.

A. DONAX (*Erect A.*)—Another noble plant having elegant leafy stems 4 to 10 feet high. Like the last, it grows well treated as a pot-plant if supplied with abundance of water at the root. It is as graceful as a tropical Bamboo or Palm, and is very effective grouped on the lawn or in the shrubby borders. Division. Europe.

A. DONAX VERSICOLOR (*Variiegated A.*)—A beautiful dwarf-growing variety of the last, having its foliage streaked with creamy white. It seldom grows above 3 feet high, but is highly ornamental either in pots or borders. The two latter plants may be propagated to any extent by cutting fully-developed stems and throwing them into a tank of water exposed to the sun.

In a week or two they emit young plants from every joint. Europe.

ASCLEPIAS CURASSIVICA. — An old plant often met with in the cottage windows of some country districts. It is erect in habit,

having lance-shaped leaves and terminal clusters of bright orange-yellow flowers. Easily propagated by



Asclepias tuberosa.

seeds or cuttings, and flowers freely in sunny positions. *A. tuberosa* is a hardy species bearing masses of orange-coloured flowers in autumn. S. America.

ASPARAGUS DECUMBENS (*Creeping A.*)—This is one of the most elegant of all foliage-plants for cutting, and it grows well in a cool temperature, producing long sprays of fresh green feathery foliage, than which nothing is more useful for the margins of choice bouquets or wreaths. It does best in a moderately rich, sandy compost; it also likes partial shade, and a good supply of moisture at the root. There are several other scandent species from the Cape, as *A. scandens* and *A. consanguineus*, all being useful for their feathery spray. They can either be grown in pots or planted out in a Wardian case, where they grow remarkably well, and if they exceed their bounds they can be cut in freely with the knife. All the above are now grown by our decorative florists, who find them invaluable. The common esculent species of gardens (*A. officinalis*) produces erect stems clothed with elegant spray, and we have seen it forced in pots in a warm vinery in the winter, where it produced fresh growths quite equal to the species mentioned above, and these come in very handy for decorative purposes months before that in the open ground. All the species are readily propagated by division, and they should be grown wherever flowers and delicate foliage are required for cutting, especially where Ferns are scarce and consequently valuable.

ASPIDESTRA ELATIOR VARIEGATA (*Broad-leaved A.*)—A very effective plant, with leaves a foot or more long, of a deep green colour striped with creamy white. Makes a noble decorative plant for window or room culture. Division. Japan.

ASPLENIUM FLABELLIFORME (*Fan-leaved A.*)—

One of the most elegant of all Ferns for pot or case culture. Its gracefully drooping fronds are a foot long, bearing little plants at their apices. The divisions are cuneate or wedge-shaped, and of a bright green colour. It is one of the most useful Ferns we have for hanging-baskets, and deserves to be more generally cultivated. Many other species of *Asplenium* are excellently adapted for open window culture; *A. marinum*, *A. macrophyllum*, *A. laceratum*, *A. nidus-avis*, and *A. fontanum*, grow well either in the window or Wardian case (see List). Division or spores. New Holland.

ASTER (*Star-flowers*).—This is a large group of composite plants, partly annuals, as the common China Asters or “Oysters,” and partly perennials, the latter herbaceous section being represented by the “Michaelmas Daisies,” many of which are beautiful autumnal-flowering plants, blooming from September to November in the open borders or shrubbery margins. The annual or China Asters should be sown in pots in March, and in the open ground a little later. They make charming plants for pot-culture. Those brought to Covent Garden in such beautiful condition are grown in beds in the open air, and are taken up and potted for sale. It is a good plan to raise seedlings in boxes, and to prick them outside in May when they are two or three inches high. There are now many varieties and colours. The Dwarf Chrysanthemum Flowered, Peony Flowered, and Dwarf Pyramidal, are the best for pot-culture. These, associated as they often are in London balconies with the gracefully drooping spray of the Virginian Creeper, have a fine effect, and their beauty is by no means short-lived.

ASTILBE—see **HOTTEIA**.

ATHYRIUM FILIX-FÆMINA (*Lady-Fern*).—One of

the most delicately beautiful of all British Ferns, and quite hardy. It grows vigorously in pots if plunged in coal-ashes or tan (spent tanner's bark) in a shady position ; and forms a valuable ornament for the drawing-room, window, or balcony, being equal to any of the tropical kinds for delicate beauty. It should be syringed once or twice a-day when growing, all Ferns delighting in shade and moisture. Its fronds keep well when cut, and are lovely when dried for winter decoration. It is found in most English woods.

ATRIPLEX HORTENSIS RUBRA (*Red-leaved A.*)— This is a plant with leaves of a port-wine colour, and nearly naturalised in some gardens ; useful for balconies, but must be pinched occasionally to keep it in bounds. Seeds. Tartary.

AUCUBA JAPONICA (*Yellow-blotched A.*)— One of the best of all shrubs for town gardens, and it always looks fresh and healthy as a balcony-plant if watered freely, especially during hot weather, and syringed now and then to clear it of soot and dust. There are male and female plants, and if both are obtained and grown together, the female plant often bears bright scarlet berries among its golden-blotched foliage, and is then very ornamental. There are several species, natives of China, Japan, and Northern India. Cuttings, layers, or berries.

AURICULA—*see* *PRIMULA*.

AZALEA INDICA (*Indian A.*)— Of this beautiful winter and spring decorative plant we have an endless number of very showy varieties, and with careful management they may be successfully grown for window-decoration. After the plants have flowered, say about May, they should be cleaned and set out of doors, when all danger from severe frosts is past. Plunge the pots up to the rim in coal-ashes, in a sheltered but sunny position, where

their growth will become thoroughly ripened, or they will not bloom well the following spring. Never allow them to want for water, and syringe them morning and evening during hot, dry weather. Remove them into the house before the October frosts commence, and they will flower abundantly in the spring. Azalea flowers are very beautiful for cutting, and may be used either for bouquets or dinner-table decorations. Some of the semi-double varieties, as *A. Narcissiæ-flora*, and others, are very handy for button-hole flowers. Azalea flowers are rather fugitive, and will be found to keep best if arranged in damp sand or moss in flat glass vases or dishes. If used for bouquets, drop a little isinglass or gum down the centre of the flowers before they are used. India.

A. Sinensis bears its yellow flowers in the spring, and is quite hardy. China.

BABIANA—see CAPE BULBS.

BAMBUSA FORTUNI VARIEGATA (*Fortune's Striped Bamboo*).—This is one of the prettiest of the dwarf-growing Bamboos, and is sufficiently hardy for window-culture in pots, or for the flower-garden during the summer months. It is a foot high, with green leaves striped profusely with creamy white. Division. China.

B. METAKE (*Japanese B.*)—A perfectly hardy species, of a fresh and pleasing green colour, well adapted either for pots or the open border.

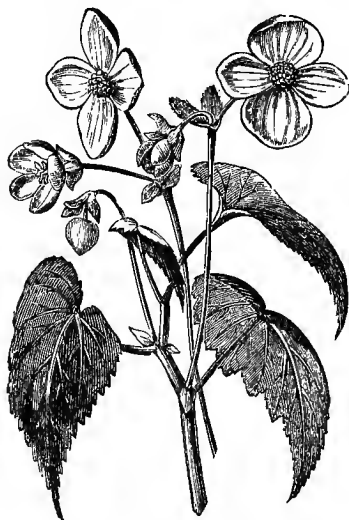
B. AUREA (*Yellow-stemmed B.*)—This is a graceful and perfectly hardy species from China, growing three to six feet high. It has yellow stems and green foliage, the latter differing from that of *B. virido glaucescens* in being less glaucous beneath.

B. FALCATA (*Sword-leaved B.*)—This is a large-growing plant, in warm sheltered positions on the lawn sometimes attaining twenty feet in height.

Grown in pots it can be kept within bounds, and is a useful and distinct plant for balcony gardens.

BEUCARNEA TUBERCULATA (*Swollen-stemmed B.*)—This plant, and one or two other species, are well adapted for room or table decoration when in a small state. They have erect stems, much swollen at the base, and elegantly recurved strap-shaped foliage. *B. longifolia*, *B. recurvata* (one of the best), and *B. gracilis*, may be obtained at the nurseries, and will succeed well in any moderately warm apartment from which frost is excluded during winter. Offsets. Mexico.

BEGONIA.—This large group of flowering and foliage plants now contains several species



Hybrid Begonia.

well adapted for window-culture, and some are specially valuable for supplying winter flowers (see Calendar for December). Some of the new garden hybrids of the *B. boliviensis* type are nearly hardy, and grow and flower well all the summer in the open border. It is for pot-culture, however, that they are of most service. *B. Weltoniensis*, *B. Saundersoni*, *B.*

Daviesii, and *B. insignis*, are the best of the pink flowering kinds. The new hybrids bear scarlet or vermilion-coloured flowers. *B. Dregei* is a dwarf and

compact plant, with fresh green foliage, and a profusion of snowy-white flowers. *B. manicata*, a large-leaved kind, bears a profusion of pale rosy flowers on tall branching spikes; and *B. lucida* has large rosy flowers, quite as beautiful as those of many Orchids, and they are borne on long stalks well adapted for vases and other decorations. Nearly all the Begonias are beautiful, and sparkle like hoarfrost when seen under artificial light.

They like a rich light compost of half fibrous loam and half leaf-mould, with a little sand and well-rotted manure added. Cuttings strike very freely, and the tuberous-rooted section are easily propagated by division before they make their growth. Begonias are easily recognised by their oblique, heart-shaped foliage. Some of the ornamental-leaved species, as *B. Rex*, *B. grandis*, *B. Pearcei*, *B. Imperialis*, and others, grow well in a Wardian case. They are nearly all S. American.

BEGONIA VEITCHII
(*Veitch's B.*)—This handsome Peruvian species is perfectly hardy, and may be grown in pots for window-decoration. Its vivid orange-scarlet or vermilion-coloured flowers are freely produced in the autumn. In habit the plant reminds



Begonia Veitchii.

one of *Saxifraga ciliata*, being of a fresh, glossy green. Numerous hybrids raised between this species

and *B. boliviensis*, are likely to become fashionable window-plants. Many of them flower profusely out of doors in an ordinary border during summer.

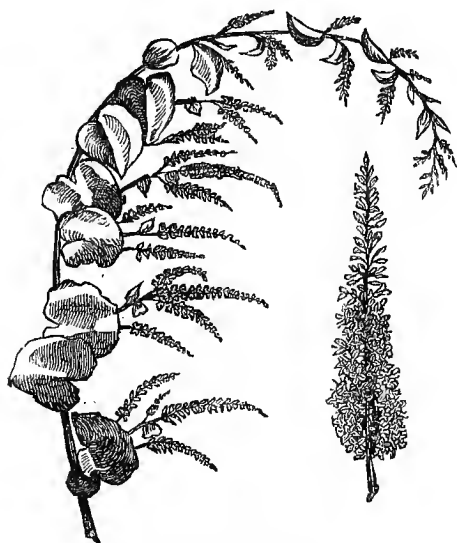
BELLIS PERENNIS (*Daisy*).—This is the botanical name of one of the commonest of all our native wild flowers. Some of its varieties have beautiful double white or crimson flowers, produced very abundantly in the spring. These are invaluable for window-boxes or borders, and grow as freely as weeds. One variety (*B. perennis aucubæfolia*), has its fresh green leaves most beautifully netted and marbled with gold. For spring gardening these plants are very useful along with *Arabis*, *Scillas*, *Hyacinths*, and other spring flowers (see *Anemone*). Daisies are easily propagated by division after flowering.

BERBERIS DARWINII (*Darwin's B.*)—One of the most effective of spring-flowering shrubs, having glossy foliage and bearing bright orange or yellow flowers. It makes a fine balcony-plant in the spring, along with *Azalea sinensis*, *Rhododendrons*, and *Aucubas*. It can be grown either as a tub or pot plant, and likes a warm moist soil. Chili. Several other species of *Berberis* may be grown. *Berberidopsis corallina* is a fine plant for a wall. *Berberis Bealii* is one of the most effective as a foliage-plant.

BLECHNUM (SPICANT) BOREALE (*Spiked B.*)—One of our commonest Ferns, and very useful for pot-culture, its fresh green fronds growing in a rosulate manner. It is a valuable plant for shady windows, keeping its fronds all the winter. There are several varieties, all well worth growing. It is very useful for cutting, and well-developed fronds last a long time in either sand or water. Britain.

BOUSSINGAULTIA BASELLOIDES (*Sweet-scented B.*)—This is an elegant, quick-growing climber, nearly

hardy in sheltered positions, and bearing spikes of greenish-white flowers, not conspicuous for beauty, although highly fragrant. It has large heart-shaped foliage, and does best in a rich, moist, sandy soil. It may be grown in a pot, or planted out in the window-



Boussingaultia baselloides.

boxes or on the balcony, where it forms an attractive climber, or may be grown as a trailing-plant for baskets. Propagated by division of its fleshy roots. Native of the Andes.

BOUARDIA JASMINIFLORA (*Fasmine-flowered B.*)
—All the Bouvardias are slender-growing shrubs, that may be grown outside in sheltered localities during the summer months. Cuttings strike freely in a close case in the spring, and should be potted in sandy earth (loam) and either leaf-mould or well-decomposed

manure. They should be placed on a shelf near the light until May, when they may be plunged out of doors along with *Salvia splendens*, *Solanum capsicastrum*, *S. pseudo capsicum*, *Chrysanthemums*, and other winter-flowering plants. Here they may remain all the summer, and they will flower freely during the winter. Select a sheltered place for them on a warm sunny border. Bouvardias are grown by the thousand for winter flowers, and are very useful for bouquets, button-holes, and vase-decoration. All S. American.

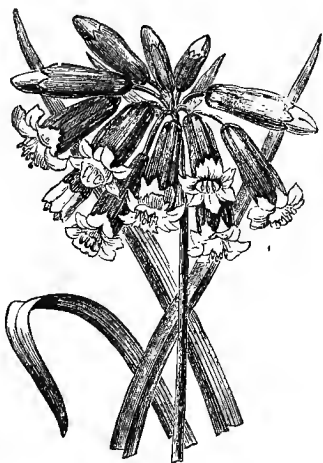
BRIZA MAXIMA (*Greater Quaking-grass*). — This is a large-growing species, allied to the common Quaking-grass of our meadows. It is very orna-



Briza maxima.

mental as a balcony-plant when growing, and the cut spikes are useful for grouping along with winter flowers. This and *B. media* are raised from seeds sown in the spring. All European.

BRODIAEA COCCINEA (*Fire-cracker*).—A hardy Californian species, bearing umbels of drooping, crimson, tubular flowers, tipped with green. This species, together with *B. congesta* and *B. grandiflora*, may be grown very successfully in pots for indoor decoration, if treated as previously recommended for *Amaryllis* and other hardy bulbs. Division.



Brodiaea coccinea.

BRYOPHYLLUM PROLIFERUM (*Proliferous B.*)—This and two other species are well worth growing as curiosities, since they will defy any attempt to kill them by neglectful treatment. Our present species is remarkable for its tenacity of life. If its fleshy leaves are plucked and laid on damp soil or sand, they emit young plants from the notches or serratures around their margins. They will grow freely in a window. Mauritius.

BUXUS SEMPERVIRENS (*Common Box*).—A well-known hardy evergreen shrub, very useful for window-boxes when in a small state. It is always fresh and green, and cut sprays come in useful for church-decorations. Britain.

CALCEOLARIA HYBRIDA (*Slipper-flowers*).—Calceolarias are useful window-plants, both the herbaceous and shrubby kinds being grown very successfully in cottage windows, where they flower freely during the summer months. The hybrid varieties are very large

and beautifully coloured. Calceolarias are propagated from either seed or cuttings, the latter being the preferable method for amateurs. The shrubby section are much used as yellow bedding-plants, and are useful for balcony-decoration during summer. The herbaceous hybrids grow best in the window or in a cool pit or frame outside. One or two species are hardy annuals. S. America.

CALYSTEZIA DAHURICA (*Dahurian C.*)—A very conspicuous and elegant twining plant, bearing rosy-purple flowers. It is valuable for training over balconies, window-trellises, rock-work, railings, porches, or anywhere where fresh foliage and flowers are required. Divisions of the root. Dahuria.

C. PUBESCENS fl. pl. (*Woolly-leaved C.*)—An elegant climbing variety, bearing numerous double flowers of a faint rosy-lilac colour. It may be used like the last, or trained up strings or wires anywhere on a screen. China and Japan.

C. SEPIUM.—This is the common species of the hedgerows, bearing large pure white flowers in tolerable abundance. It grows quickly, and is invaluable for trellis-work or for covering arbours and screens.

CAMPANULA PYRAMIDALIS (*Pyramidal Bell-flower*).—Many species of the lovely Bell-flowers are useful for pot-culture, some of the best—if we except our present species—being the white-flowered *C. Vidalii*, *C. fragilis*, *C. hederacea*, and one or two other kinds which do well in baskets, but the latter requires plenty of moisture around its roots. *C. pyramidalis* is often grown very successfully in cottage windows under the homely name of "Chimney Campanula." It probably derived this appellation from the old custom of growing it by the side of the fireplace during the summer months, a system still practised

by the Dutch, who have a great liking for this noble old plant. Like its allies it is easily raised by division or from seed. Grown in pots it forms a tall and graceful ornament, blooming for several weeks in succession. It requires a rich compost of leaf-mould or rotten manure and loam, and must have an abundant supply of water at the root. The flowers are an inch across, of a pale-blue colour, while one variety bears blossoms of snowy whiteness. Every window or balcony gardener should grow this plant. It is perfectly hardy in an ordinary border. Europe.

CANNA INDICA (*Indian Shot*).—This is a noble group of fine foliage-plants, containing many beautiful varieties which are useful for pot-culture indoors, or for foliage effects in the open air during the summer months. Outside their foliage dies off every autumn, and the roots will have to be taken up and stored in a cellar or shed, from which frost is excluded, just the same as Dahlias,



Canna Warszewiczii.

Dioscorea Batatas (Sweet Potato or Yam), and the finer Gladioli. They ought not to get dust-dry, and keep best in a cool moist cellar, where the temperature fluctuates but little. Packed in damp sand they keep fresh and plump, and start

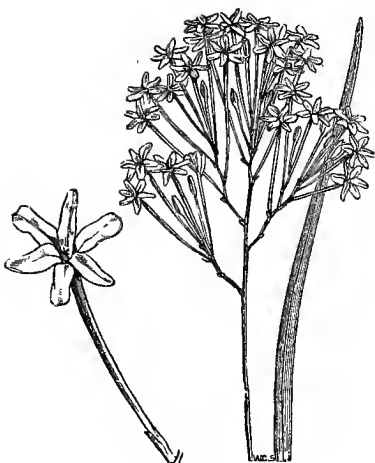
away better in the spring. They are propagated either by cutting the tubers into "sets," like Potatoes, or from seeds. These last are the size of peas, of a dark colour, and nearly as hard as bullets; hence the popular name given above. Before sowing, soak for an hour or two in water heated to 100° or 120°; this softens their coats, and causes them to germinate much quicker, just as the same treatment acts on imported seeds of Acacias. Most of the species are rapid growers in rich soil, and a dose or two of liquid manure improves them. For balconies during summer, or apartments during the winter, they are attractive; their fine *Musa* (*Plantain*) like foliage being distinct from most other decorative plants. If the roots are mulched heavily, they may be allowed to remain in the beds or borders through the winter. What the *Maranta* is in the stove, the *Canna* is in the flower-garden outside. India and S. America.

SELECT LIST OF CANNAS.

ANNEI, large glaucous foliage, free flower.	NIGRICANS, foliage large, of a deep brownish red.
—— BICOLOR, fine foliage, green and chocolate.	RUBRICAULIS, foliage green, with violet marbling.
—— DISCOLOR, stem purplish, orange flowers.	RUBRA NERVA, fine violet-ribbed foliage.
—— FULGIDA, foliage marked like a zebra.	—— PERFECTA, green and purple leaves.
—— MARGINATA, foliage brownish purple, with darker margin.	—— SUPERBISSIMA, purple leaves, orange-red flowers.
GLAUCA, light or glaucous silver foliage, scarlet and yellow flower.	VAN HOUTTEI, bright orange-red flowers.
METALLICA, magnificent foliage, of a deep reddish bronze.	VIOLACEA SUPERBA, foliage of a brownish violet.
	WARSZEWICZII, of dwarfish growth.

CAPE BULBS.—*Ixia*, *Sparaxis*, *Tritonia*, and *Babianas*, are not very generally cultivated in gardens as yet; but we hope to see them better appreciated when they are better known. A dry airy atmosphere is

CAPE BULBS.



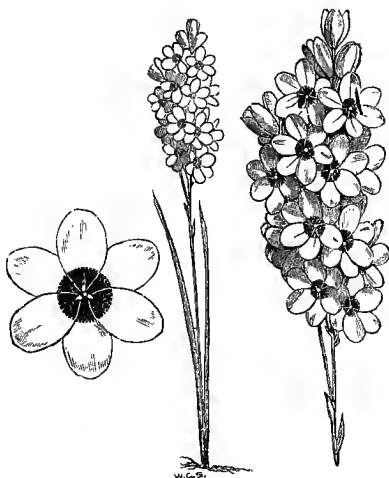
Ixia longiflora.



Babiana atrocyanea.



Tritonia crocata.



Ixia viridiflora.

natural to them ; hence they are well adapted for window-culture. I speak from experience in this matter, having grown them very successfully under ordinary window treatment. They should be potted in a compost of sandy loam and leaf-mould on a well-drained bottom ; for although they like a full supply of moisture at their roots when growing, a stagnant condition is fatal. They grow well in the open air on warm sandy soils and in sheltered localities. Some varieties are marvellous in the delicacy and peculiarity of their colouring, and a good collection of their flower-spikes will hold their own position as lovely flowers against all comers, Orchids not excepted. Most people fail to grow this class of bulbs chiefly from inattention to their simple requirements after flowering. As a rule they are ruthlessly pitched under the nearest stage directly their flowers are gone, and there they remain, often subjected to drip and other bad usage, under which conditions the foliage decays prematurely



Cockscomb.

instead of fulfilling its functions and stuffing the bulbs or tubers full of elaborated sap, from which the next year's flowers are formed. The flowering of most plants depends on their having been well treated the season previous, and this is specially true of Cape bulbs. (See fig.)

CELOSIA PYRAMIDALIS.

—Treated as tender annuals, and raised from seed in a close frame about March, these make fine bushy plants for autumn decoration. There are both crimson, rose, and silvery varieties. The COCKS-

COMB is a crested or monstrous form of *Celosia*, and is sometimes grown in windows. India.

CENTAUREA CYANUS (*Blue Corn-flower*).—The lovely blue flowers of this hardy border-plant are largely used for bouquets in Covent Garden. Raised from seed in March, and planted either in boxes or borders in May, it forms compact bushy plants, and flowers freely. Europe.

C. (RAGUSINA) CANDIDISSIMA.—This silvery-leaved plant and several other varieties are much used for bedding purposes in the London parks and private gardens. It is a striking pot-plant for grouping with *Coleus* or other dark-leaved plants during summer, or for a dry sunny window in winter. It is perfectly hardy, and may be propagated from seeds or autumn cuttings in the open border. Candia.

CEPHALOTUS FOLLICULARIS (*Australian Pitcher-plant*).—This is an interesting little plant, requiring very little heat; but to grow it well, it must be grown either under a bell-glass or in a Wardian case. It requires a fresh open compost of peat and fibrous loam mixed with sphagnum moss; and if the latter is fresh and green, just as gathered from the



Cephalotus follicularis.

bogs or marshes, so much the better. The plant is only an inch or two high, having pretty little green pitchers blotched with purple. It should be grown in a small pot and plunged in the soil of the case, where it will get plenty of moisture.

CERASTIUM BIEBERSTEINII (*Large-leaved C.*)—This differs from the well-known silvery-leaved *C. tomentosum* in having bolder leaves. Both are excellent edging plants for balconies or for window-boxes during the spring months. Division. Caucasus.

CEREUS FLAGELLIFORMIS (*Whipthong or Creeping C.*)—This makes a nice plant for suspending in a window fully exposed to the sun. Its slender stems are armed with fine spines at all points, and droop gracefully two or three feet below the pot or basket in which it is grown. When thoroughly established, it bears a profusion of delicate blossoms of a bright lilac-purple hue. It should be potted in sandy loam, and the pot must be well drained; water freely when growing, but keep it quite dry from November to the end of February. A fine plant may be seen in a cottage window at Turnham Green, which flowers regularly every spring, when it is well worth seeing. Cuttings of the stems five or six inches long strike root freely in sand. Peru. Several other species of *Cereus* grow well in windows.

CHAMÆDORA ELEGANS (*Elegant C.*)—A slender-growing Palm, with elegantly cut leaves, of a glossy green colour. The stems are marked with rings or joints like a ratan-cane. The fruiting branches of several *Chamædoras* are of a bright coral-red colour, and contrast very forcibly with the leaves. All the *Chamædoras* are neat in habit, and are largely used, especially in Northern Germany, for the decoration of apartments. Mexico.

C. ERNEST AUGUSTI (*Swallow-tailed C.*)—This is a robust species, with leaves cut like a swallow's tail, and elegantly plaited. Their foliage should be sponged every week, so as to keep them in a fresh and healthy state. S. America.

CHAMÆPUCE DICANTHA (*Herring-bone Thistle*).—This plant and its ally *C. cassabonæ* may often be seen in gardens, where they are valuable as edgings to flower-beds, or for grouping with succulents. The leaves are a foot long, and armed formidably with ivory-coloured spines. Both may be grown in pots for the balcony during summer. *C. cassabonæ* has rufous-coloured spines, and is rather smaller than its congener. Seed.

CHAMÆROPS HUMILIS (*Small Fan-palm*).—A very effective Fan-palm, well adapted, like the Agaves, for the winter decoration of apartments; and during the summer months they may be set out in the sun to recuperate their energies for the ensuing winter. A fine pair of this species have endured several severe winters in Messrs Backhouse and Sons' nurseries at York, and the only protection they receive is a mat



Chamærops humilis.

thrown over them when bright sunshine succeeds a sharp frost. Both this and *C. fortunei* (*C. sinensis*) grow well in little tubs or in large pots, and form striking ornaments during the winter. They should be firmly potted in a compost of loam and sand, with a little leaf-mould intermixed. They require copious supplies of moisture, more especially during summer. *C. humilis* is interesting as the only European Palm, it being naturalised in Spain and Italy.

CHEIRANTHUS CHEIRI (*Common Wallflower*).—

This is well known, and often found wild, or naturalised on old ruins. At Nottingham Castle the face of the red sandstone bluff is rendered quite gay during the early spring months by the bright yellow blossoms of this plant. There are many varieties both single and double flowered. The single ones come freely from seed, and the double ones are multiplied by cuttings. Seedlings raised this summer will flower either in pots or open borders the following spring. Southern Europe.

CHRYSANTHEMUM INDICUM (*Chinese Chrysanthemums*).—These may be struck from cuttings in the spring, and if potted and grown on outside during the summer, will make fine plants for autumn and winter flowering. They are perfectly hardy, and bloom well outside under a sunny wall. The small-flowered or Pompone section are suitable for flowering in the flower-beds during November, and for this purpose should be grown in small pots—say 32's—and plunged in the beds after the bedding-plants are removed. It is one of the most beautiful of all winter flowers, and may be grown amid the London dust and smoke. Chrysanthemums like a rich soil, being gross feeders; and to prevent their becoming “leggy,” or naked at the bottom, pinch them at least once, and do not let them get dry. After the flower-buds make their appearance, give them occasional doses of manure-water. To make the latter, take fresh cow-dung and pour water over it in an old tub, adding a few handfuls of Peruvian guano. This makes an excellent stimulant for all soft-wooded plants—as Fuchsias, Geraniums, Hyacinths, and Dracænas—under pot-culture. Much improvement has recently been made in the culture of this fine hardy autumn flower; and

the introduction of the long-petalled, weird-looking Japanese forms has added variety to the group. One or two of these should be grown. The following are all good and well-tried varieties; but there are at least 150 other showy kinds in cultivation.

Large-flowering Chrysanthemums.—Chevalier Domage, Golden Beverley, and Jardin des Plantes (yellow); Prince Albert, Progne, Julia Lagravere, Dr Sharp, Alma (crimson); Christine, Alfred Salter, Lord Derby, Golden Mrs Rundle, Eugenie, Hermine Delval (rose); Virgin Queen, Vesta, Defiance, Elaine, and Beverley (white); Pelagia, Etna (fiery red).

Incurved Chrysanthemums.—Aimée Feriere, Antonelli, Beverley, Duchess of Buckingham, White Globe, Golden Eagle, Hereward, John Salter, Lady Harding, Mrs Brunlees, Prince Alfred, Princess of Wales (Davis's), Sir Stafford Carey, Trilby, White Queen of England.

Japanese Varieties.—Aurantium, yellow; Comet, orange and chestnut; The Daimio, rosy lilac; Wizard, red maroon; Tarantula, yellow; The Tycoon, red and orange; Yellow Dragon; James Salter, rosy lilac.

Pompones.—Aigle d'Or, General Canrobert, Durnflet, Florence, Madame Eugenie Domage, Lizzie Holmes, Miss Talfourd, Miss Dix, Rose Trevenna, White Trevenna.

CINERARIA CRUENTA.—This is a well-known spring-flowering plant, bearing starlike white, blue, or purple flowers, and easily raised from seeds sown in March or April. Plants for indoor decoration can be grown in a cool frame outside during summer, and should be syringed once or twice daily to keep down thrip and green-fly. Pot the seedlings into a rich compost of turfy loam and leaf-mould in equal quantities, with the addi-

tion of a little peat and sand. Give plenty of water when growing, and a little liquid manure once a-week.



Cineraria hybrida.

As to treatment of seeds, see p. 86. All the numerous florists' varieties have been originated by crossing *C. malvæfolia*, *C. lanata*, and some other species. Messrs Wheeler have kindly lent us this figure.

CINERARIA MARITIMA (*Silvery-leaved C.*) — A hardy foliage-plant having silvery-lobed leaves. It is useful

in place of *Centaureas* on the balcony. Easily raised by seeds or cuttings, like the last-named plants. Southern Europe.

CISSUS ANTARCTICA (*Kangaroo Vine*). — This makes a fine plant for training along balconies or over window-trellises during the summer months, its foliage being of a pleasing fresh green colour, and the plant grows freely. It is multiplied either by cuttings or layers, and is one of the freshest and brightest of summer climbers, but requires protection from frost. Australia.

CLEMATIS. — The species and varieties of this genus of hardy plants may be classed amongst the best of the flowering-plants we have for covering porches, balconies, or verandahs, with fresh green foliage and delicately-tinted flowers during the sum-

mer months. The new hybrid varieties, such as *C. lanuginosa*, *C. Jackmannii*, *C. John Gould Veitch*, *C. Fortunei*, and others, are specially valuable for pot-culture, producing an abundant supply of flowers. They grow well in a moderately rich moist compost of fibrous loam, leaf-mould, or well-decayed manure, and sand; and a cool airy position during summer suits them best. The summer and autumn flowering varieties should be pruned back to four



Clematis Fortunei.

or five plump eyes during the early spring months, as they flower from the current season's growth. These beautiful plants have a great future before them, not only for pot-culture and conservatory decoration, but also for walls, beds, borders, rock-work, pillars, old ruins, and other suitable positions out of doors. Propagated by root-grafting. Europe; Japan.

CLIANTHUS DAMPIERI (*Dampier's Glory Pea*).—This silvery-leaved plant bears deep crimson blossoms, five or six together, on a short stalk. They are shaped like parrots' bills, and each has a prominent blackish-purple boss. The plant should be raised from seed in the spring (April), and planted in sand, brickdust, and a very little loam. Select a hot, dry, and sunny position under a south wall, and keep the plant as dry as possible. Australia.

COBÆA SCANDENS (*Trailing C.*)—This is one of the best of all climbers for window-culture. Planted in pots it can be trained up wires, and bears its great purple flowers freely throughout the summer. I have frequently seen it growing and blooming freely along balconies during the summer months. Cuttings or layers. Mexico.



Clianthus Dampieri.



Cobæa scandens.

COLCHICUMS (*Autumn Meadow-Saffron*).—These hardy bulbs are often erroneously called "Autumn Crocuses," but they are more properly named as above. The flowers are very freely produced during September and October, being of a delicate pink or rosy lilac colour, borne in clusters three to six inches

high. *C. autumnale*, *C. Byzantinum*, *C. variegatum* and their varieties, may be planted in small pots—say 48's—using a compost of sandy loam. After they are potted, plunge the pots in a moist border, and they will require no further attention until they bloom, when the pots can be lifted and washed before removal to the drawing-room for decorative purposes. They are propagated by dividing the bulbs, and from seed. Europe.

COLEUS VERSCHAFFELTII (*Verschaffelt's C.*)—This plant is well known, and has nettle-like leaves of a velvety crimson colour. It grows freely planted out in beds, or boxes during summer, and may be kept any height by pinching off the ends of the shoots. Cuttings root freely in sand at any time of the year, but best in spring and summer. E. Indies.

CONVALLARIA MAJALIS (*Lily of the Valley*).—This is a native plant, and extremely useful for pot-culture. It flowers freely in the open border, but the best clumps for early flowering are imported every autumn from Holland and Belgium. Its pearly white flowers are most deliciously perfumed, and it is one of the most lovely of all spring flowers, either for button-holes, bouquets, dinner-table decorations, ladies' hair, or for grouping in the drawing-room vase. Propagated by dividing the roots. Britain, in woods.

CONVOLVULUS MAJOR (*Morning Glory*).—A well-known annual climbing-plant, opening its lovely purple trumpet-shaped flowers with the first dawn, and closing as soon as the sun kisses the pearly dewdrops from their leaves. A few seeds sown in the window-box will furnish you with a graceful climber for training outside your window or over trellises and rock-work throughout the summer months. Grown side by side with the common "Canary Creeper" it is an effective

object, and their flowers contrast well. In addition to the old purple-flowered species there are crimson, white, blue, lilac, and striped varieties, all beautiful. It is also called *Ipomœa purpurea*. S. America.

C. MAURITANICUS (*Drooping C.*)—For hanging-baskets or brackets this is a useful and extremely graceful blue-flowered plant, and easily raised from cuttings or seed. It will also grow and flower freely in a warm sandy border, but is unrivalled for indoor, window, or balcony culture. Mauritius.

C. TRICOLOR (*Three-coloured C.*)—A dwarf spreading annual bearing lovely blue or bluish-purple flowers elegantly streaked with white. There are many varieties in every mixed packet of seeds, and for hanging-baskets, window-boxes, or borders they are remarkably effective. S. Europe.

In addition to the above, several *Ipomœas* are useful climbers, and may be treated as tender annuals. *I. coccinea*, *I. hederacea*, and *I. quamoclit* (*Cypress Vine*) are beautiful, and often grown as window ornaments in France and America. *I. bona-nox* is a pretty half-hardy plant, growing 7 or 8 feet high, and bearing large violet or white sweet-scented flowers. Our native species, *C. sepium*, bearing lovely large snowy white flowers, grows well scrambling up a fence; and



Ipomœa bona-nox.

C. arvensis (*Cornbine*) is a pretty little pink-blossomed plant well worth a place in the window-box outside.

CORCHORUS JAPONICUS (*Japanese C.* or *Kerria*).—This makes an effective wall-plant, and is often met with in old gardens. It bears golden-yellow rosette-like flowers. The old single variety is more beautiful than the double form. Suckers or layers. Japan.

CORONILLA GLAUCA (*Glaucous C.*) — This is an excellent winter and spring blooming plant, and grows well in any ordinary apartment. It bears a rich profusion of its golden-yellow flowers, and is compact and bushy in habit. After flowering, cut the plant in closely and place it in a sheltered position outside to make its summer growth, taking care to water and syringe it regularly as recommended for Azaleas. Cuttings strike during the spring in a close case. Europe.

CORYPHA AUSTRALIS (*Fan-Palm*).—One of the finest of all fan-leaved Palms for indoor decoration during the dull portion of the year. It grows freely in an ordinary apartment, or it can be set outside on the balcony during the summer months. Pot them in loam and sand, and give plenty of water during summer. N. Holland.



Corypha australis.

COTONEASTER MICROPHYLLA (*Small-leaved C.*)—This is a hardy climbing-plant, well adapted for training up bare walls or over trellises. It has small dark glossy leaves, and bears a profuse quantity of small white flowers in the spring, these being followed by

solitary scarlet berries, which render it very ornamental during autumn and winter. If required for the balcony it can be grown in a pot. Layers. N. India (Nepaul).

CRASSULA (KALOSANTHES) COCCINEA (*Scarlet C.*)—This is one of the finest of all plants for window or balcony culture during summer, and bears gorgeous masses of scarlet or bright rosy vermilion-coloured flowers, most deliciously scented. The plant grows freely plunged in a sunny border during the hot summer months, but should be removed inside when flowering and during the winter months. Its bright green leaves are scarcely an inch long, arranged in four rows up the erect stems. Cuttings strike freely in sand. Cape of Good Hope.

C. LACTEA (*Milk-flowered C.*)—This is a half-hardy succulent of rigid habit, having thick fleshy dotted leaves and fine branched spikes of milk-white flowers. The latter are produced during the autumn or winter months in abundance. It is easily multiplied by cuttings in pots of sand, and is valuable as one of the very best of all winter-flowering plants for windows and apartments. Cape of Good Hope.

CROCUS LUTEUS (*Common Yellow Crocus*).—This is well known, and flowers either in pots or borders early in the spring. Division of the bulbs. Turkey.

C. NUDIFLORUS.—One of the most beautiful autumn-flowering species, naturalised in the Nottingham meadows. Flowers of a bright purple, the tube 5 to 10 inches long. Grows freely by the margins of woodland walks or in ordinary borders. Division. Britain.

C. SPECIOSUS.—The largest and best of the autumn-flowering kinds, of a bluish-violet colour striped with purple inside. This and the common Saffron

Crocus (*C. sativus*), are very beautiful naturalised on such portions of the lawn or pleasure - grounds as are not mown. Division. Hungary.

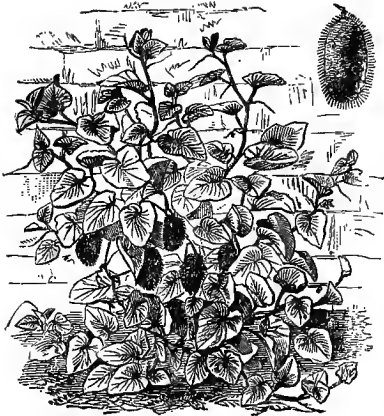
C. VERNUS (*Spring Crocus*).—One of the most beautiful of all our native bulbs. It may be seen by the acre in the Nottingham meadows early in the year ; indeed whole fields are suffused with the delicate bluish-lilac tint of the spring Crocus. Britain. We have a great variety of species in cultivation, and both the spring and autumnal kinds may be grown for room, window, or balcony decoration as previously recommended for Colchicums (see page 258).

CYPERUS ALTERNIFOLIUS (*Umbrella Sedge*).— A very graceful plant, growing freely either in a case or in the window if kept moist, and having slender grass-like leaves arranged like the ribs of an umbrella on stalks 12 to 30 inches or more in height. There is a variegated form of the same plant, and both are very useful for cutting and vase or table decorations. It is readily propagated by division. Madagascar.



Cyperus alternifolius.

CYTISUS RACEMOSUS (*Long-spiked C.*)— This plant grows well in a window treated like Coronilla, and bears its spikes of golden-yellow pea-shaped flowers very freely in the spring. It is nicely scented, and flowers profusely in a small state. Cuttings. Canaries.



Cucumis dipsaceus.



Lagenaria vulgaris.



Cucumis flexuosus.



Momordica balsamina.

CUCURBITA PEPO (*Gourds, Pumpkins, or Squashes*).—This and its varieties belong to the ornamental Gourds or Squashes, many of which are pleasing ornaments for either outdoor or balcony culture during summer. The plants are graceful in habit, and may either be trained up bare walls, over rock-work, rockeries, or on rustic trellises of all descriptions. Many species of Cucumis, Momordica, and Lagenaria (Bottle-Gourds), may readily be cultivated on warm soils in sheltered localities, and their quaintly-formed or brightly-painted fruits are very useful for winter decorations. They are gross feeders, and like a well-manured compost. The smaller-growing kinds may be cultivated in pots or boxes on the balcony, and allowed to droop down in front, where their fruits seldom fail to come to maturity, and attract a deal of attention. Seeds sown in pots in March make nice plants for placing outside in May. South America and the East. (See figs.)

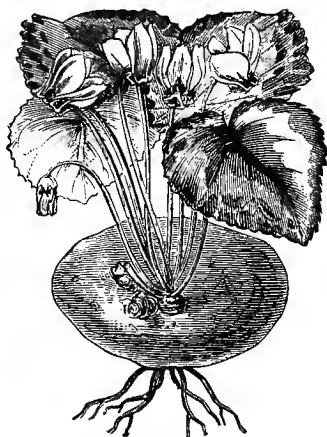
CUPHEA PLATYCENTRA (*Scarlet-flowered C.*)—This is a very old and pretty window-plant, with bright, ovate leaves, and orange-scarlet or vermilion-coloured and black flowers, tubular in shape, and $\frac{1}{2}$ to $\frac{3}{4}$ of an inch in length. Nicely grown plants flower very freely, and are very ornamental. Mexico. Other species, as *C. eminens*, *C. lanceolata*, and the yellow and red flowered *C. strigulosa*, are all dwarf free-flowering plants, useful for window or balcony gardening. Propagate in spring from cuttings.

CYCLAMEN PERSICUM (*Sowbread*).—One of the sweetest and prettiest of all window-flowers, and may be raised from seeds in the autumn. They require very careful management, however, and the amateur had better obtain flowering corms at once. They like a rich compost of turfy loam $\frac{1}{2}$, leaf-mould $\frac{1}{2}$,

with a sprinkling of coarse sand added. Do not cover the "crowns" or tops of the tubers, but leave them nearly level with the rim of the pot. They require plenty of water, and liquid manure twice a-week when flowering. Protect this species (of which there are many beautiful varieties) from frost during winter. For the accompanying figure of *C. Persicum*, I am indebted to Messrs Sutton and Sons, of Reading. *C. Europeum*, *C. hederæfolium*, and one or



Cyclamen Persicum.



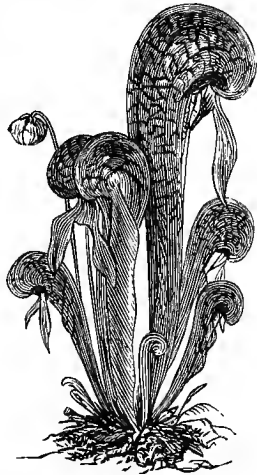
Cyclamen Atkinsi.

two others, are hardy, but do best in pots plunged in a bed of ashes or soil. The flowers of all are very lasting, and admirably adapted for bouquets; and when not in flower, the prettily-marked leaves are attractive. *C. Atkinsi*, a hardy variety, is dwarf and pretty.

DAPHNE INDICA (*Indian Spurge Laurel*).—This plant may be bought at the nurseries, and is generally grafted on the "Mezereum" or "Spurge Laurel"

stock. It is of rather a straggling habit, having light-green leathery leaves, and terminal clusters of pale rose or white flowers, most deliciously scented. China.

DARLINGTONIA CALIFORNICA (*Californian Pitcher-plant*).—The peculiar appearance of this plant renders it very interesting, and it can be grown successfully in a Wardian case, or even under a close shade. In its native country the plant is found growing from one to two feet high, among the fresh green moss and coarse herbage in bogs and swampy places. Like the *Sarracenia*s, its pitchers serve as fly-traps, their lower half being set with long hairs inclined downwards, which allow flies or other insects to descend, but effectually prevent their return. Some of the old pitchers are found half full of defunct insects, just as are



Darlingtonia Californica.

those of *Nepenthes* and the North American Pitcher-plants. It should be grown in a compost of peat, living sphagnum moss, and coarse well-washed grit or sand, and luxuriates best in a constantly humid atmosphere and a moderate temperature—conditions easily supplied in a close case. It occasionally produces nodding flowers of a pale-green colour striped with purple, but its delicately-netted pitchers always render it an attractive plant. It should be well drained, and must be liberally supplied with tepid water when growing, and must never be allowed to get thoroughly dry.

DIANTHUS BARBATUS (*Sweet-William*).—One of the most beautiful and best known of all hardy flowers. There are many varieties, and a beautiful selection may be obtained from a single packet of seed sown either in pots, boxes, or in the open border. Young plants raised from this year's seed bloom during the succeeding summer. They are well adapted for balcony-culture in pots. Europe.

DIELYTRA SPECTABILIS (*Beautiful D.*)—This is a hardy herbaceous plant, well adapted for pot-culture, forming nice little bushy plants, with its delicate pink heart-shaped flowers arranged along slender nodding spikes. It grows freely in an ordinary herbaceous border, flowering in May. It is largely imported in the autumn from Belgium, and that is the best time to obtain a few of its brown seakale-like rhizomes, which



Dielytra spectabilis.

should be potted at once in sandy loam and leaf-mould. After potting, plunge the pots as recommended for Hyacinths, and they can be removed indoors to flower in succession. It is a very beautiful plant, and requires plenty of water at the root. Division. China.

DIGITALIS PURPUREA (*Common Foxglove*).—There are now very many beautiful white and spotted varie-

ties of this native plant. When naturalised by the margins of woodland walks, or in moist shady portions of the garden, they are unrivalled for stately beauty. They are easily multiplied from seeds sown in the open ground, either in autumn or spring. Britain.

DIONÆA MUSCIPULA (*American Fly-trap*).—This N. American plant is one of the most interesting of

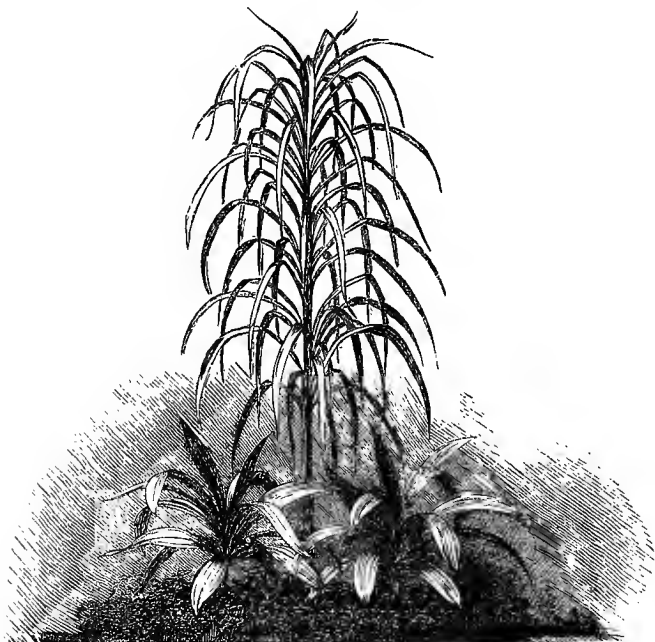
all vegetable curiosities, each edge of the leaf being furnished with slender comb-like teeth. The upper surface of the leaf is set with about six slender whitish hairs, which are extremely sensitive, the lateral lobes of the leaf closing together like a book on their being touched; and if a fly, ant, or other small insect is the offending party, it is



Dionæa muscipula.

generally entrapped and held firmly by the leaf and its marginal hairs, until the insect is motionless or dead. When all sensation is gone, or the little prisoner is dead, the leaf gradually unfolds, and spreads itself ready for other unwary victims. The plant likes a cool but very moist temperature, and should be grown in a close case or under a bell-glass, and the pot-top covered with living sphagnum moss.

DRACÆNA (*Dragon-trees*). — These plants are graceful in habit, and many of the species are much more hardy than is generally supposed. Nearly all will grow rapidly if planted in a sheltered position out of doors during the summer months. They are valuable for the decoration of apartments.



Window-Box furnished with Dracænas.

A correspondent of 'Hearth and Home' writes as follows of these plants as window-ornaments: "A few years ago Dracænas were only known in collections of choice greenhouse plants, and, like many other things, it was formerly supposed that they could only be grown by skilful gardeners. They have been

found to endure, however, and even flourish, under very ordinary treatment. The increased taste for, and general use of, hanging-baskets and window-boxes, have made plants formerly rare in such positions now quite common. *Dracænas*, as will be seen by our illustration, have a fine appearance in window-boxes, and they also look well in Wardian cases. *Dracænas*, as is doubtless well known, belong to the Lily family, but they do not have showy flowers, and are cultivated solely for their foliage. Many of them have red-coloured foliage, and others present different shades of green. There is considerable difference in the width and thickness of the leaves, and all have a pleasing tropical habit. They endure the dry air of our dwellings with impunity. The tall specimen in the centre of the box is *Dracæna indivisa*; the two smaller ones are, *D. terminalis*, with reddish foliage, and *D. australis*, with broad green leaves. Some *Tradescantia repens* is put in as a covering to the soil, so as to give the box a pleasing appearance."

D. (CORDYLINÆ) AUSTRALIS (Half-hardy Dragon-tree).—This is often treated as a tender stove-plant, but is quite hardy in Devon and Surrey. It has straight, slender, nerved foliage, and makes a nice pot-plant for the window when small. Cuttings of the stem strike freely in bottom-heat. New Zealand.

D. CANNÆFOLIA (Canna-leaved).—This strong-growing green-leaved species may be grown outside on the balcony during summer. Australia.

D. CONGESTA (Dense-growing D.)—This is a slender-growing and very graceful species, forming nice little decorative plants when a foot or eighteen inches high. It has recurved foliage of a green colour, and makes a nice addition to the window. Australia.

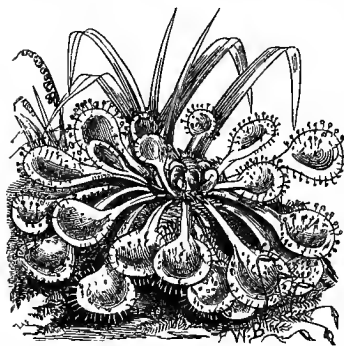
D. RUBRA (Red D.)—This is similar to the last in

habit ; but the leaves are more of a bronze colour, and not so robust. This and the last named are used by the thousand for the decoration of apartments and window-boxes by the London florists. Australia.

D. HELICONIFOLIA.—I find this fine species thrives well in my sitting-room, a plant having been growing in it for the past eighteen months. The leaves are fine in form, and of a pleasing green when kept free from dust by occasional sponging. Australia.

D. TERMINALIS (*Showy D.*)—This is commonly supposed to be a stove-plant, but succeeds well out of doors in warm sheltered situations during the summer months. In France, it is grown by the thousand, along with its more beautiful variety *D. terminalis stricta* ; and they are used for apartments and window-boxes just as freely as we use Geraniums and Fuchsias here at home. It is very showy, having bronzy foliage, streaked with rosy carmine. India.

DROSERA ROTUNDIFOLIA (*Round-leaved or common Sundew*).—This is one



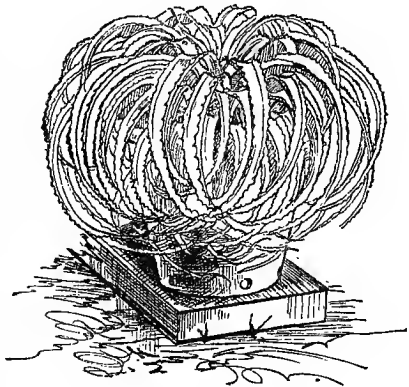
Drosera rotundifolia.

of the prettiest of all our native bog-plants, and is tolerably plentiful, especially in the north of England, and in Scotland. It is tolerably abundant on Hampstead Heath, and is generally found in spongy or marshy localities, growing amongst moss and herbage.

Its leaves, as shown in our engraving, are rounded at their apices, or spoon-shaped, being of a pleasing light-green tint, set with glistening crimson

glandular hairs. The latter appendages are covered with a viscid secretion, which enables them to act as miniature fly-traps, in common with *Dionæa*, *Sarracenia*, *Darlingtonia*, and *Nepenthes*, although to what useful purpose in the economy of the plant this peculiarity contributes remains yet to be discovered. This little curiosity, and its ally *D. longifolia* (Long-leaved Sundew), grow freely in a Wardian case, or under a glass shade, planted in a compost of fibrous peat and living sphagnum moss. They must be kept moist at the root, and the humidity of the atmosphere must also be tolerably regular, or the plants will suffer. When carefully grown, few plants are more interesting than the British Sundews. I obtain my specimens from Hampstead, and find it best to remove them with a good-sized ball of turf and moss, so that their vigour does not suffer a check in removal.

DYCKIA RARIFLORA (*Orange-flowered D.*)—This is not an uncommon succulent or Bromeliaceous plant, and grows freely in a sunny window. Its flowers are of a bright orange colour, on erect spikes two feet high. The foliage is slender, of a deep bluish-green colour, and elegantly recurved over the pot-sides.



Dyckia (Hechtia) argentea.

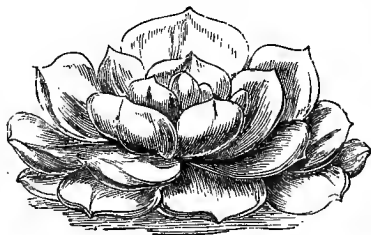
Division. *D. argentea* has silvery foliage, but is very rare. South America.

ECCREMOCARPUS SCABER (*Orange-scarlet E.*)—This is a fine, though uncommon, hardy climber, well suited for pot-culture on balconies, where it can be trained up wire-trellises, or for covering old blank walls. It has dark-green glossy foliage, and terminal clusters of orange-coloured tubular flowers. It may be raised from layers, or from seed, the latter being freely produced on old-established plants. It is an excellent plant for rockeries or old ruins, flowering freely during the summer. Chili.

ECHEVERIA AGAVOIDES (*Agave-like E.*)—This is a robust species, rather rare, but well suited for a sunny window. Its fleshy foliage is of a translucent or crystalline green colour, very pale; and the habit resembles that of a small Agave. Mexico.

E. FULGENS (*Brilliant-flowered E.*)—A common plant, with rosolate glaucous leaves on stems an inch or two high. It flowers freely, and lasts a long time in beauty. Excellent for window-culture. S. America.

E. SECUNDA (*Glaucous-leaved E.*)—This plant and its numerous varieties are valuable for either window or balcony culture. It is largely used in the London parks for edging the flower-beds during summer. The plants are shaped like a rosette, the leaves being of a silvery or glaucous tint. Offsets. Mexico. Other species, as *E. pulverulenta*, *E. argentea*,



Echeveria metallica glauca.

and *E. metallica*, are well worth growing in a warm, dry, sunny window, and will give the cultivator

but little trouble. Keep them quite dry from November to March. Mexico.

EPIMEDIUM MACRANTHUM (*Large-flowered E.*)—This is a handsome and very showy species, bearing large, white, drooping flowers, on slightly drooping panicles. It grows well in moist borders of sandy peat earth, partially shaded; or it can be grown in a pot plunged in the border, as recommended for Scillas and other hardy herbaceous plants. A variety of this, *E. niveum*, differs in its having smaller leaves and flowers. Propagated by division. A native of Japan.

EPIPHYLLUM TRUNCATUM (*Truncate E.*)—This beautiful succulent plant sports into at least a dozen slightly different varieties, all worth growing, and very useful as winter-flowering window-plants. They are nearly related to Cactus (*Phyllacactus*), and grow well on their own roots, but still better when grafted on *Cereus speciosissimus*, a strong-growing species, two to three feet high. They are grafted by nurserymen on young plants of *Pereskia aculeata* or *P. grandiflora*; and they are sometimes grafted on the Indian Figs (*Opuntia*) as curiosities. The process of grafting is very simple. Take a piece of *Epiphyllum* in the spring, say one last year's leaf, and the two young ones now starting from its apex. Cut a slit in the top of your *Cereus* or *Opuntia* sufficiently wide and deep to receive the base of the leaf. Prepare the base of your leaf by carefully paring off the skin with a keen knife. Now push your leaf-graft gently down the slit in the stock, and fasten it in its place by running one or two of the long *Cereus* spines right through both stock and graft. If the *Cereus* is too tall, head it down to a foot in height before grafting. After the operation is finished, place your plant in a close Ward-

ian case, and keep the atmosphere moist until a junction is effected. Some wrap cotton wool round the graft, and tie it tightly, but there is no need for this. Cuttings of two or three leaves each strike very freely in sand. These plants do best in a sunny window facing the south, and produce their purple, lilac, or orange-scarlet crystalline flowers in tolerable abundance about Christmas. Brazil.

EQUISETUM SYLVESTRIS (*Horse-tail*).—Our engraving gives an excellent idea of the light and graceful appearance presented by these common



Specimen of Equisetum in a Pot.

plants when well grown. The conditions necessary to their successful treatment are a good loamy soil, well drained, a moist shady situation, and a good supply of water at the root when growing. These plants are found in nearly every ditch, and should be dug up during spring, several species commonly met with being well worth culture. Europe.

ERANTHIS HYEMALIS (*Common Winter Aconite*).—This is an early spring-flowering plant, quite hardy, and often met with naturalised in old gardens and

shrubberies. It grows freely beneath the shade of trees, and its bright yellow flowers, being abundantly produced, have a very cheerful appearance. It is admirably adapted for edging window-boxes containing hardy shrubs and spring flowers. Division of old clumps. Europe.

ERYTHRONIUM DENS-CANIS (*Dog's-tooth Violet*).
—This is another lovely old border-flower, commonly known under the above name, from the close resem-



Eranthis hyemalis.



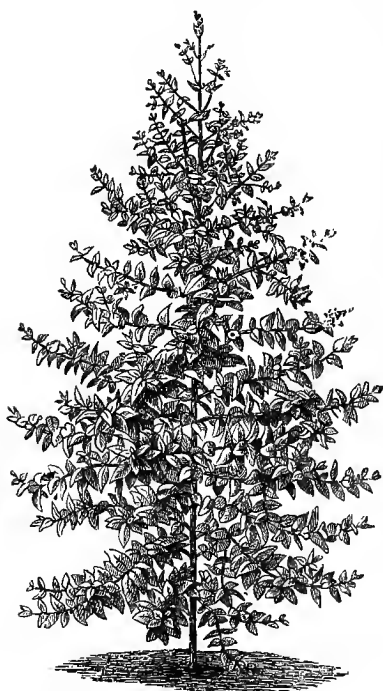
Erythronium dens-canis.

blance its tubers bear to the incisor teeth of that ubiquitous animal. Its foliage alone is ornamental, being of a delicate green colour, blotched with brown. Its nodding or drooping flowers are of a soft rose colour, or white, and very beautiful. Roots planted in window-boxes in the autumn flower the following spring. Europe.

ESCHSCHOLTZIA CALIFORNICA (*Orange-flowered E*).
—A Californian annual, with glaucous, finely-divided

foliage, and bright yellow flowers, deep orange in the centre. It comes freely from either autumn or spring sown seed, and soon naturalises itself in gardens, if undisturbed. It is interesting on account of the extinguisher-shaped covering of the petals, which detaches itself at the base, and is thrown off before the flowers expand.

EUCALYPTUS GLOBULUS (*Blue Gum-tree*).—This is



Eucalyptus globulus.

a distinct and noble plant for the summer decoration of balconies. Its foliage is of a glaucous or pale-blue tint, and contrasts very effectively with darker vegetation. It is a fine plant for sub-tropical gardening during summer, and may be seen in most of the London parks. It is also largely grown for conservatory decoration. Australia.

EUCOMIS PUNCTATA (*Spotted-stemmed E.*)—A summer-flowering half-hardy bulb,

well adapted for window or balcony culture. Its leaves are bright green, many-spotted below and at the base. Flower-spike also spotted, closely set with

pale-green flowers with a black spot in the centre. At the summit of the spike is a dense crown of green leaves. Division. Cape of Good Hope.

EUGENIA UGNI (*Purple-fruited Myrtle*).—This evergreen plant closely resembles the common Myrtle in general habit. It is bushy and bears a profusion of white blossoms in the spring, and these are followed by a crop of bluish-purple berries the size of large Peas. These berries are edible, and are much relished by some, having a peculiarly rich musky flavour. It grows as freely as a Myrtle in the window, and is well worth growing. Strike cuttings in sand during the spring or after flowering. S. America (Chili).

FABIANA IMBRICATA (*Erica-like F.*)—This is an excellent window-plant, closely resembling an Erica (Heath) both in habit and bloom. The plant is about 1 foot high, dwarf and bushy, with minute light-green scale-like leaves, closely imbricated along the slender branches. Flowers tubular, wax-like, $\frac{3}{4}$ of an inch long, tapering to the base or funnel-shaped, and of snowy whiteness. Cuttings .1 inch long, inserted in pure white sand. Chili.

FARFUGIUM GRANDE (*Yellow-blotched F.*)—This plant has heart-shaped leaves, reminding one of the common British Coltsfoot, of a deep green colour, irregularly marked with circular pale-yellow blotches. Pot it in very sandy soil, and it makes an effective window or balcony plant. Division. China.

FERNS.—Nearly all Ferns may be grown in Wardian cases in the sitting-room, and some will do very well in the open window. They are among the most elegantly beautiful of all plants. (See List.)

FESTUCA GLAUCA (*Blue-leaved F.*)—A tufted grass of a soft blue or pale-lavender tint, very useful for pot-culture, though perfectly hardy. It grows well

in sandy loam either in the window or case. It is a nice companion-plant to *Isolepis gracilis*. Division. South of Europe.

FICUS ELASTICA (*India-rubber*).—One of the most distinct and effective of all indoor window-plants. It



Ficus elastica.

has great leathery leaves of a glossy green colour, and the young foliage is enveloped in reddish-crimson sheaths. The latter appendages are interesting from a botanical point of view, as they show the circulation of the sap under a microscope. The plant grows freely out of doors during the summer months. Cuttings struck in the spring in a close humid case make nice little plants

or window decoration the following winter. S. America.

FIORNIA PULCHELLA (*Beautiful Bent-grass*).—One of the prettiest of new ornamental Grasses, easily raised from seed, and it grows well either in pots or boxes. The habit is well shown in the accompanying engraving; and it deserves culture, its spray-like inflorescence being well adapted for cutting. South of Europe.

FRAGARIA INDICA (*Indian Strawberry*).—An elegant trailing-plant, admirably adapted for baskets in the window, or as a bracket-plant in a pot. Its runners droop 2 or 3 feet below the basket, and are prettily ornamented with greenish - white flowers and its scarlet or crimson fruit. N. India.



Fiornia pulchella.

The British wood Strawberry (*F. vesca*) is a more common and equally graceful species, although it does not last so long in bearing. Alpine or perpetual-fruiting Strawberries are also adapted for basket-culture, and fruit very freely. They are all easily propagated by taking off the young plants after they have been layered in small pots. To do this, take a pot of light sandy soil, and placing the little unrooted plant on the surface, secure it in its position either with a hair-pin, wooden peg, or a small stone. They root well in a fortnight if kept moist.

FRANCOA RAMOSA (*Hairy-leaved F.*)—An old plant, with irregularly-lobed hairy leaves, and tall spikes or panicles of white or white and pink tinted blossoms. There are one or two other species—this and *F. appendiculata* forming charming late autumn or winter flowering plants. They may be struck from cuttings in the spring, or raised from seeds, and will grow plunged outside in a sheltered position during the summer months. Remove them inside

to flower, and they last a long time in beauty. Chili.

FUCHSIA.—This is a very beautiful genus from Mexico, Chili, and Peru. The hybrid varieties are well known in gardens as very graceful, free-growing, decorative plants; and some of the species are hardy in warm sheltered positions along such portions of our coast as feel the effects of the warm Gulf Stream. Grown in pots, Fuchsias flower throughout the spring, summer, and autumn; and they bloom profusely when planted outside, until cut off by the frosts. The more hardy species, are *F. coccinea*, *F. conica*, *F. corymbiflora*, *F. fulgens*,—a well-known old species, with large purple-tinted foliage and orange-scarlet or vermilion-coloured flowers, 3 inches in length. It is quite hardy in the south of England, but is more often met with in cottage-windows, cultivated as a pot-plant. *F. globosa*, *F. gracilis*, *F. microphylla*, and others, are hardy in Devon, Cornwall, Isle of Man, and along some parts of the Irish coast. *F. Riccartoni* has attained a diameter of 50 or 60 feet in warm sheltered positions near the sea, forming a truly noble object worth going miles to see. *F. Dominiana*, *F. Magellanica*, and many other plants considered tender, succeed well planted out along warm sheltered borders in Cornwall and Devon. During severe winters these plants are often killed to the ground, but if protected with a mulching of rotten leaves or dung they shoot out fresh and vigorous in the spring. Fuchsias are nearly all beautiful, and among the most easily cultivated of all pot-plants. They strike freely from cuttings of the young wood in spring, and if struck early (March), will bloom in small pots the following autumn. Some of the variegated varieties, as “Golden Fleece” and “Sunray,” are very pretty

for edgings. All Fuchsias grow best outside during the summer months, and flower profusely.

FUNKIA JAPONICA (*Japanese F.*)—A tufted tuberous-rooted plant, having bright green heart-shaped foliage on fleshy stalks. The leaves are marked with longitudinal nerves or veins. Flowers curved, milk-white, on nodding spikes, and having the perfume of orange-blossoms. Japan.

F. SIEBOLDI (*Siebold's F.*)—A glaucous-leaved species, with spikes of pale-lilac flowers, very freely produced during the summer and autumn. Both species make effective pot-plants for balcony decoration when grown in rich loam and leaf-mould, or well-rotted manure. Division. Japan.

GALANTHUS NIVALIS (*Common Snowdrop*).—A well-known early spring-flowering bulb, common in old country gardens, either as edgings or naturalised in neglected portions of the grounds. Flowers of snowy whiteness, the inner segments (petals) most delicately streaked and margined with bright green. There is a double variety. Britain.

G. IMPERATI closely resembles this species, but is at least twice the size in all its parts.

G. PLICATUS (*Crimea Snowdrop*).—A large-growing species. The strap-shaped leaves are folded on both sides near the margin, whence the specific name. Flowers on long scapes, smaller and greener than those of *G. nivalis*. Propagated by division, and may be grown for window or balcony as recommended for *Colchicum*. Crimea.

GENISTA—see CYTISUS.

GERANIUM (*Cranes-bill*).—Under this name most window-gardeners will recognise either zonal or fancy Pelargoniums, so perhaps we had better retain it here. It is as well to know, however, that Geraniums are

properly herbaceous plants (*i. e.*, they generally die down throughout the winter) with regular flowers. Pelargoniums, on the other hand, are perennial shrubs with irregular flowers (top petals largest), and generally a less number of stamens. We have several British species of Geranium commonly met with in hedges and on dry banks.

To resume our subject, Geraniums (Pelargoniums) are among the most useful of all plants for the balcony or window garden. They are divided by florists into several different classes, among which the fancy or French show kinds, gold and bronze Zonals, or horse-shoe-leaved, gold and silver Tricolors, and the green or variegated Ivy-leaved varieties, are the most prominent. All these may be grown outside during the warmer portion of the year, and are very effective for indoor decoration. The gold and silver, or bronze Zonals are very effective as foliage-plants alone. The Ivy-leaved section are really graceful as window-plants; and some of the prettiest specimens of these we have seen for the past two or three years have been cultivated by the soldiers stationed at Knightsbridge Barracks. For either balcony or window boxes they are unrivalled, and should always be grown. All the kinds are easily propagated by inserting cuttings in a balcony or window box during the summer months. In the spring they may be struck easily in one of Barr's propagating cases; and cuttings taken off so late as August may be well rooted in the open border before the frosts commence, and make pretty little plants for the next year's decorations. Most of the best sorts for outdoor decoration may be seen in the London parks during the summer months. The decorative kinds are hybrids, but some of the Cape species are well worth cultivation.

GNAPHALIUM LANATUM (*Woolly-leaved G.*)—A beautiful trailing-plant for hanging-baskets or for planting in balcony or window boxes, where it can fall over the sides and droop in a natural manner. Grown in a basket along with fresh green Ivy, *Saxifraga sarmantosa*, or *S. Fortunei*, *Tradescantia viridis*, *Linaria cymbalaria*, *Fragaria Indica*, and *F. semperflorens*, it forms a distinct and striking object. It has slender stems, and small oblong woolly leaves of a bright silvery colour. Cuttings strike freely in the spring if kept dry and exposed to the sun. It can be kept dwarf and compact as an edging-plant by pinching. Cape of Good Hope.

GOMPHRENA GLOBOSA (*Globe Amaranth*).—This is one of the prettiest of all half-hardy annuals, bearing purple, rose, orange, or white everlasting flowers (see fig.) Seedlings raised in the spring may either be planted outside or grown in pots. They generally bloom in July or August, and last a long time in beauty. The flowers are useful for cutting, either as *Immortelles* or for ordinary decorative uses. Seed. India.



Gomphrena globosa.

**GONIOPHLEBIUM AP-
PENDICULATUM**.—This attractive species has elegantly cut foliage, delicately pencilled with deep purple, and is thus alluded to by H. K. in the ‘Gardeners’ Chronicle’: “It is well known that many Fern-leaves, even when they are matured, will

not stand long in water after being cut—one or two days at the most will suffice to finish their beauty. Even the Maidenhair, though quite matured, will not stand more than three days. I may mention one kind which is a very beautiful Fern in any way we choose to look at it, whether in pot, basket, or Fern-case—*Goniophlebium appendiculatum*, fronds of which will stand three weeks in water. I look on this Fern as a most valuable one, especially during the dull season of the year. It is a warm greenhouse kind, and, like most of the valuable winter decorative Ferns, is most impatient of heat. It should never be allowed to get dry, and a saucer of water at the roots in summer will assist it very much to mature its numerous fronds for the winter months, when they are found really valuable.” S. America.

GRASSES.—In addition to the common Grasses of our lanes and meadows, many of which are very light and graceful, we have a choice selection of exotic species well worth cultivation in pots for general decorative purposes (see List). They are readily propagated from seeds sown in the spring, after which they succeed perfectly under the treatment generally adopted for hardy and half-hardy annuals. Sow the seeds in March in pots of light, rich, sandy earth, and thin out the young plants if they come up too thickly. Pots of *Briza maxima*, *Bryopyrum siculum*, or *Agrostis pulchella*, are very striking; and at least one enterprising grower of pot-plants for the London markets gave these pretty species a trial during the last season. A few pots of ornamental Grasses furnish nice feathery plumes or sprays for cutting. They require a liberal allowance of water at the root.

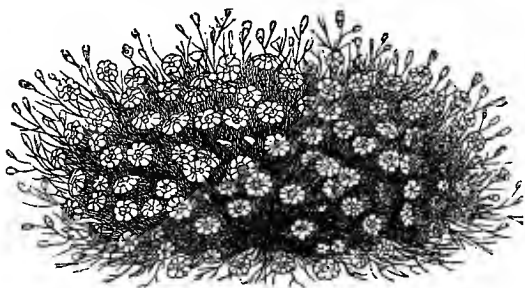
GREVILLEA ROBUSTA (*Robust G.*)—This is a plant

with elegantly cut foliage of a bright green colour, and is often used as a sub-tropical plant out of doors during the summer months. Grown in a pot it makes a pretty little table-plant, when in a young state. The foliage comes in handy for cutting. N. Holland.

GRISELINIA MACROPHYLLA (*Large-leaved G.*)—This is an evergreen shrub nearly allied to Aucuba, of only moderate growth, and one which has thick, bright green, succulent-like leaves, wherein consists its chief beauty. It is partial to a good loamy soil and some decayed manure, but almost any good soil will suit it, and it has no objection to peat or leaf soil. It requires no special care, nor more warmth than that afforded by a dwelling-house window, and if hardily nursed, will bear a slight frost with impunity. It is one of the best window-plants that can be grown. In a cottage near Glasgow, I saw two plants of it in a 6-in. pot; the owner had obtained them three years ago, and, since he first possessed them, he has not repotted or top-dressed them, but has kept them within a window in a room where gas is nightly burned. During the summer time he occasionally places them out of doors to get the rain, or a "wash," as he terms it, and sometimes he lays them on their sides and pours water over them through a watering-pot rose, an operation which answers as well as syringing. He waters them when they are dry, giving more in a late spring and summer than he does in winter. They are not very subject to the attacks of insects, damp, or any diseases, and dust can easily be sponged off their leaves. These plants, although well attended to, have been grown under circumstances by no means favourable for the past three years, yet they retain their leaves and colour well, and are bright and cheerful in

appearance. It is propagated from cuttings or layers. South America.

GYPHOPHILA ELEGANS (*Elegant G.*)—This and several other varieties are often grown in the open border, but they form nice little tufted plants in balcony or window boxes, and furnish elegant cut

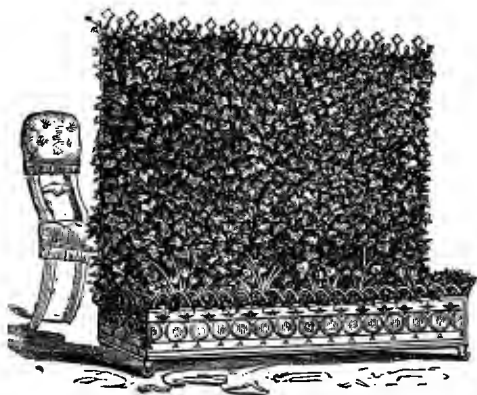


Gypsophila saxifraga.

spray for bouquets or dinner-table decorations. They are readily propagated from seeds sown in a gentle heat during the spring months. *G. saxifraga* is dwarf and very beautiful (see fig.) Germany.

HEDERA HELIX (*Common English Ivy*).—This, together with *H. Hibernica* (*Irish Ivy*), *H. Canariensis*, and the numerous sports and varieties of each, are valuable for either room or balcony culture. The Ivy is peculiarly a household plant, and being quite hardy, is easily grown in any position indoors. Even in gloomy rooms it is quite at home, and throws out its shoots and fresh green leathery foliage in all directions. We have already alluded to this plant, but, even at the risk of repetition, we must again direct attention to its adaptability. In Paris, America, Northern Germany, and Russia, it is much more popular than with us, and is trained over portable screens, and even couches or sofas are overshadowed

by a fresh green bower of its bright glossy leaves (see fig. p. 168). It is not particular as to compost—indeed any garden-soil will grow Ivy; but it requires an abundant supply of water at the root. Young shoots root



Ivy Screen for the Drawing-room, with Flowers at its base.

and grow freely in wet sand or sphagnum moss; and wherever green freshness and beauty are required, in place of bare walls, either indoors or outside, the Ivy will luxuriate with but little trouble. (See List.)

HELIOTROPIUM PERUVIANUM (*Heliotrope*).—This is a deliciously perfumed plant, often called “Cherry Pie” in country districts, where it occasionally finds a place as a window-plant. The plant is a perpetual bloomer, bearing terminal trusses of pale-lilac or bluish-purple flowers. It strikes readily from cuttings in the spring, and grows freely as a bedding-plant during the summer, planted out in the borders. It should always find a place in the window-garden, no collection of sweet-scented flowers being complete without it. Peru.

HELLEBORUS NIGER (*Christmas Rose*).—A useful

hardy plant, having leaves lobed like one's hand, and of leathery substance. The flowers are white, or white tinged with soft rose, fragrant, and very useful, being produced during the depth of winter. Grown in pots, the flowers are of wax-like purity. If cultivated outside, cover the crowns with a bell-glass or hand-light, to prevent the blossoms becoming splashed by heavy rains. There are several varieties. Division. Austria.

HEPATICAS—*see* ANEMONE.

HIPPEASTRUM—*see* AMARYLLIS.

HOTTEIA (SPIRÆA) JAPONICA (*Japanese Meadow-sweet*).—It is generally best to buy imported roots in the autumn, as they flower much better than home-grown plants. Pot them in sandy loam, and cover



Hoteia (Spiræa) japonica.

the pots with cinder-ashes, as recommended for Hyacinths and other bulbs. Its foliage is of the brightest green colour, and the whole plant is dwarf and bushy in habit, bearing numerous spikes of white flowers,

well adapted for cutting. It is also known as *Astilbe japonica*, and is quite hardy, growing and flowering in an open sandy border (see fig.) Division. Japan.

HUMEA ELEGANS (*Strong-smelling H.*)—This makes an elegant balcony-plant, from seeds sown the preceding year, having fresh green leaves and great panicles of brownish flowers. The branchlets of the latter droop as elegantly as a fairy fountain. It grows freely outside during summer, but requires plenty of water. The whole plant is strongly scented. N. S. Wales.



Humea elegans.

HUMULUS LUPULUS (*Hop-plant*).—One of the very best of all hardy climbers for covering walls, pillars, balconies, trellis-work, or verandahs. In growth, it somewhat resembles the Grape Vine, but grows quicker, and is even more graceful in habit. Its foliage is of a deep green colour, and where a climber is wanted to drape blank walls quickly, few can equal this. Division. Britain.

HYACINTHUS ORIENTALIS (*Common Hyacinth*).—This is well known as an excellent window-plant, grown in either pots or water-glasses. There are numerous varieties, mostly raised on the Dutch bulb farms, from whence they are imported to this country in the autumn. After flowering, plant your bulbs in the open border, where they will bloom the following spring. It is always best to employ new bulbs for forcing every autumn, as they are sure to flower well.

Levant. Roman Hyacinths bear slender spikes of white and blue flowers very early in the season, and are very useful for cutting, as they bloom before the ordinary kinds. Bulbs in autumn. For details of culture in glasses or windows, see p. 68. Italy.

HYDRANGEA HORTENSIS (*Common Hydrangea*).—This is a noble plant, being quite hardy in sheltered borders in the south of England. It bears its great trusses of rosy flowers all through the summer, lasting several months in beauty. It is largely grown in pots for Covent Garden in the spring or early summer, and makes a very showy plant for the balcony or window. If watered with alum-water, or if a handful of iron filings are mixed with the soil in which your plant is potted, it will bear blue flowers; but the natural delicate rosy hue is preferable, and we do not recommend trickery in window-gardening. Cuttings of the young wood strike freely in the spring, and may be grown in small pots out of doors during summer. After they have rooted and grown a joint or two, pinch out the centres, which causes them to make bushy little plants, and they will make nice little flowering specimens the following summer. China.

HYDROCLEIS (LIMNOCHARIS) HUMBOLDTII (*Humboldt's H.*)—A fine free-flowering aquatic, often cultivated in the stove, but it will grow quite freely in the window in a large inverted bell-glass or small aquarium. Last summer I saw it flowering freely in an open-air tank in the Jardin des Plants, Paris. It has jointed stems, bright green cordate or oblong leaves, and pale-yellow flowers, with a dark-purple centre. Grows well treated like *Aponogeton distachyon*. S. America.

HYPERICUM CALYGINUM (*Creeping St John's Wort*).—There are several species all worth growing on the balcony, and perfectly hardy. The present species

will grow in any shady position, even under the drip of trees, and bears very large, showy, yellow flowers. It is dwarfer than some of the others, growing a foot high. Division. Ireland.

IBERIS SEMPERFLORENS (*Candytuft*).—These hardy border-plants are easily raised from spring-struck cuttings, and are very useful for balcony decoration, bearing dense clusters of white flowers. There are several varieties grown in old gardens, and they are very useful for cut-flowers. Seeds. Sicily.

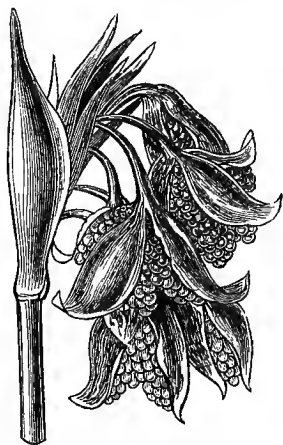
IMANTOPHYLLUM MINIATUM (*Scarlet-flowered I.*)—A free-growing bulbous plant that grows and flowers well in a small pot if exposed to the sun. Its leaves are strap-shaped and deep green in colour. Flowers in summer 10-12 at the apex of a flat stem. They are of a bright orange-shaded vermilion. Plenty of water. Division. Natal.

IREFINE HERBSTII (*Purple-leaved I.*)—A well-known half-hardy foliage-plant from Brazil, well adapted for pot or balcony culture. Cuttings root very freely in the spring. Planted in hanging-baskets it shows to great advantage, its leaves shining with the richness of stained glass. There are several other varieties, as *I. Lindenii*, *I. acuminata*, and others, worth culture.

IRIS GERMANICA (*German Iris*).—This is a well-known border-plant with glaucous sword-shaped leaves, and great purple-striped flowers. All the species grow best in a deep sandy border; still many of the small-growing species may be successfully cultivated in pots for window or balcony decoration during summer. A plant of *I. germanica* makes a good centre for a hanging-basket. Division. Europe.

IRIS FÆTIDISSIMA (*Gladwin or Scarlet-berried I.*)—This plant is a native of England, and has recently

come into notice on account of the ornamental character of its fruit, which is sold in Covent Garden Market for use in the Christmas decoration of churches,



Iris foetidissima (fruits).

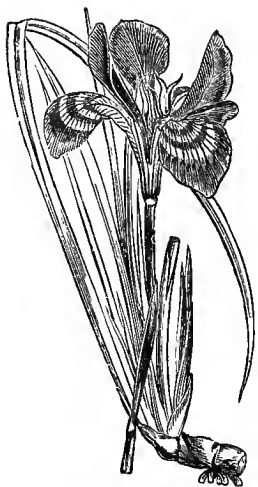
as well as for domestic ornaments. It bears purplish-coloured flowers which are succeeded by clusters of brown capsules, and these when ripe burst into three segments exposing the bright scarlet berry-like seeds which are not unlike Holly-berries in size and colour. The plant is of course quite hardy, and fruits well in the southern and eastern counties. There is a variegated-leaved form of this plant well adapted

for pot-culture, its green leaves being distinctly striped with creamy-white lines. It grows best in a rich sandy compost, and requires plenty of water.

All the species are easily propagated by division. Our illustration is a good representation of the fruit of *I. foetidissima* on a reduced scale.

ISOLEPIS GRACILIS (*Graceful I.*)—This looks like a fine-leaved grass of a fresh green colour, but belongs to the sedges. It is used by the thousand by the London florists for decorative purposes, and is one of the prettiest plants with which to edge a basket or stand. It must be plentifully supplied with moisture. Being dwarf, it does well for a small case. Division.

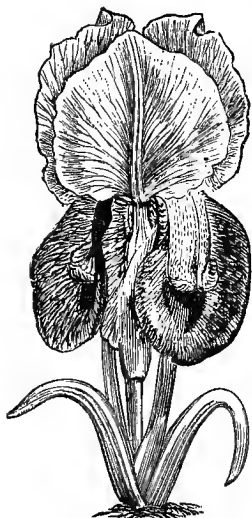
JASMINIUM OFFICINALE (*Common White Jasmine*).—This is one of the prettiest of hardy climbers for covering walls or balconies. Its sweetly-perfumed



Iris stylosa.



Iris sibirica.



Iris iberica.



Iris germanica.

flowers, borne during the summer months, are well adapted for bouquets, button-holes, or dinner-table decorations. Another kind, *J. nudiflorum*, bears its golden star-like blossoms on its naked branches at Christmas. Fine effects may be made by planting this and training it up amongst *Pyracantha japonica* or *Cotoneaster microphylla*; its bright yellow flowers contrasting beautifully with their crimson or scarlet berries. It also looks cheerful trained up among Ivy. *J. grandiflorum* bears large white flowers, and is useful for pot-culture. *J. revolutum* is a fine large-flowering kind which bears its yellow flowers during summer, and is suitable for a wall. Cuttings or layers. E. Indies.

KALOSANTHES—see CRASSULA.

LACHENALIA TRICOLOR (*Three-coloured L.*)—All



Lachenalia pendula.

the *Lachenalias* are pretty bulbous plants from the Cape, and grow freely in the window with but little attention. They have bright green leaves, more or less blotched with purple or brown like those of a common Wood Orchis, and erect spikes of drooping yellow and red flowers. They last a long time in bloom. After they have done flowering set

them in a sunny position outside, and water them until the leaves fade, when they may be removed to a moderately dry shelf in a cellar from which frost is excluded.

Here they may remain until wanted for starting in the spring. All deciduous bulbs and tubers, as Dahlia or Canna roots, may be kept in a dry cellar, the temperature of which is equal during the winter months. *L. pendula* (see fig. p. 296) is a very pretty little plant, as indeed are all the members of the group. Division.

LASTRÆA (*Male Fern*).—Strong-growing Ferns well adapted for a shady position on the balcony during summer. The numerous varieties of *L. filix-mas* and *L. dilatata* are perfectly hardy and grow in any common garden-soil, but require shade and constant moisture, both overhead by syringing and also at the root. *L. atrata* and *L. opaca* are half hardy, and make nice pot-plants. Division. Little hardy ferneries may be constructed in any small back yard or garden even in the heart of the crowded city, and a few hardy Ferns will luxuriate if they get the shade and humidity so essential to this class of plants. British woods.

LATHYRUS LATIFOLIUS (*Everlasting Pea*).—A well-known plant in old cottage gardens, having glaucous foliage and winged stems. The flowers are white and purple, very freely produced. It grows 5 to 6 feet high, and is a very ornamental plant. There is also a beautiful variety bearing white flowers which are very useful for floral decorations, and are much used in Covent Garden for bouquets during summer. Seed or division. Europe.

L. ODORATUS (*Common Sweet-Pea*).—Similar in habit to the last, but is an annual, bearing white, scarlet, lilac, or purple flowers, very freely during summer. Like the last it grows 4 to 6 feet high, and may be trained on trellises or light brushwood. In town gardens, or on balconies, the seeds may be

sown in pots or hanging-baskets, and the plants allowed to droop naturally. Sicily.

LEUCOJUM VERNUM (*the Spring Snowflake*).—This blooms about a month later than the Snowdrop, bearing its usually solitary flowers on stalks from 4 to 6 inches high. The fragrant drooping flower resembles that of a large Snowdrop an inch long, the tips of the petals being well marked with a green or yellowish spot. The leaves are ribbon-like, nearly $\frac{3}{4}$ inch across, and, after the plant has flowered, attain the length of nearly a foot. Native of Europe.

L. ÆSTIVUM (*the Summer Snowflake*).—This is a much taller and more vigorous plant, bearing its flowers on stalks from 1 foot to $1\frac{1}{2}$ foot high. The flowers resemble those of *L. vernum* in size, shape, and colour, but have the tips of the petals



Leucojum aestivum.

marked with green both inside and out, and are always produced in clusters of from four to eight blooms on each stem. The leaves, which are very numerous, are more than a foot long, and in shape are like the leaves of Daffodils. It blooms early in summer, and is naturalised on the banks of the Thames between Woolwich and Greenwich.

Both may be grown in the same manner as Colchicums, Zephyranthus, and other hardy bulbs. (See fig.)

LILIUM (*Lilies*).—Several hardy species may be grown in large pots in a compost of sandy loam, rotten manure, or leaf-mould. When growing they require plenty of moisture. The best way to grow Lilies for window or balcony decoration is to pot the bulbs in the spring, and plunge them in the open border, where they can remain until the flowers begin to open, when they may be taken up and removed to the balcony to bloom. After flowering plunge them again, and let them take care of themselves through the winter. The best for pot-culture are *L. croceum*, *L. speciosum* (*lancifolium*), *L. chalcedonicum*, *L. martagon*, *L. candidum*, *L. eximium*, *L. tigrinum*, *L. Thunbergianum*, and their varieties.

L. AURATUM (*Golden-rayed L.*)—A correspondent of the 'Garden' alludes to this species as follows, after growing it in the cold, smoky atmosphere of Leeds, the well-known capital of the West Riding. It should be borne in mind that the atmosphere around such northern towns as Leeds, Bradford, Sheffield, and Manchester, is heavily charged with sulphuric and other free acids, and smoke, which render plant-culture far more difficult in such localities than we find it in London, where the air is comparatively pure and bright. "I have grown this for two years, and it seems to thrive very well, and to be perfectly hardy, as are also the lance-leaved kinds; but the latter bloom so very late that the blossoms do not open properly. I should state that my soil is of a very ordinary character, having had no particular attention bestowed upon it. It is of moderate depth—say about 18 inches. My plants of *L. auratum* are about 4 feet high, and I expect to see them much higher next year. The blooms are quite as large as those which one sees at shows, and are very richly



Lilium lancifolium.



Lilium auratum.



Lilium superbum.



Lilium chalcedonicum.

spotted, the yellow bar or ray up the centre of the petals being also very distinct. Their perfume can be smelt, on a still evening, at a considerable distance away, and is most agreeable. The plants get no shelter except what is obtained from a garden-wall, and they are quite open to the north-east and east. The district, too, is smoky, being a manufacturing one."

LINARIA CYMBALARIA (*Ivy-leaved Toad-flax*).—A very elegant native plant, common on old walls and ruins in most parts of the country. It is well worth naturalising on old bare walls or rock-work in the garden, while it is one of the most graceful of all pendent plants for culture in a pot or hanging-basket, growing rapidly, and bearing a profusion of its small purple Snapdragon-like flowers from the axils of its fresh green leaves. Propagated from seed, or young plants may be removed from their habitats, and potted or planted as required. Britain. This plant is seldom cultivated as a pot-plant in this country, but is largely grown for decorative purposes in America.

LOASA TRICOLOR
(*Three-coloured L.*)
—The Loasas are but little known, although some of the



Loasa (laterita) tricolor.

species are very pretty as well as curious, being furnished with stinging hairy appendages like nettles. The

present species is an elegant climbing-plant, easily raised from seed sown in the spring, and planted outside in a sunny position about May. It is an excellent plant for a window-box outside, trained up a light trellis, and bears numerous bright orange-coloured flowers among its lobed leaves. It also does well in a pot in any light and moderately rich soil, and may be trained up strings six or seven feet high. Our illustration is an excellent reduced portrait of the plant. South America.

LOBELIA SPECIOSA (*Blue Showy L.*)—A well-known bedding-plant, nearly hardy, and well adapted for planting the edges of window-boxes or hanging-baskets, from which it droops gracefully, and bears numerous bright blue flowers throughout the summer. There are several other varieties worth growing. Seeds and cuttings in the spring. Cape of Good Hope.

LOMARIA CHILIENSIS (*Chilian L.*)—A hardy Fern, very useful for indoor decorations. Its fronds are lance-shaped, and of a deep green colour. Several other species are well adapted for the Wardian or Fern case,—as *L. lanceolata*, a beautiful and compact light-green species with red veins; *L. nuda*, a pretty plant; and *L. L'Herminieri*; the last being a Tree-fern in miniature, and one of the best: its young fronds are of a blood-red or crimson colour, and it succeeds perfectly in a case or under a glass shade. Division. S. America.

LONICERA AUREA RETICULATA (*Golden-netted Honeysuckle*).—A pretty golden variegated plant from Japan, perfectly hardy, and well adapted for pot or balcony culture, or for planting in borders for training up sticks as a fence. It grows freely during the summer months. There are several other species worth

growing, as *L. Japonica*, *L. pubescens*, and *L. sempervirens* (Trumpet Honeysuckle). The latter is very pretty, bearing clusters of wax-like blossoms during the summer among its fresh green foliage. The common sweet-scented Honeysuckle (*L. Periclymenum*) is found wild in our woods and hedgerows, and is a first-rate plant for training over balconies, or for a rustic porch. It is called "Woodbine" in country districts.



Lophospermum scandens.

LOPHOSPERMUM SCANDENS (*Creeping L.*)—There are many varieties of this plant, which all grow and flower freely trained along a trellis, during the summer months. Seed. Mexico.

LUZURIAGA RADICANS (*Drooping Myrtle*).—At first sight this plant strikes one as resembling the "Creeping Myrtle" (*Myrsiphillum*), from which, however, it is quite distinct. It grows well in an ordinary window as a pot or bracket plant, bearing oblong leaves of a deep green colour, and somewhat like those of a small-leaved Myrtle in shape. Below the leaves are of a glaucous or mealy hue, striped with dark green. Its rambling growths droop gracefully around the pot, forming a very pretty decorative object. It is a native of Peru, and can readily be increased by layers, cuttings, or division.

LYCASTE SKINNERII (*Charming Lycaste*).—This is

considered the best of all the choice epiphytal Orchids for removal to the sitting-room or boudoir when in bloom, and instances are recorded where it has continued in flower for three months in an ordinary apartment without being materially injured. The



Lycaste Skinnerii.

plant is a robust grower, and generally flowers during the winter months, when choice flowers are scarce. It is one of the best of all Orchids for culture in a Wardian case, and will bear a minimum winter temperature of 40° F. with impunity. In potting, the pseudobulbs should be elevated above the rim of the pot on a cone of fibrous peat, crocks, and living sphagnum, and the plant should never be allowed to become

thoroughly dry at the root. There are numerous very beautiful varieties of this plant, varying from pure white, through all the intermediate shades of rose, to a vivid rosy crimson with dark velvet-like markings on the lip. Our reduced figure gives a good idea of the general habit of the plant, and also the form of the flowers, the latter being of a stout and wax-like substance, lasting a long time after being cut. The plant is a native of Central America (Guatemala), where its flowers are used in the temples as offerings, together with those of other native Orchids.

LYCIUM BARBARUM (*Common Tea-tree or Box-Thorn*).—Often met with in country cottage gardens, trailing over fences and up walls. It grows freely, and is very ornamental in the autumn when laden with its bright scarlet berries. Division.

LYCOPODIUM—*see also* SELAGINELLA.

LYCOPODIUM DENDROIDEUM (*Tree-like L.*)—An elegant-growing fresh green moss-like plant, much used by the New York florists in the arrangement of bouquets, wreaths, and other floral decorations.

LYSIMACHIA NUMMULARIA (*Creeping Jenny*).—This is a native plant, and of course perfectly hardy. As a pot-plant, or for brackets and hanging-baskets, it has few equals. Its fresh green leaves are nearly round, hence the common name, "Money-wort," often applied to it in country districts. In habit it is extremely graceful, hanging from the pot in graceful festoons of foliage and yellow flowers. It is easily propagated by division, and requires an abundant supply of water at the root during summer. It makes an elegant edging for planting along window-boxes with *Gnaphalium*, *Cerastium*, or *Blue Lobelia*. There is a beautiful golden-leaved variety in cultivation, which makes one of the best of all window-plants. "When grown in pots, suspended like baskets, the shoots hang down long and gracefully, and completely hide the pots, but even then the plants exhibit a flat-headedness that is rather objectionable. This may be obviated by the following plan which we once saw carried out, and which we thought extremely effective: Pots rather wider in proportion to their depth than we commonly use, and about nine inches in diameter at top, had an inch deep of crocks in their bottom, and resting on these, in the centre of each pot, was a nice stubby plant of the common or nar-

row-leaved Myrtle, in large 60-sized pots. Good turfy loam mixed with decayed and dried cowdung was then filled in all round, and in this the Creeping Jenny had been planted in March, and grown on in one of the greenhouses till June, when the pots were fixed on brackets outside on either side of the windows of the house; and when we saw them a month afterwards—in July—the Creeping Jenny had hidden the pots, and was in full flower and leaf, while the fresh and green Myrtles were pictures of health.” Britain.

MALVA CRISPA (*Frill-leaved Mallow*).—This hardy



Malva crispa.

annual has an upright habit of growth, good specimens forming a perfect cone two to three feet high. Its flowers are small and inconspicuous, but its elegantly crisped or frilled leaves are ornamental, and are also very useful for dishing up fruit during the summer months. It is well worth growing for the latter purpose, and is easily raised from seeds sown in April on an outside border. Native

of Europe, and naturalised in our gardens.

MAMMILLARIA ELEPHANTIDENS (*Elephant's-tooth Cactus*).—All the Mammillarias are very attractive plants, and of permanent interest even when not in flower. Our figure shows the habit of these plants, but the different species vary considerably in the size of their teat-like divisions, and also in the colour and arrangement of their spines. They bear delicate rose or rosy-lilac tinted flowers, which last are succeeded

by red or crimson fruits which last a long time and add greatly to the beauty of the plant. Most of them may be grown in a warm sunny window, but the rarer or tender kinds should have the additional protection of a glass case. Forty or fifty species of these and other succulents may be grown in an ordinary-sized case, and will always excite interest and afford pleasure to their owner. They are propagated by offsets, which are very freely produced on



Mammillaria sulcolanata.

some of the commoner species. Like other Cacti they should be potted in sandy loam and bricks or "crocks," broken up into nodules the size of small peas. They must be watered carefully once or twice a-week when growing during the summer, but should be kept dry from November until March. For species best worth cultivation see list of succulents, *post.* All American.

MARANTA FACIATA.—This is a charming plant, with elegantly marbled foliage, and does well together with several other of the dwarf-growing species in a close plant-case, or beneath a glass shade. Pot them in fibrous, sandy peat, and chopped sphagnum moss, on a good quantity of drainage, and water freely during hot weather. In winter they should be nearly dry, and at rest. *M. vittata*, *M. regalis*, *M. roseopicta*, and others, are valuable for the purpose above indicated. They will not grow well in the open window. Propagate by division or pieces of the fleshy root on a moist bottom-heat. Tropics of both hemispheres.

MATHIOLA ANNUA (*Stocks*).—Well known as one of our best and most fragrant of half-hardy annuals, bearing crimson, white, or purple flowers well adapted for cutting, and deliciously fragrant. Seed in autumn or spring. Italy.

MAURANDYA BARCLAYANA (*Barclay's M.*)—A beautiful half-hardy climber, well adapted for the balcony or window. Seedlings raised early in March flower during the summer, bearing numerous violet purple flowers, the inner portion of the tube set with white hairs. There are also white and scarlet varieties well worth growing for variety. Mexico.

MELIANTHUS MAJOR (*Honey-flower*).—A well-known sub-tropical plant, often used with good effect in the parks. It has glaucous foliage, the lobes of which are serrate along their margins. Grown in pots or boxes it is an effective and distinct foliage-plant for summer decoration. Cape of Good Hope.

MESEMBRYANTHEMUM (*Fig Marigolds*).—A large genus of succulent composites from the Cape, bearing showy star-like flowers of various shades of colour. As window-plants, either in pots or baskets, they are

very beautiful, especially in a warm position; and, like other succulents, they like bright sunshine. They are easily propagated by pieces pulled or cut off and laid in the sun on moist sand, where they root freely in a few weeks, and often keep on flowering as though nothing had happened. The following is a good selection: *M. amœnum*, a compact plant, with bright green foliage and brilliant rosy-lilac flowers. *M. aurantiacum*, bright orange. *M. con-*



Melianthus major.

spicuum, with large, bright, rosy flowers. *M. cordifolium*, bright purple. *M. cordifolium variegatum* (*Golden-leaved M.*), a beautiful, soft, golden-yellow variety of the last, much used for edgings and carpet-beds; it makes a fine plant for either pots or baskets. *M. cruciforme*, pale lilac. *M. crystallinum* (*Ice-plant*), a free-growing and thick-leaved species, densely covered with crystal-like tubercles, which

give it the appearance of being coated with ice. *M. deflexum*, pale rose. *M. falcatum*, a dense, free-flowering species, with small lilac-coloured flowers. *M. glaucum*, bright yellow. *M. inclaudens*, pale silvery lilac. *M. imbricans*, slender, glaucous leaves, dense habit, flowers bright purple, fully an inch across. *M. lacerum*, strong grower, with three-edged leaves, serrated along the outer margin, and large rosy-purple flowers 2 to 3 inches across. *M. spectabile*, an effective plant, with glaucous leaves and large bright purple flowers. For a window fully exposed to the south, nothing can be better than a nice collection of succulents, which are always interesting and beautiful. They occasion but little trouble; indeed, if you go to the seaside for a month, and lock up house, the chances are that on returning



Mimosa pudica.

home you will find the plants looking as well or better than you left them. *M. tigrinum*, *M. felinum*, *M. nuciforme*, and one or two other species, are worth growing as curiosities.

MIMOSA PUDICA (*Sensitive plant*). — This is easily raised from seed sown in spring, and grows well in the window or plant-case. Its foliage is peculiarly sensitive, droop-

ing directly it is touched. No definite cause has yet been assigned for this curious phenomenon, and it is well worth careful investigation. Brazil.

MIMULUS MACULOSUS (*Spotted Monkey-flower*).—

These are beautiful plants for pot or border culture, and are raised easily from spring-sown seeds. They have bright green foliage and numerous yellow flowers, more or less blotched and spotted with bright crimson. *M. cardinalis* (scarlet), *M. cupreus* (orange scarlet), and *M. grandiflorus* (mixed colours), are all worth growing for the balcony during summer. America.



Mimulus cupreus.

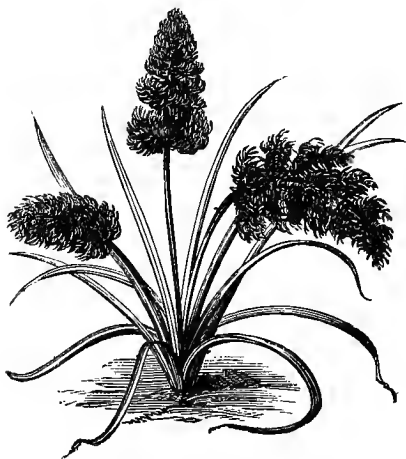
M. MOSCHATUS (*Common Scented Musk*).—A universal favourite, being cultivated as a pot-plant in nearly every cottage window. It is perfectly hardy, and is easily propagated by potting pieces of the roots in the spring. It is a fresh-looking little plant, and droops gracefully from the edge of a basket, or from a bracket. When growing it requires a plentiful supply of water at the root. During summer it is studded with numerous bright yellow flowers; but is principally grown for its grateful perfume, one small plant being amply sufficient to scent a large apartment. The best way to keep up a stock is to plant a root or two in a moist, sandy border, from which roots can be dug each season for pot-culture. Columbia.

MUSCARI BOTRYOIDES (*Grape Hyacinth*).—This is a lovely little blue-flowered bulb from Italy, often met with in herbaceous borders, growing six inches or more in height. There are about half-a-dozen other species, all of which may be grown in pots plunged in the border outside, and only removed indoors when

flowering. This is the best mode of treating all hardy bulbs when required for window or drawing-room de-



Muscari botryoides.



Muscari monstrosum.

coration, as the flowers keep fresh and beautiful so

very much longer than when cut or torn from the plants, and mixed up with other flowers, until much of their beauty and individuality is lost.

MUTISIA DECURRENS (*Gazania-flowered M.*)—A slender, climbing, composite plant, with glaucous tapering leaves, each having a tendril (like a Vine or Pea) at its apex. The flowers remind one of *Gazanias*, being of a bright orange-yellow, with a dark centre. It is perfectly hardy on a sunny wall in sheltered localities. I allude to it here because I have several times seen it growing and flowering well near London. Cuttings or imported seeds. *M. ilicifolia* (Holly-leaved) is rare, having pale, rosy eight-rayed flowers and spinose leaves cirrhose at the apex, like the last named. S. America.

MYOPORUM ALBUM (*Crystal-leaved M.*)—This elegant flowering-shrub is well worthy of more general cultivation for decorative purposes than it receives, as it is free in habit and easily grown. It can be propagated by means of cuttings made of the young wood, as readily as a *Geranium*, or even more so, for branches torn from the plant, and thrown carelessly on damp sand or soil, root freely in a week or two, and go on flowering as if nothing had happened to them. The plant grows from 12 to 18 inches high, having a central stem, from which the branches fall gracefully on all sides. Both branches and foliage are of a deep green colour, studded with translucent tubercles, smaller, but not much unlike those of the Ice-plant (*Mesembryanthemum crystallinum*). The flowers are borne in axillary clusters, and are something like those of a small-flowered *Eriostemon*; they are pure white in colour, and slightly scented. The plant is grown extensively in France for the Parisian flower-markets, where it may be seen in abundance. It is not only a most profuse bloomer and elegant in

habit, but it lasts in beauty for two or three months together during the summer time, and it may be easily cultivated in perfection in a cool frame, or in the sitting-room window. Any soil seems to suit it; but a compost of fibrous loam, leaf-mould, and coarse sand is preferable to any other. Cuttings struck in April will make fine little plants for next summer's flowering. N. S. Wales.

MYOSOTIS ALPESTRIS (*Alpine Forget-me-not*).—This is a pretty species from Switzerland, and is easily propagated by sowing a pinch or two of seed in the window-boxes as soon as ripe, or in the spring. There are several species well worth cultivation as balcony or window plants, but the best of all for pot-culture is the lovely blue *M. dissitiflora*, which flowers most profusely during the spring and early summer months. Like the other species, it is easily propagated from either seeds or cuttings, or by division. There are white-flowered varieties of both the last-named species. They are very useful for spring bedding, or for borders, lasting in bloom—a glorious sheet of soft sky-blue—for weeks together.

MYRTUS COMMUNIS (*Common Myrtle*).—This is a clean and fresh-looking aromatic shrub, well adapted for window or balcony culture. There is also a narrow-leaved kind well worth growing for variety. They are best grown in small pots in sandy loam, and are easily propagated by cuttings taken off in the spring. Its branches come in useful for arranging among cut flowers; and it is a nice addition to sweet-scented plants. South of Europe.

MYRSIPHYLLUM ASPARAGOIDES (*the Creeping Myrtle*).—Mr J. Vick, than whom there is no better authority, gives the following directions for the household culture of this plant, now so much used in floral

decorations, for twining in the hair, and for trimming party dresses: "With a little care it can be grown successfully as a house plant. The seeds should be sown in a box or in pots in the house, and should be kept moist till the young plants appear. The seed being rather slow to germinate, you must not think it bad if it does not make its appearance in two or three weeks. The young plants should be potted off into



Myrsiphyllum asparagoides.

3-inch pots as soon as they are three or four inches high. Once a-year the bulbs should be allowed to dry off and rest. They will start into growth again in about six weeks. The plant does not require the full sun, but will grow well in a partially-shaded situation. It can be trained on a small thread across the

window, or around pictures. It is a climber, and will attach itself to a string in just about the right condition to use for wreaths, &c., or, when required for lighter work, the branches which become entangled can be separated." This plant, perhaps the most universally employed of all foliage-plants by the American florists, is generally most tastefully used. It is of easy culture in the greenhouse or window-garden, while it actually luxuriates in a window conservatory or Wardian case. South America.

NARCISSUS (*Daffodils*).—This genus of hardy bulbs comprises many beautiful species, most of which were



Hooped Petticoat Narcissus.

better known by Parkinson 200 years ago than they are now. They are well adapted for window or balcony decoration during spring, and are best grown as recommended for Colchicums and other hardy bulbs, *i. e.*, plunged in the open border. Bulbs or roots may be

purchased in the autumn, and should be potted and treated like Hyacinths in pots. They are well-known border bulbs; and the commoner species, as *N. pseudonarcissus*, *N. poeticus*, or Pheasant's Eye, *N. intermedius*, and other varieties, are often met with naturalised in old country gardens and orchards. *N. bulbocodium*, or Hooped Petticoat Narcissus, is one of

the prettiest, and does well in pots. Some varieties of the genus, with several small flowers on a stem, are generally known as "jonquils." Mostly European.

NASTURTIUM—*see* TROPÆOLUM.

NEMOPHILA INSIGNIS (*Cerulean Blue N.*)—A well-known dwarf-growing annual, bearing beautiful sky-blue flowers with white centres. Like all the other varieties, it is easily raised from spring-sown seed, and may be grown either in pots or balcony-boxes. There are several varieties of both this species and *N. maculata* all worth culture. California.

NERIUM SPLENDENS (*Oleander*).—A well-known plant, long cultivated in our gardens and windows. There are now white, yellow, and many varieties of the old rosy-flowered kind. It grows very freely in sandy loam and leaf-mould, and should have as much bright sunshine upon it in the summer and autumn as possible, so as to thoroughly ripen its growth. So treated, it blooms freely all through the summer. It may be seen outside nearly every *café* in Paris, and grows freely on the balcony here at home. It is readily propagated by cuttings of the young wood, which strike root very readily in small phials of water or wet sand. They also strike in the ordinary way, inserted round the margin of a pot. Palestine, or the Holy Land.

NERTERA DEPRESSA (*Scarlet-berried Duckweed*).—One of the prettiest and most interesting of all plants for a window or glass shade, and perfectly hardy in warm, sheltered positions. It resembles a little dwarf moss, and creeps over the surface of the pot or pan in which it is grown. It bears very minute whitish flowers in the axils of the little round leaves, and these are succeeded by a crop of bright orange-scarlet or coral-coloured berries the size of small peas. It

is readily propagated by dividing old plants and pricking small-rooted pieces into a light compost of peat, fibrous loam, leaf-mould, and sand. Although it will grow in the open window, it looks prettier in a small pot or pan beneath a crystal shade or case. Keep always moist. Europe.

NEPHRODIUM MOLLE (*Free-growing N.*)—A common Fern, of erect habit, not unlike the common *Lastræa* in general appearance. It makes a good plant for the centre of a Wardian case, but will also grow freely in the open window, if kept moist by occasional syringings. It is of a fresh green colour, and varies from one to two feet in height. It is one of the commonest of tropical species, being found nearly all over the world. Division.

NEPHROLEPIS TUBEROSA (*Tuberous-rooted N.*)—An erect-habited Fern from Jamaica, which looks very pretty in a Wardian case. Its fronds are nearly two feet long when full grown, and about two inches wide. The leaflets (*pinnae*) are about an inch long and closely arranged up each side the stem (*rachis*). Another species, *N. pectinata*, is of smaller habit, and even more elegant appearance; but unless kept regularly moist, it is apt to turn yellow and lose its leaflets. Division.

NERINE FOTHERGILLII (*Scarlet-flowered N.*)—A very beautiful free-flowering old bulbous plant, well worth culture. It bears its flowers in clusters, and the segments are recurved and slightly undulate (wavy) along their margins. It loses its leaves during part of the year, and may then be kept nearly dry at the root, and allowed to rest until it pushes its flowers in the autumn or spring. Pot in sandy loam and a little leaf-mould. Many other beautiful species are worth growing, as *N. undulata*, *N. humilis*,

and several others. Division of the bulbs. Cape of Good Hope. (See also Amaryllis.)

NICOTIANA VIRGINICA (*Common Tobacco-plant*).— This is a large-leaved and very ornamental plant for beds or borders during the hot summer months. It does best treated as a tender annual, and raised from



The Tobacco-plant (Nicotiana virginica).

seeds sown in a gentle heat about March or April. The seedlings should be pricked off into boxes or shallow pans, and will make strong little plants if *gradually hardened off before they are placed outside* in May, or after all danger from frost is past. It

makes an effective plant for the balcony, grown either in a pot or a small tub, and plentifully supplied with water, and occasional doses of liquid manure. It bears numerous rosy-purple flowers towards the autumn, and is always interesting, more especially to lovers of the "weed." Our illustration gives an excellent idea of the general contour or port assumed by a good specimen. It should be placed in a sheltered situation, or it may suffer from cold or rough winds. It is largely cultivated in America.

N. RUSTICA.—This is a dwarf-habited, green-flowered species, and furnishes the Turkish or Latakia tobacco of commerce.

NIEREMBERGIA GRACILIS (*Slender-growing N.*)—A very elegant little plant well adapted for pot-culture, flowering freely throughout the summer and autumn. It is easily propagated from seeds, and can be grown as a perennial if sheltered in the window during winter. It may also be grown as a half-hardy annual in the open border. For hanging-baskets it is very graceful, bearing a profusion of its pale bell or salver shaped flowers. *N. rivularis* is another handsome species with larger flowers. Seed. S. America.

NIPHOBOLUS LINGUA (*Tongue-like N.*)—A half-hardy Fern with lance-shaped leathery dark-green foliage, produced from a creeping root. It grows well on pieces of "Virgin cork" partly covered with moss. There is a beautiful crested form also well worth growing. Division. Japan.

NUPHAR LUTEA (*Yellow Water-Lily*).—A well-known British aquatic, often met with in ponds and ditches. Easily grown in a small tank in the garden.

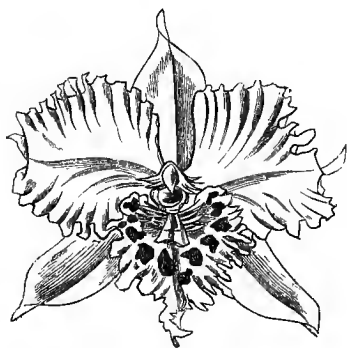
NYMPHŒA ALBA (*White Water-Lily*).—One of the prettiest of our native wildings, and common in ponds,

canals, and ditches, especially in the south and west of England. Easily grown by introducing roots into a tank or pond during the winter or spring months. Leaves large, heart-shaped ; flowers pure white with a yellow eye. Very useful for drawing-room vases or for table decorations arranged with its own deep green leathery foliage.

ODONTOGLOSSUM ALEXANDRÆ (*Princess of Wales' O.*)—This fine species, and many others in the genus,



Odontoglossum Alexandræ (plant).



Odontoglossum Alexandræ (flower).

may be grown with careful management in a Wardian case. It does not require much heat, a mean winter temperature of 45° being amply sufficient, but the atmosphere must be kept fresh and constantly humid. During summer they should be carefully shaded from bright sunshine, and the temperature kept as near 60° during the day-time as possible. The pot in which the plant is grown should be prepared as recom-

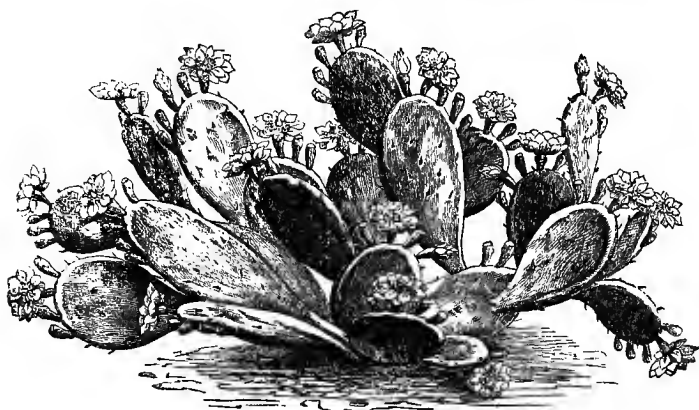
mended for cuttings (see "Propagation"); and the compost best suited to this and the other Orchids mentioned in the list is composed of fibrous peat and coarse well-washed sand, to which may be added a very little leaf-mould. The surface of the pot should be coated with fresh living sphagnum moss, and this must be induced to grow as fresh and green as possible. Orchids are rarely unhealthy when the moss grows freely on the pots in which they are planted. In potting, keep the bulbs above the rim of the pot. To do this the compost must be elevated in the form of a rounded cone. All the Orchids named in our list will grow and flower in a close case, but the cultivator should not attempt their culture until he has had experience with commoner and less valuable plants. Never allow them to get dry, and keep them clean by sponging. South America (Bogota), 6000 to 8000 feet above the sea-level.

ONCIDIUM FLEXUOSUM (*Free-flowering O.*)—This and its ally *O. obryzatum* may be grown as recommended under *Odontoglossum*. S. America.

ONOCLEA SENSIBILIS (*Sensitive Fern*).—A strong-growing hardy Fern that does well in pots, but it likes both shade and moisture. Its leaves (fronds) are deeply lobed and very bold and ornamental in character. Division. Virginia.

OPUNTIA RAFINESQUIANA (*Fig Cactus*).—This is a fine free-blooming species from Texas, suitable either for window-culture or for naturalising on low walls, it being perfectly hardy in warm sheltered localities and on dry sandy soils. Its flowers are of a pale-yellow colour, and are succeeded by gooseberry-like fruits, which are edible and of a peculiar sub-acid flavour. *Opuntia Rafinesquiana* has flowered for the last four years in Kent, and also in the garden of Harrison Weir,

Esq., the celebrated animal painter. It is nearly related to if not identical with *O. vulgaris* (*Common Fig Cactus*). Pot in sandy soil. All the species strike freely from cuttings or joints taken off in the spring or summer and inserted in well-drained pots of sand.



Opuntia Rafinesquiana.

There are several other species well adapted for indoor window-culture, the best being *O. cylindrica* (*Candle-like O.*), and the pretty *O. microdasys*, a small grower covered with dense tufts of pale-yellow spines. For other species see list. Care must be taken in handling *Opuntias*, and especially the last-named species, as the short spines are easily detached, and will work their way into the flesh with wonderful facility, often proving exceedingly unpleasant and irritating to the unwary cultivator. I speak feelingly on this subject, having myself paid the penalty of ignorance by a little wholesome experience. *Opuntia cochinellifera* is interesting from an economic point of view as being the food-plant of the cochineal insect, from which a beautiful crimson colouring matter is

obtained and much used in cookery and the arts. It is as well to bear in mind the fact that all Cacti are American, with the exception of one African *Rhipsalis*.

ORCHIS (*Common Hardy Orchids*).—Many of the British and Continental species of this group are highly interesting when grown in pots of moist sandy earth. They may be taken up with balls of earth to their roots (tubers), just when they are starting into growth in the spring, and if carefully potted will experience little or no check. Cover the surface of the soil with a thick layer of living sphagnum and keep them constantly moist. They should be shaded from the bright sun during the daytime, and always do best in a cool, moist, and shady position out of doors, but can be removed to the window, or placed under a shade on the table while flowering. *O. mascula* (purple), *O. pyramidalis* (lilac spotted with purple), *O. morio* (purple or white with green-veined wings), and *O. maculata* (purple), are commonly met with in our woods or damp meadows, and flower about April or May. Some of the species from the south of Europe are very beautiful when in bloom. In addition to these we have *Listerias*, *Habenaria bifolia* (*Common Butterfly Orchis*), bearing erect spikes of perfumed white flowers in May and June; and on the chalk hills of Kent and Surrey several beautiful species of *Ophrys* are found. These last have some resemblance to the insects after which they are named. *O. muscifera* (*Fly Ophrys*), *O. apifera* (*Bee Ophrys*), and *O. aranifera* (*Spider Ophrys*), are the most common.

OXALIS FLORIBUNDA (*Free-flowering O.*)—This and several other tuberous-rooted species are very pretty for window decoration. They are mostly dwarf plants with ternate or three-lobed leaves like clover (*Trifolium*), and solitary or clustered rose,

purple, or yellow flowers. These plants are curious and of botanical interest, the seed-vessels bursting with elasticity something like those of the Balsams (*Impatiens*). The common Wood Oxalis is supposed to be the true Shamrock, and its leaflets are slightly sensitive during bright sunny weather. *O. corniculata*



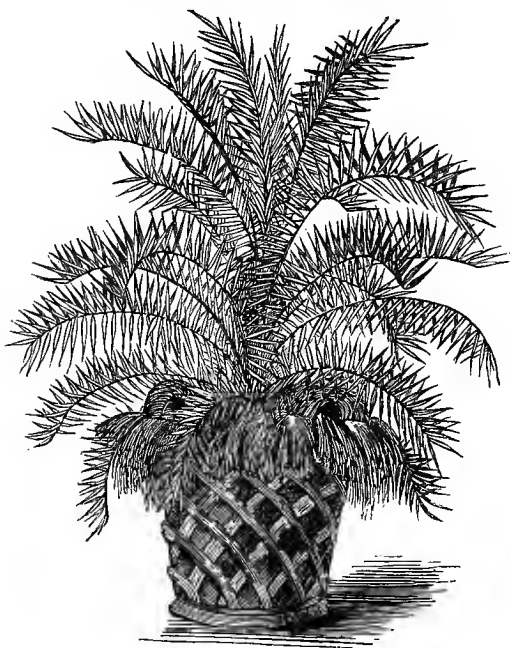
Oxalis valdiviana.

rubra is a dense coppery-leaved species often found naturalised in gardens, and bears small star-like yellow flowers. *O. Bowieana*, *O. elegans*, *O. rosea*, *O. lutea*, and *O. valdiviana*, are worth growing for variety. Division or seed. South America and the Cape of Good Hope.

PALMS.—Those species named in our list may be made available for the decoration of rooms and windows, and are for the most part distinct and graceful in habit. The best soil for Palms is simply a mixture of good fibrous loam and sand on a well-drained bottom. During the summer months they may be watered freely, all the Palms being lovers of moisture, growing as they do in some countries by the sides of streams and other damp places, like our alders and willows at home. Their foliage should be kept clean

and fresh by occasional sponging with clean tepid water.

Our figure represents a robust-growing Palm for



Phœnix sylvestris as a Vase-plant.

room culture. It is planted in an Italian basket, neatly margined with *Isolepis gracilis*.

PANICUM VARIEGATUM (*Creeping P.*)—One of the prettiest of ornamental Grasses for indoor basket or bracket culture. It grows freely in any light well-drained compost if regularly watered. Its foliage is lance-shaped, with gracefully-waved margins, and is striped with creamy white and tinted with pink if grown in a sunny aspect. It is easily propagated by

cuttings, which root freely, or the slender growths may be pegged down on the basket and taken off when rooted.

PANSY (*Heart's-ease*)—see VIOLA.

PASSIFLORA CÆRULEA (*Blue Passion-flower*).—This is a pretty, free-flowering, hardy climber in the south of England, and grows well planted in a warm border under a south wall. Its flowers and wreaths of foliage are useful in floral decorations. Layers. Brazil.

PETUNIA VIOLACEA (*Purple-flowered P.*)—Some of the numerous hybrid varieties of this plant are well worth growing in hanging baskets during summer. The single varieties are easily raised from seeds sown in a little heat during March, and will make nice plants for setting out in the balcony boxes or baskets in May or June, where they will produce their sweet-scented purple or white flowers very freely. The double-flowered varieties are reproduced from cuttings of the young wood, which soon strike root in the genial heat of a little propagating case. Buenos Ayres.

PHLOX DRUMMONDII (*Drummond's Annual P.*)—Treated as a half-hardy annual, this plant comes in very handy either for baskets, borders, or window-boxes. There are numerous varieties contained in every packet of seed, and they grow and flower very freely from June to October. Texas.

PHYSALIS ALKEKENGI (*Globe-fruited P.*)—This plant is nearly related to the Solanums, to which the common potato also belongs, and is chiefly remarkable for its fruit, which is of a bright orange colour, and enclosed in an inflated capsule or bladder-like covering. These are very pretty when skeletonised, and should be added to every collection of leaves and

seed-vessels. *P. EDULIS* (*Cape Gooseberry*) is sometimes grown in gardens for its fruits. Both are easily



Physalis alkekengi.

raised from seed treated as half-hardy annuals. Cape of Good Hope.

PLATYCIERIUM
ALCICORNE (*Stag's-horn Fern*).—This is one of the most distinct of all Ferns, and grows well in a close case either fastened to a flat piece of board covered with sphagnum, or in a pot of fibrous peat and sand. If grown

on a block it requires to be syringed or sprinkled at least once a-day in summer, so as to keep the moss and wood constantly moist. There are two or three other kinds worth culture, and they are much hardier than is generally supposed. *P. biforme*, *P. grande*, and *P. stemmaria* vary in habit, but are all distinct. Propagated either from spores or offsets, the latter being often produced, especially by *P. alcicorne* and *P. stemmaria*. New S. Wales, Guinea, and Moreton Bay.

PLEIONE LAGENARIA (*Indian Crocus*).—A lovely little Orchid from the north of India, peculiar in habit but bearing very beautiful flowers. Its bulbs are dark-green, covered with little warts, and bear lance-shaped leaves of a light-green colour, and nearly a

foot in length during summer. They flower after the leaves fall off in the autumn. The flowers are of a lovely pale rose-colour, the lip being white, blotched with clear sulphur-yellow and crimson. *P. Wallichii* and *P. maculata* may also be grown. All require to be treated as recommended under *Odontoglossum*. Most persons fail to grow these and many other beautiful cool Orchids simply because they allow them to get too hot in summer. In my 'Cool Orchids and How to Grow Them,' the amateur will find simple and practical directions for the treatment of these mountain gems. N. India.

PLUMBAGO CAPENSIS (*Blue Leadwort*).—A lovely blue-flowered climber, or rather trailing-plant, often grown in hot plant-stoves, but adaptable for window-culture. It grows very freely in a sheltered position during summer as a balcony plant, and bears its sky-blue flowers in great clusters and in tolerable abundance. It is easily propagated from spring cuttings, and deserves general culture in windows. There is a deep rosy-flowered variety (*P. rosea*), but it appears to require more heat in order to cultivate it successfully. China and Japan.

POLYGONATUM MULTIFLORUM (*Solomon's Seal*).—This is one of the most elegant of all our native plants, and does admirably in pots, either for the window or balcony culture. It is nearly related to the Lily of the Valley, and also grows freely in a damp, shady border, well-established clumps coming in very useful for spring forcing. It has a graceful habit of growth, and varies in height from eighteen inches to two feet. When once planted it soon extends itself, and a clump or two should find a place in every garden, however small. It is readily propagated by division. Britain.

PRIMULA (*Primroses*).—We have here a large genus of beautiful herbaceous plants, all more or less hardy, and well adapted for culture in pots. The varieties of our common British species (*P. vulgaris*) are best grown in pots in the open border, or plunged in a layer of ashes in the cold frame; and many of them are very beautiful early spring-flowering plants. The florist's section (*Polyanthus*) contains many fine varieties, all perfectly hardy. The Chinese Primula (*P. Sinensis*) is a well-known indoor decorative plant, raised from autumn or early spring sown seeds, which can be grown in a cool moist frame during the summer, and flowers freely in the spring. *P. Japonica* is nearly hardy, and bears crimson, purple, or magenta coloured flowers as large as a shilling, in whorls or rings, the flower-stems being 12 to 18 inches high. It may be grown in a cool, moist frame, or placed outside



Primula cortusoides.

during the summer and autumn. *P. cortusoides amœna* is perhaps the best of the early summer-flowering kinds, and grows well plunged in a frame outside, bearing bright rosy-purple flowers on slender hairy stems a foot high. Auriculas (*P. auricula*) grow well in pots, having white powdered leaves, and clusters of purple, yellow, or rosy flowers, on stems 6 inches in height. All the species are propagated either by seeds or division. Mostly European.

PTERIS CRETICA.—A correspondent of the 'Garden' writes: "I find the different varieties of *Pteris* succeed in windows. *P. tremula* does admirably with

me, as does also *P. serrulata* ; but best of all *P. cretica albo-lineata*, which produces plenty of healthy fronds, even under very ordinary treatment. Though not a Fern, I may mention that I have a large bell-glass full of the toothed Lycopod, which looks as green and healthy as possible, though the glass is never re-



Pteris cretica albo-lineata.

moved, and all the water it gets is what runs down between the glass and the rim of the pan. The great secret of success with such things is thorough drainage, which should be sufficient to keep the roots well above all stagnant water."

P. TREMULA (*Graceful window-Fern*). — One of the commonest, most vigorous, and at the same time most beautiful of all Ferns for window-culture or the Wardian case. It produces great triangular finely-divided fronds (the leaves of all Ferns are called

fronds), of the freshest and brightest green tint imaginable; and when cut, these last much longer than the generality of Ferns, especially if removed from the vase and dipped in fresh water every morning. The spores—*i.e.*, brown dust-like bodies found beneath nearly all Fern-fronds—of this species grow very readily, so that there is generally an abundant supply of young plants springing up on the soil or moss at the bottom of the case. Like other species, it likes a fresh, open, peaty compost, well drained, and an abundant supply of moisture, both at the root and in the atmosphere when growing. This is one of the most graceful of all ferns for dinner-table decoration. (See fig. p. 136.)

PYRETHRUM PARTHENIFOLIUM AUREUM (*Golden Feather*).—A free-growing, hardy plant, much used for carpet beds and edgings. It is pretty for edging window-boxes, and should be pinched to keep it dwarf. All flower-buds should be picked off as they appear. Sow seed in a gentle heat in March. They grow very fast, and will be ready for planting out where required in May or June. Caucasus.

REINECKEA CARNEA (*Flesh-coloured R.*) — This plant is well worth growing in a pot for indoor window-decoration. It has gracefully-curved fresh green foliage, and short spikes of flesh-coloured or rosy flowers. *R. carnea variegata* is striped with creamy white or yellow, and deserves general cultivation as one of the best of evergreen plants for the decoration of the sitting-room. It grows well in any moderately rich, sandy soil, and is easily propagated by division, offsets being very freely produced. S. America.

RHAPIS FLABELLIFORMIS (*Fan-leaved R.*)—A very pretty miniature Palm, well adapted for the decora-

tion of rooms. It is of a hardy nature, and grows well in a compost of fibrous loam and sand. It must have plenty of water when growing. Division. China.

RHODODENDRON PONTICUM (*Purple-flowered R.*)—Some of the varieties of this species, and those of *R. Catawbiense*, are very beautiful free-flowering shrubs, with leathery foliage, and specially attractive during the spring and early summer when in bloom. They are well adapted for balcony-culture, being perfectly hardy. Pot them in $\frac{2}{3}$ peat and $\frac{1}{3}$ loam and sand. They should be well drained, and require to be kept moist and cool at the roots. Layers, or grafting on stocks of the common varieties. Gibraltar.

RHUS COTINUS (*Venetian Sumach*).—A hardy European shrub, having very elegant pinnate or lobed leaves at the summit of its slender stem or branches. It is an effective plant during summer for planting, either in a small tub for the balcony, or out on the grass plot. *R. glabra*, and its elegant variety, "*laciniata*," are amongst the most beautiful of hardy foliage-plants. Several other varieties, as *R. suaveolens*, *R. toxicodendron* (poisonous), *R. typhina*, and *R. vernix*, are well worth outdoor culture.

RHUS SUCCEDANEA (*Wax-plant*).—Highly ornamental for pot-culture, and well adapted for growing in windows or conservatories. Plants raised from seed, and the central shoots not injured, will form perpetual ornaments for such positions, producing at the top of the stem each year a fresh circle of its elegantly drooping leaves, having the appearance of a miniature Palm. All should try this, as it may be cultivated in any room. China.

RHYNCOSPERMUM JASMINOIDES (*Fasmine-flowered R.*)—This is a plant often cultivated in a hot plant-stove, but it grows and flowers well as a window-

plant with careful treatment. It has dark, glossy, lance-shaped foliage, and clusters of deliciously perfumed white flowers, very useful for bouquets, button-holes, and dinner-table decorations. Keep it moist at the root, and syringe occasionally to remove dust. Cuttings root freely in bottom-heat. China.

RIBES SANGUINEUM (*Red-flowering Currant*).—This is a charming hardy shrub, that does well in the vicinity of towns, and is highly ornamental when covered with showers of rosy blossoms and fresh green foliage during the spring and early summer months. It grows freely in any ordinary garden-soil, and flowers a week earlier trained on a sunny wall. Branches of this plant when in bloom are useful for cutting for ordinary purposes of decoration. There

are white and crimson flowered varieties, all easily propagated by cuttings, suckers, or layers. N. America.



Richardia (calla) æthiopica.

RICHARDIA (CALLA) ÆTHIOPICA (*White Trumpet-Lily*).—A truly noble plant of classic beauty when well grown. It has tuberous roots, large hastate bright green leaves, and bears flowers of snowy whiteness during the autumn and spring. It does

well as a sub-aquatic with its roots plunged in water, and should always be potted in very rich soil, or else liberally supplied with stimulants. Its flowers are

effective for vases or church decorations. As a window-plant it is both effective and distinct, and may be grown with but little trouble. There is a form with white spots on the leaves which may be grown for variety. Mr D. G. Mitchell of Great Marlow thus testifies to the hardiness of this plant: "In the spring of 1872 I planted two large plants of this in a pond, where they now remain, and they have flowered profusely during the summer, and I may mention that they were frozen over several times. The pond is about three feet deep in winter, and about a foot deep in summer; they were planted rather at the side than in the middle: they were grown in large pots previously to being planted out, and were merely turned out of the pots into the water." Division. Cape of Good Hope.

ROSA (*Roses*).—Well-known hardy-flowering spring shrubs, grown in every garden, and admired throughout Europe and the East. Many of the tea-scented kinds are largely grown for their half-opened buds, which are unsurpassed for beauty and sweetness, and are much used in Europe and America for bouquets and button-holes all the year round. Tea-Roses, Fairy Roses, and many dwarf-growing Hybrid Perpetuals, are well worth pot-culture, and bloom well throughout the year. For training up walls, pillars, balconies, or rustic trellises, Climbing *Devoniensis* and the *Noisette* and *Banksian* Roses are unsurpassed, blooming all through the summer and autumn months. Roses can be grown in pots plunged in ashes or in the border outside, and should be pruned in closely about January, leaving only two or three eyes on the last year's growth. The closer Roses are pruned the stronger they grow, therefore cut in your weakest plants more than the strong ones. If a Rose grows all

to wood and does not flower satisfactorily, leave its last year's growth, only just shortening it a little at the tips of the shoots. Plant them in good strong loam and well-rotted manure, and water them with all the slops during summer. Many Roses strike from cuttings, but are generally budded at the nurseries. The old-fashioned "crimson-flowered China Rose" is an excellent perpetual-flowering plant for a window, and should be obtained. The little "Fairy Rose" also flowers freely in the spring, and is a compact little plant for pot-culture in rooms or windows.

SALVIA SPLENDENS (*Scarlet-flowered S.*)—This is an excellent window-plant for winter flowering. Strike cuttings in March. Pot them in "forty-eight" pots, and keep them in a light airy place until the middle of May, at which time plunge them in a sheltered border. Protect them at first with inverted flower-pots, and keep them well watered. Pinch their shoots once or twice during the summer to make them bushy, and remove them indoors towards the end of September. In a warm sunny window they flower very freely, and their bright scarlet blossoms are very effective when seen along with the fresh foliage of Ferns and Acacias. *S. Heeri*, *S. gesneræflora*, and one or two other species all do well under this treatment, and make healthier and stronger plants than when grown indoors. Mexico.

SANTOLINA INCANA (*Silvery S.*)—A dense-growing plant only two or three inches high, and well adapted for edging window-boxes during summer. Planted alternately with blue *Lobelia* it is very effective, and also contrasts well with the crimson *Alternantheras*. It strikes freely from cuttings under a hand-light or in a cold frame, and is nearly hardy. Europe.

SAPONARIA CALABRICA (*Rosy Soapwort*).—A pretty

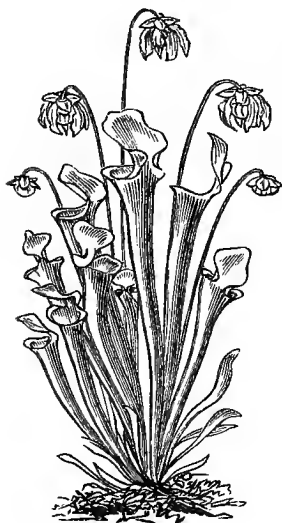
rosy-flowered annual easily raised from seeds sown in April or May; or if seeds are sown during the autumn as soon as ripe, it flowers during the following spring and summer. It does best on warm sandy soils, where it soon becomes naturalised, and it is very pretty either on rockeries or in window-boxes. There is a white variety which flowers at the same time. Calabria.

SENECIO PURPUREA.—This is a showy annual easily raised from spring-sown seeds. It is hardy and grows very freely in the borders outside, having bright green foliage and showy purple flowers. It is a first-class plant for a hanging-basket, and deserves to be grown as freely as Musk. Europe.

S. (CACALIA) MIKANOIDES (*German Ivy*).—This is a quick-growing window-plant, not often met with in this country, although common enough in America. It has bright glossy foliage not unlike the common Ivy, and dense clusters of yellow flowers. These last are, however, but seldom produced, if the plant is potted in light rich soil, and allowed to ramble away freely. It is useful for hanging-baskets or for training around the window-trellis. Cuttings root very freely in the spring, every joint forming a plant, and it grows very quickly in the atmosphere of the sitting-room. It is best used for covering leafy screens. Cape of Good Hope. Several other scandent Senecios, as *S. tropæoloides*, *S. oxyriæfolius*, and others, are all worth culture as basket or bracket plants in the window or Wardian case.

SARRACENIA PURPUREA (*American Pitcher-plant*).—This is often called the "Huntsman's Cup," from its leaf-stalks being hollow and inflated like a goblet. Its cups or pitchers are green, marked and veined with purple, and the plant is very curious and interest-

ing when well grown. There are half-a-dozen varieties, and all may be grown in peat and living sphagnum in a humid Wardian case.



Sarracenia flava.

They require a cool, moist atmosphere, and porous compost, through which all superfluous water speedily passes away. Like the true Pitcher-plants (*Nepenthes*), these plants seem to possess some attraction for the flies, large quantities being found drowned at the bottom of the old pitchers. Pot them like Orchids and Cephalotus. Division. All N. American, growing in marshes and bogs.

SAXIFRAGA (*Saxifrages*).

—This is a large genus scattered over many parts of the world. They are mostly dense-growing succulent plants used for carpeting flower-beds, rockeries, and window-boxes. There are twenty or thirty species common in gardens, some being very beautiful, when closely examined. *S. cæspitosa*, *S. carpatica*, *S. ciliata*, *S. cordifolia*, *S. crustacea*, *S. densa*, *S. hirta*, *S. intacta*, *S. longifolia*, *S. pyramidalis*, and many others, will be found very easy to cultivate in any ordinary sandy soil. Division: *S. sarmentosa*, *S. Fortunei*, and its pink variegated variety, make excellent basket-plants. The first-named is the "Sailor-plant" of cottage windows.

SCHIZOSTYLIS COCCINEA (*Winter-flowering S.*)—In habit this plant resembles a small-growing scarlet-

flowered Gladiolus, and blooms freely in November and December when planted out in a sunny position on a warm sandy border. For pot-culture it is admirably adapted, as its flowers and fresh green foliage look much cleaner if sheltered either in a window or cool frame. It is one of the finest of all hardy winter-blooming plants for the decoration of the greenhouse, and continues in flower for a considerable time, its spikes of bright-coloured flowers coming in very handy for dinner-table decorations or for the drawing-room vases.



Schizostylis coccinea.

Pot the roots firmly in fibrous loam, leaf-mould, and coarse sand, and give plenty of water when growing. Our engraving gives an excellent idea of the plant on a small scale. It is readily propagated by dividing the clumps. Native of S. Africa.

SCILLA (*Squills*).—These are beautiful hardy spring-flowering bulbs, of dwarf, compact habit, and mostly bearing blue or white flowers. We have at least a dozen species in cultivation, and these sport into numerous varieties. Few hardy bulbs are more beautiful than these, and they are easily grown in pots (see *Colchicum*). A large number of species are met with in books, and they are scattered over both Europe and America.

SCOLOPENDRIUM VULGARE (*Hart's-tongue Fern*).— This is one of the most distinct of all our native Ferns, and is found very abundantly in Devonshire, where it fringes the lanes and waysides with its broad fresh green fronds. It sports into numerous fringed, crisped, and crested varieties, and there are one or two tolerably distinct forms of a variegated character, the light green fronds being splashed with creamy white, intermixed with deep green blotches or lines. The more distinct and beautiful forms may be grown



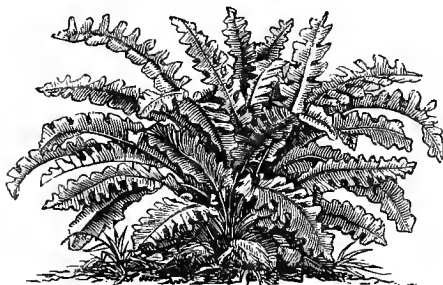
Scilla nutans.



Scilla sibirica.

in pots, using a fresh well-drained compost of sandy loam, peat, and abundance of coarse grit or road sand. They will luxuriate best in a moist, shady corner, sheltered from the hot sun; and regular syringings when throwing up their young fronds assist their growth materially, and at the same time keep insect-pests in abeyance. Grown in pots they form handsome decorative objects, and their broad strap-shaped fronds come in very useful for grouping

in the drawing-room vases along with choice cut-flowers, and other Ferns of a more elegant character.



Scolopendrium vulgare.

Our illustration shows the habit of these plants, and represents one of the wavy-margined varieties.

SEDUM SIEBOLDII (*Three-leaved* or *Ternate S.*)— This is one of the prettiest of all basket-plants for the window, and it grows very freely, bearing its fleshy, wedge-shaped, glaucous leaves in threes on the slender drooping stems. There is also a variety with golden-blotched foliage. Japan. Some of the dwarf species are well worth growing. *S. acre* (*common stonecrop*) is a bright green golden-flowered species often met with on walls, roofs, and porches in country districts. *S. dasyphyllum* and other of the dwarf-spreading section grow well on old walls, ruins, or in pots of sandy soil. Nearly all are hardy. Europe.

S. SPECTABILE (*S. fabarium*) (*Rosy-flowered S.*)— One of the best of all hardy succulent plants for the window. Propagate by division, and grow the plants outside during the hot weather, removing them indoors to flower during the autumn months. It has fleshy glaucous leaves on erect stems 1 foot high, and bears dense masses of pale, rosy-lilac flowers. The

flowers last for a month after being cut if placed in wet sand. Europe.

SELAGINELLA KRAUSSIANA (*Carpet-Moss*).—This is nearly hardy, and grows well in pots of sandy loam and leaf-mould in the window. It is also useful for carpeting the Wardian case, or even the window-boxes or baskets outside during summer with its fresh green spray. It is a rapid grower if liberally supplied with moisture, and may be readily propagated by division, as its slender stems root freely from their under surface. This species is sometimes called *S. hortensis*, and more frequently *S. denticulata*. In Paris it is largely used for carpeting the ground surface of cool greenhouses, and also for the flower-beds in the parks during the summer. All the species grow well in a close moist case or glass shade. (See Fern list). S. America.

SEMPERVIVUM.—This is a genus of fine-habited succulents, most of which grow with their fleshy leaves arranged around a centre, something like the petals of a Rose. They are all adapted for pot-culture, or for edging flower-beds, window-boxes, or hanging-baskets out of doors during summer. *S. arachnoideum* is coated with white hairs like a spider's web. *S. (calcareum) californicum* is largely used in the London parks for edging flower-beds along with *Echeveria secunda*. *S. ciliatum*, *S. tabulariforme*, *S. (Bollii) aureum*, *S. fimbriatum*, *S. arboreum*, *S. pyramidale*, and many others, may be grown outside during the summer, and come in handy for room-decoration during winter. Keep them dry from November to March. They are all readily propagated by division. European—some of the more tender species coming from the Canaries, Madeira, and Teneriffe.

SEMPERVIVUM CANARIENSE (*Canary House-leek*).

—This is a robust and very ornamental decorative plant either for pot-culture in the window or for planting out of doors during the summer months.

As shown in our excellent illustration, the leaves are arranged in a rosulate manner around a cup-shaped centre, and are of a soft pale-green colour,



Sempervivum canariense.

covered with soft white hairs, and terminating in an abrupt point at their apices. It is propagated readily from offsets, which are produced in tolerable abundance by well-established plants. Cape of Good Hope.

S. URBICUM (*Bronze-leaved House-leek*).—Another fine ornamental species, which contrasts well with the last, especially if grown in an open airy position, fully exposed to the sun, when its foliage becomes tinted with bright bronze or chestnut colour, while some of the leaves

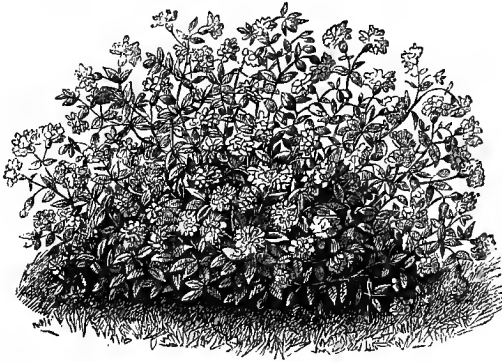


Sempervivum urbicum.

are spotted with dull purple. The margins of its bright glossy leaves are set with numerous minute

hair-like teeth. Our engraving is from a photograph, and shows the general habit of the plant admirably. It is as hardy and as easy to multiply as the last, and should be in every collection of succulents, however select. Cape.

SILENE ACAULIS (*Rosy Cushion-pink*).—A dwarf moss-like plant, growing in a dense spreading mass, and bearing numerous rosy pink or crimson flowers.



Silene acaulis.

It is a pretty plant for rock-work or balcony, and is found wild in the lake districts, and also in alpine localities in Scotland, Ireland, and Wales. Division of the tufts. Europe.

S. MARITIMA (*Seaside Cushion-pink*).—A pretty rosy-flowered species only 3-4 inches high. The double variety is very pretty, and forms an attractive addition to the group. It is found on the sea-coast in England, and is readily propagated by seed or division. There are several other varieties very useful either for borders or boxes, and they are easily raised from spring-sown seeds. Europe.

SOLANUM JASMINIODES (*Fasmine-like S.*)—This

is one of the prettiest of all hardy climbers for a wall in the south of England, and produces its clusters of pure white flowers during the summer and autumn months. Its foliage is lobed, dark green, and its flowers come in handy for decorative purposes. Cuttings or layers. S. America.

There are many fine-foliaged Solanums which grow well outside during the summer months, as *S. argentea* (silvery), *S. robusta* (olive green), and others. The berry-bearing section, *S. capsicastrum* and *S. pseudo-capsicum* (Williams'), are very handsome when studded with bright orange-scarlet fruit as large as marbles. They grow best treated like *Salvias* (see p. 336).

SONCHUS LACINIATUS (*Cut-leaved Sow-thistle*).—

This is a very pretty plant, remarkable for its elegant pinnate foliage, of a bright and pleasing green colour, gracefully arranged around a slender erect stem. Readily propagated from either cuttings or seeds, and being a free grower, it makes an effective ornamental specimen planted out during the summer in any rich sandy soil.



Sorghum bicolor.

Grown in small pots, it forms one of the lightest and most graceful of all dinner-table plants. Madeira.

SORGHUM BICOLOR (*Two-coloured Millet*).—This is one of the most ornamental of all the Grasses, belonging

to a genus several species of which are extensively cultivated for food in Spain, Italy, and other portions of Southern Europe, as well as in Arabia and Asia Minor. The plant under notice is readily propagated from seed, and grows best treated as a half-hardy annual in a warm sandy soil. As shown by our illustration its habit is very graceful, the millet-like heads drooping elegantly on all sides.

SPIRÆA FILIPENDULA (*Fern-leaved S.*)—A pretty hardy plant, bearing erect spikes of white flowers, which spring from a tuft of finely-divided fern-like leaves. It is a native of England, and flowers freely in a common border during summer. Division.

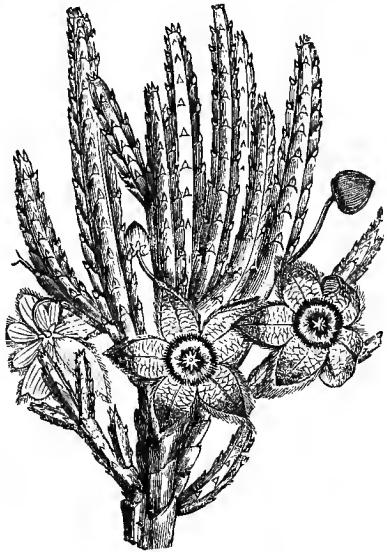
STACHYS LANATA (*Lamb's-ear*).—A dwarf silvery plant often used for edgings. It is perfectly hardy, and may be propagated readily by division. Siberia.

SPIRÆA JAPONICA—*see* *HOTEIA*.

S. PALMATA (*Crimson S.*)—A noble variety, having deep-green lobed or palmate foliage, and bearing dense masses of rosy-crimson flowers. It is one of the handsomest of pot-plants, although, like the two species named above, it will flower well planted out in a moist warm border. Its flowers are very useful for bouquets or dinner-table decoration, and they look well under artificial light. Propagated by division of the roots. Japan.

STAPELIA (*Carrion-flowers*).—This is a curious genus of succulent plants often known under the above name, which is derived from the fact that most of the species have the odour of putrid flesh. None of the species are strikingly beautiful, although highly interesting even to an ordinary observer. Our illustration gives an excellent idea of their general habit and mode of flowering. There are from thirty to fifty species cultivated in gardens, although they are

not so generally grown as one could wish. A curious fact about these quaint plants is, that flies deposit their eggs in the centre of the flower, evidently mistaking it for animal matter. In some cases, especially during hot weather, these eggs are brought to maturity, and the maggots, after vainly crawling about the flower in quest of nourishment, perish by starvation. These plants, like many Orchids, require insect agency to assist them in fertilisation, and no doubt the peculiar odour is a wise provision to insure their becoming fertilised.



Stapelia hirsuta.

The seeds are borne in spindle-shaped pods (capsules), and will float like thistle-down during dry sunny weather. Cuttings of these plants strike freely during the spring or summer months. Keep them dry and as much exposed to light and sun as possible during the winter months. All the species may be grown in a case fitted inside the window, but do not require the constant state of moisture in which Ferns luxuriate. Excessive moisture is certain death to all succulents, especially during dull cold weather. Cape of Good Hope. (See List.)

STIPA PENNATA (*Common Feather - Grass*). —

A slender-leaved species bearing numerous silky plumes in the autumn not unlike a liliputian Pampas Grass. It is easily grown in a warm sandy border, and its plumes are useful for winter bouquets of Immortelles or for the chimney-vases. Division. Britain.

THUNBERGIA ALATA (*Winged T.*)—Very pretty half-hardy climbers, bearing yellow or white flowers freely during the summer and autumn. The throat of the flower is nearly black. They grow well in any light rich compost, and are very pretty trained up the window trellis or strings. Seeds in the spring. E. Indies.



Thunbergia alata.

TODÆA SUPERBA
(*Superb Filmy Fern*).
—Of this lovely New Zealand Fern a correspondent writes me as

follows: "This Fern is generally considered difficult to grow in the house; but with a little forethought we have found it as manageable as the common Lady Fern. The pot in which it is grown is sunk in a common circular 12-inch seed-pan filled with moss surfaced with live Hypnum. This again is inserted in one of the large ornamental fern-cases and the whole covered with a bell-glass. Every other day in summer, and once or twice a-week in winter, Todæa and moss alike are dewed over with tepid water, the glass being never removed except for this purpose.

Its place is on the floor under a Wardian case at a north window, thus securing shade; and there have often been several degrees of frost around it without its sustaining the slightest injury. Very little pot-room is needed—our plant, though now filling an 18-inch glass, is still only in a 60—the curious filmy roots striking direct out from under the crown, and ramifying all through the moss. The advantage of the double containing-vessels is, that the size of glass can be increased as required without disturbing the moss or roots of the *Todæa*; and the surfacing of *Hypnum* under this treatment almost rivals in beauty that of the Fern.”

TRACHELIUM CÆRULEUM (*Blue Throatwort*).—This is a pretty blue-flowered plant, well suited for pot-culture, bearing dense heads of flowers. There is also a white-flowered variety. It is useful for indoor decorations, but may be grown as recommended for *Chrysanthemums*. It is raised from spring-sown seeds, and is perfectly hardy on dry soils. Mediterranean.

TRADESCANTIA ZEBRINA (*Striped Spiderwort*).—A free-growing trailer, well suited for carpeting window-boxes during summer, or for the margins and bottoms of hanging-baskets. Its foliage is silvery, striped with bronze, and of a deep purple beneath. Cuttings root very freely in wet sand. It is interesting as having been named after John Tradescant, one of the earliest of English gardeners. Another species is sometimes met with in old gardens under the name of *Virginian Spiderwort*. It grows a foot high, and bears a profusion of lovely blue flowers during the summer and autumn. The stalks of the anthers are very hairy-looking, exactly like floss silk in the sun, and they form a beautiful microscopic object when

examined under a low power. There is also a white-flowered variety. Virginia.

TRICHINIUM MANGLESII.—One of the prettiest of all everlasting flowers, bearing clusters of delicate pink flowers set with long hairs. To grow it successfully, plants should never be retained after the second year. It grows well in sandy fibrous loam and peat. To propagate it, the only plan is to cut up its fleshy root into short lengths a line or two long, and to treat these like seeds, sowing them in sand and peat. The stronger the root-cuttings, the more vigorous will be your plants. Grow them in a cool case, and remove them when they flower. Native of the Swan River.

TRICHOMANES RADICANS (*Killarney Fern*).—This elegant plant is nearly hardy, and grows very nicely in a close humid plant-case. It should be grown in a shallow pan in nodules of peat and sandstone, with a little sphagnum moss intermixed. Cultivated beneath a glass shade, it forms an interesting ornament to any apartment. Division. It belongs to the "Filmy Ferns," some species of which are of a very delicate semi-pellucid character, and sparkle like golden dew-drops after being sprinkled with pure soft water. Division. (See List.)

T.RENIFORME.—This is one of the finest species for a drawing-room plant-case, and totally distinct in habit.

TRICYRTIS HIRTA (*Hairy T.*)—A peculiar hardy border-plant, but well adapted for pot-culture, if treated as recommended under Anemone. Its leaves are hairy, and the flowers are creamy white, spotted with purple. The centre of the flower reminds one very forcibly of *Passiflora cœrulea*, or Blue Passion-flower. Division. (See fig.)

TRILLIUM GRANDIFLORUM (*White-flowered T.*)—It is a pity one so seldom sees this plant grown in pots

for the spring decoration of the greenhouse or window-garden. Each stem has three leaves, and bears a great nodding flower of the purest white, as shown in our illustration. I have seen it blooming very freely in the Botanic Garden at Edinburgh, and also in Messrs Veitch's Nursery at Chelsea. Readily multiplied by dividing strong clumps. N. America. It grows best in a deep, moist, peaty soil, but suc-



Tricyrtis hirta.



Trillium grandiflorum.

ceeds tolerably well in fibrous or turfy loam. It should be planted (or plunged in a pot) in a border with an eastern aspect, and carefully protected from hot sunshine. This plant is often called the "White Wood-Lily."

TRITELEIA UNIFLORA (*Garlic Star-flower*.)—A pretty little spring-flowering bulb, having slender foliage, and white star-shaped flowers, often slightly tinged with pale blue. Some dislike it on account of its smelling like onions or garlic, if bruised ever

so slightly. It is perfectly hardy, and blooms well in pots treated like *Colchicums*. Buenos Ayres.



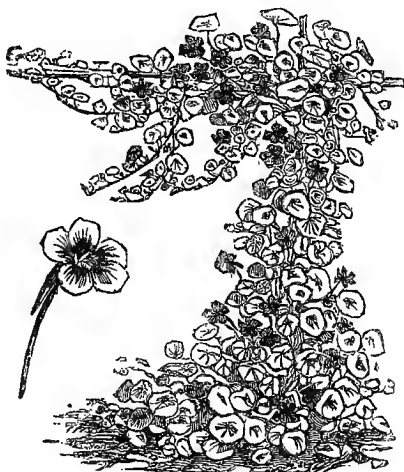
Triteilia uniflora.

TROPÆOLUM MAJUS (*Nasturtium*).—A well-known hardy annual plant, easily raised from spring-sown seeds. The dwarf varieties are useful bedding-plants. Peru.

T. PENTAPHYLLUM (*Five-leaved T.*)—A strong-growing, tuberous-rooted climber, bearing numerous orange-red flowers during the summer. Fruit of a violet-purple colour. It grows freely on warm sandy or calcareous soils, and is highly ornamental trained on trellises, pillars, walls, or screens. Division or seed. Chili.

T. TRICOLORUM (*Tricoloured T.*)—One of the prettiest of old-fashioned greenhouse flowers, having slender trailing stems, and bearing a profusion of orange-scarlet and black flowers all through the summer. It is not hardy, but grows well in the window, or even on the balcony. Valparaiso.

T. LOBBIANUM (LOBB'S T.)—This is a fine small-leaved species, and one of the best of all tender climbers, flowering all through the winter in a warm and sunny window (see fig.) It requires plenty of moisture, and a rich, warm, sandy soil. Columbia.



Tropæolum Lobbianum.

There are several other species from Chili and Peru, all beautiful. *T. azureum*, *T. Jarrattii*, and *T. pentaphyllum* are the best. Bulbs, and occasionally from seed.

TULIPA GESNERIANA (*Common Tulip*).—Most of the beautiful florists' varieties of Tulips have originated from this species. The passionate mania which once existed for this flower has now subsided; but at the same time it is extremely popular, especially in the north of England and in Scotland, where it is carefully grown for show purposes beneath canvas shades. Formerly, large sums were paid for a single bulb of any fine variety—indeed the prices were even

more extravagant than those paid for rare Orchids in our own time. All the varieties of Tulips are well adapted for growing in pots of rich sandy soil, and flower freely in the spring. N. Asia. Levant.

VALISNERIA SPIRALIS (*Grass-like V.*)—A grass-like aquatic, easily grown in an inverted bell-glass, along with the *Aponogeton* or *Nymphæa pygmæa*, the smallest of all Water-lilies; indeed it can be grown in a small aquarium or ornamental pan but a trifle wider than a leaf of the common white Water-lily, of which this little species is an exact counterpart on a small scale. The *Valisneria* roots freely into a little sandy earth or mud, and bears both male and female flowers. The latter are borne on long spiral stalks, hence the specific name, and float on the surface of the water. The male flowers are borne on very short stalks, right down at the base of the plant, becoming detached and rising to the surface



Vallota purpurea.

just before opening; this is necessary in order that the female flowers may become fertilised with the pollen from the male plants. The leaves of *Valisneria* are interesting, and show the circulation of the sap when seen beneath a low power of the microscope, just as the motion of the blood-corpuscles can be seen in the translucent membrane of a frog's foot.

Division or seed. Europe.

VALLOTA PURPUREA (*Scarborough Lily*).—A well-

known evergreen bulbous plant, easily grown, even in a cottage window, and remarkably effective, bearing large scarlet flowers on stems 12 to 15 inches high. It is largely grown by the London market-gardeners or florists for Covent Garden market. It flowers during September and October, and lasts for a considerable time. In potting, use rich sandy compost, and do not over-water this or any other bulbs until their pots are filled with roots. During the winter, keep the soil nearly dry. Division. Cape of Good Hope.

VELTHEIMIA VIRIDIFOLIA (*Glossy-leaved V.*)—This is a common bulbous plant well worth general window-culture on account of its fresh green undulating leaves, which are dotted at the base with purple. Its drooping flowers are of a pale rose or flesh tint, borne on an erect spotted scape above the foliage. The plant is sufficiently hardy to stand outside during summer, while a few degrees above actual frost during winter is enough for its protection. It comes from the Cape of Good Hope, and is easily multiplied by the offsets, which are very freely produced on full-grown specimens.

VERONICA ANDERSONI (*Showy V.*)—A pretty half-hardy shrub, having oblong leathery leaves, and bearing many axillary spikes of purple or lilac flowers. There are now several varieties and hybrids in cultivation, some being very dwarf and compact, and free-flowering. Planted out under a sunny wall during summer, they flower freely; or they are very useful for the decoration of balconies and window-gardens. They are easily propagated from cuttings in the spring, and are well worth extensive cultivation in pots. New Zealand.

VINCA MAJOR (*Greater Periwinkle*).—A free-growing trailer bearing large blue flowers, and having

opposite glossy br shining foliage on slender stems which root freely from the joints. There are some beautiful variegated varieties of this much used as edgings and borders to rockeries or flower-beds. Being evergreen they are useful for planting in the window-boxes during winter along with evergreen shrubs as Aucubas and Euonymus. Easily propagated by division. Europe.

V. MINOR (*Lesser Periwinkle*).—This has a more slender trailing habit than the preceding and has smaller leaves. It flowers freely during the spring and summer on erect shoots like the last named. There are both double-flowered and variegated varieties, all of which are ornamental for the above purposes, and also for hanging-baskets during winter. Layers and division. Europe.

VIOLA ALTAICA (*Upland Violet*).—This and V. tricolor are the parents from which all our “Pansies” or “Heart’s-ease” have originated. These rich velvet-like flowers have been brought to a high state of perfection; but, like Tulips and Auriculas, they have not been so much thought of since the introduction of Ferns, Palms, Orchids, and other choice exotics. Pansies strike freely from cuttings, or they can be raised from seeds sown in boxes of light rich sandy earth in the autumn or spring. They are of course quite hardy, but grow well in pots. Altai Mountains near China.

V. CORNUTA (*Horned Violet*) is often used as an edging plant, producing its pale blue or mauve flowers very freely through the spring and summer months. Cuttings. Europe.

V. ODORATA (*Sweet Violet*).—One of the most deliciously fragrant of all wild flowers, and commonly naturalised in garden-borders for the sake of its odour.

There are many varieties, both blue and white, and they all flower freely in the winter and spring if planted under a cold frame fully exposed to the sun. They also bloom very early naturalised on warm dry sandy borders on the south side of a wall or fence. There are double-flowered varieties, both white and blue, and all are worth growing. They do well in pots, producing their perfumed flowers in abundance. The Violet was an emblem of the Napoleonic dynasty: Europe.

VITIS VINIFERA (*Common Grape Vine*).—Apart from its value as a fruit-bearing plant, the common Grape Vine is one of the most effective of hardy climbing or trailing plants when grown outside balconies or verandas. Its foliage is elegant in form and of the freshest green colour imaginable during the summer; while many varieties, as “Gros Guillaume” or “Esperione,” rival the crimson-tinted Virginian Creeper itself during the autumn months. Many of the Canadian or American Vines, as *Vitis vulpina* (*Fox-Grapes*), *V. labrusca*, and others, form handsome wreaths of richly-coloured foliage and fruit in abundance during the autumn, when trained gracefully around porches, trees, rustic trellises, or over arbours and outhouses. *V. arbuscula* is a small-leaved species bearing purple berries, and may be used occasionally for dishing up fruit or for wreaths. For picturesque effect few trailers equal Vines when planted and allowed to ramble over ruins or old retaining walls. Vines propagate readily from cuttings, layers, or eyes. In favourable seasons the “Royal Muscadine” ripens its fruit on a sunny south wall, as also does the little “Black Cluster,” one of the hardiest and most prolific of all outdoor Grapes. Asia and America.

WIGANDIA CARACASSANA (*Large-leaved W.*)—A

fine-foliaged plant with fresh green leaves often 18 in. long by about a foot in width. It grows well either planted out or grown in pots for balcony decoration during summer. It is easily propagated by root-cuttings—*i. e.*, pieces of the thick fleshy roots are placed in a gentle bottom-heat during the early part of the year, and they soon throw up fresh little growths from the latent or adventitious buds distributed over the surface. S. America.

YUCCA (*Adam's Needle*).—This genus contains some of the noblest plants ever grown in gardens for

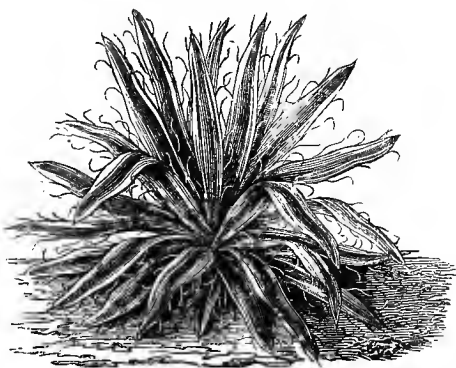


Yucca flaccida.

foliage effects, while they often flower freely during the summer and autumn months. Their sword-shaped leaves are armed at the point with a sharp spine; and their fragrant, waxy, bell-shaped flowers droop gracefully from the branches of an erect spike 2 to 5 feet high. The best varieties are *Y. aloifolia* and its yellow variegated variety, *Y. filamentosa*, *Y.*

f. variegata, *Y. glauca*, and *Y. quadricolor*, one of the finest, its golden variegated leaves becoming tinted with bright crimson when it is fully exposed in the open air during summer. N. America, Columbia, Georgia, Carolina, and one or two from the Cape. Grown in clumps or masses on lawns or slopes, *Yuccas* are unrivalled for picturesque effect even during winter; while their grand flower-spikes give a semi-tropical aspect to the most commonplace scene during summer. The variegated varieties are very ornamental

in apartments during the winter season, and always look well when tastefully arranged along with succulents, Palms, *Acacia lophanta*, and *Ficus elastica*. Plants in large pots or small tubs are effective for balcony decoration during the summer months, espe-



Yucca filamentosa variegata.

cially when grouped artistically along with Virginian Creeper, Wistaria, Grape Vines, Gourds, *Tropæolums*, or other graceful climbers and trailing-plants.

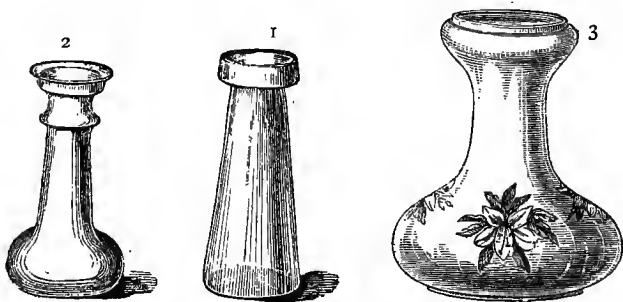
ZEPHYRANTHES CARINATUS.—This and its pure white congener *Z. candidus* flower very freely in open borders. It has grassy foliage a foot long, and bears delicate pink flowers on scapes nearly as long as the foliage. When grown in warm sheltered positions—as, for instance, at the base of a south wall—these *Zephyranthes* form pretty additions to our list of hardy autumnal bulbs. One species is called the West-wind Flower, and is commonly met with growing in the gardens of Ceylon, as margins to walks and beds.

IMPLEMENTS, MATERIALS, AND APPLIANCES
FOR INDOOR GARDENING.

A few remarks and general hints as to the mechanical contrivances which, if not actually essential, are extremely useful and convenient to the amateur, may be found of some service in our present issue. I do not profess to recommend particular tradesmen, but any of those incidentally mentioned in this work will supply them of excellent quality, and, so far as my own experience goes, at a reasonable price. Our illustrations will save us the trouble of writing dry descriptive details, which, as a rule, only serve to weary the general reader instead of affording instruction. A number of the appliances here mentioned are of general utility for many other domestic purposes besides window and balcony gardening, and should find a place in every well-regulated household.

Some appliances are elegancies rather than practical helps to success, and these have been avoided as much as possible.

Hyacinth Glasses.—These are very ornamental,



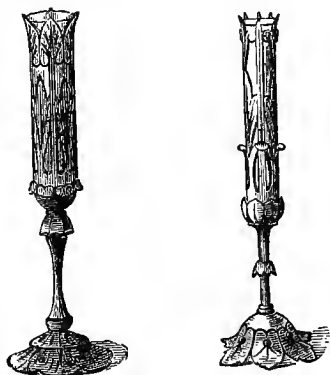
Hyacinth Glasses.

good bulbs flowering very freely in them, and some

prefer them to pots on account of their neat, clean, and showy appearance. No. 1 is the old shape in plain glass; No. 2, improved or Richmond shape in the same material; and No. 3 shows a new and more elegant design, which may be had in coloured glass, terra cotta, or Etruscan ware. Our figure also shows a neat gilt-wire support, which holds the spike quite



Hyacinth Glass.



Wood Specimen Vases.

firmly in its place without being in any way obtrusive. The "Triplet" glass consists of three glasses fused together so as to hold three bulbs of different colours. Coloured or opaque glasses are preferable, as the water becomes discoloured and unsightly. A lump or two of charcoal keeps it tolerably fresh, and a few drops of ammonia once a-week is a good stimulant.

Specimen Vases.—These come in handy for the reception of any curious or interesting flower, and

make nice little ornaments for the chimney-piece or for the drawing-room or library table. They are made in terra cotta, Etruscan ware, or glass, and may be had either plain or ornamental. The latest novelty in this way was shown to me by Mr Hooper of Covent Garden, and consists of carved wood vases lined with glass. These are nice for church decorations, and equally useful for the library or studio. Those of plain or coloured glass are used for setting before each guest at the dinner-table, each containing a choice flower neatly arranged, either with its own foliage, or with one or two Fern-fronds.

Pot-covers.—These are very useful for concealing the bare sides of the common earthenware flower-pots



Ivy-lattice Pot-cover covered with imitation Ivy.



Bouquet-holder.

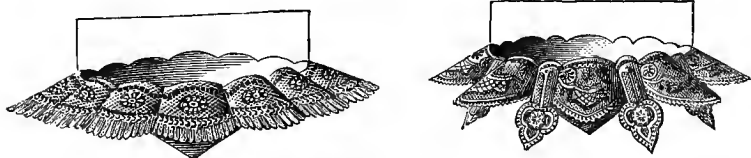
when brought into the parlour or drawing-room, and can be obtained either plain or coloured. Being expansive, they fit pots of any size. Our illustration shows an improved form, in which the strips are ornamented with imitation Ivy or other foliage, according to taste. Some of these covers are neatly gilt and are very moderate in price. They are very durable, and when not in use can be rolled up tightly so as to occupy but little room.

Bouquet-holders.—These are made of various mate-

rials, and are very elegant. Our figure shows a useful form made in glazed pasteboard. Those of neat wicker-work are pretty, some being straight and others formed like miniature horns-of-plenty, having curved handles. The more valuable kinds are made of gold or silver filigree-work, often jewelled, and are in some cases very costly.

Bouquet-wires.—There are at least half-a-dozen kinds of wire used by professional bouquetistes, all of which can be obtained from any furnishing florist either by the pound or reel. The stouter kinds are used for stems, and may be bought for a shilling or eighteenpence per pound. For piercing Camellias and other flowers having very short stems or stalks, fine steel wire is used. For binding the flowers on their artificial stems very thin wire is sold on wooden reels, and this may be obtained either plain or plated according to taste.

Bouquet-papers.—Edgings of glazed or perforated paper are used for the commoner kinds of bouquets, to which they give a neat and attractive finish. The plain papers, or “collars,” are made in sizes of from



Bouquet-papers.

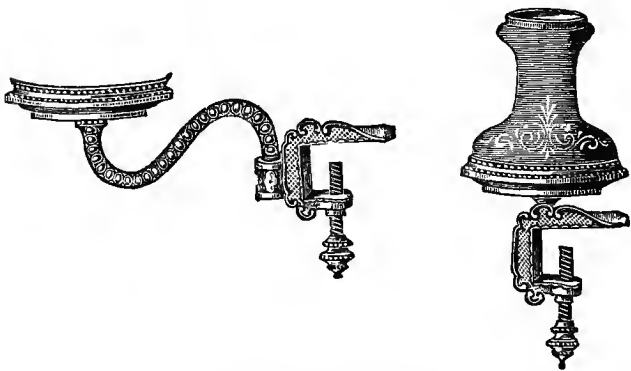
6 to 12 inches in diameter, and cost from threepence to a shilling per dozen.

Our illustrations show an improved funnel-shaped “collar” of perforated paper of good quality neatly finished off with a glazed card which preserves the shape. These can be had either plain, gilt, or silvered,

and vary from two to eighteen shillings per dozen. The finer kinds of bouquets are fringed with blonde, over which real lace is tastefully arranged, and the whole finished off neatly with white satin ribbons of the best quality.

Flower Brooches and Tubes.—Many flowers, very beautiful for button-hole bouquets, or as personal ornaments for ladies, droop or fade in a few minutes, unless the ends of their stalks are kept in water. The common glass tubes sold for coat-flowers answer the purpose very well; and brooches for ladies may have a tube for a little water concealed behind them. Those now sold by florists are not very elegant in point of design; and there is an excellent opening for some beautiful and useful ornaments in this direction.

Hyacinth-glass Holders.—A glance at our illustrations explains the use and adaptability of these handy contrivances, which have been specially designed as

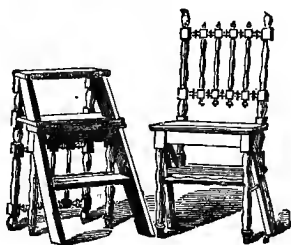


Hyacinth-glass Holders.

portable brackets, for which purpose they are well adapted. They can be screwed firmly to any pro-

jecting wood or stone work, either in the house or in the conservatory, and may be used for a great variety of purposes besides window-gardening. Flower-pots, vases, or any other object of moderate size, can be held in place of Hyacinth glasses; and I can thoroughly recommend them for their general utility.

A useful Chair.—Our figure shows the adaptability of this ingenious contrivance at a glance; and as it is of substantial manufacture, and very moderate in price, it will be a great acquisition to most window or balcony gardeners. Nothing could be better for the greenhouse, fernery, or conservatory; and being made of varnished oak, its appearance is all that can be



A useful Garden-chair.

desired. As a pair of steps, they are far preferable to the ordinary kind. A glance at our illustration will show that they stand on a perfectly solid base. Nothing can be handier for the general work of the household, such as dusting, window-cleaning, &c., and they are invaluable in the office, studio, or library.

Watering-pans.—These are necessary to all amateur as well as professional gardeners. The common form of pot is the best for general purposes of watering and sprinkling; but for plants on shelves or brackets above one's head, the flat form is preferable. In selecting a watering-pot, have a copper rose or two of different sizes, that will unscrew readily, in case they become blocked up by impurities in the water. For sprinkling small seeds, a very fine rose is re-

quired, as a coarse one washes out the soil, and often the seeds as well.

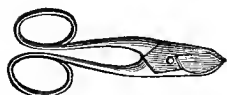
Syringes.—The syringe is a very useful implement in the hands of an expert cultivator, it being a deadly weapon to both thrip and red-spider. It should be made of brass, the thicker the better, as it is then not so liable to become bruised or put out of order. If it is fitted with a nozzle, any degree of force can be given by placing the finger over the end, so as to modify the current, and direct it upwards or downwards, as may be required. Fine and coarse roses are all very well in their way, but an expert horticulturist can do all he requires with the nozzle-pipe and his forefinger.

Thermometers.—These are very valuable aids to the horticulturist, and one should always hang in the window, as well as in the close cases. Those filled with mercury or quicksilver are preferable, and generally more accurate than the cheap instruments filled with coloured fluids or spirits of wine. A good and reliable instrument is always useful in the house, and may be obtained mounted either in boxwood, copper, or enamelled iron for a few shillings.

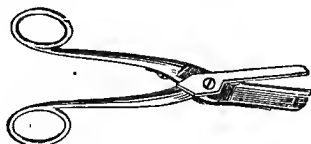


Pruning or Flower-gathering Instruments.—A pair of sharp-pointed grape-scissors will be found very useful for snipping out decayed flowers or dead leaves. For pruning in Climbers, Roses, and other strong-growing or hard-wooded plants, a pair of common pruning-scissors (see fig.) will come in very handy. For taking off cuttings, a sharp knife is the best implement, and the keener the blade is the better. For flower-gathering, either scissors or the knife may be used, but it often happens that one has to reach out at arm's length for a

choice bloom. In cases like this (where it is not convenient to cut the flower with one hand while holding it with the other), Selby's Flower-gatherer is



Pruning-scissors.



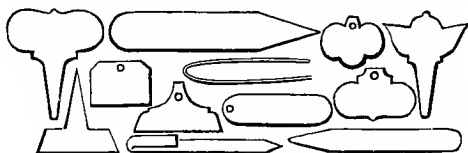
Selby's Flower-gatherer.

very handy, as it cuts the flower and holds it firmly at the same time. This is important in the case of tender or fragile blossoms, which would be seriously damaged by falling.

Baskets.—Flower-baskets are generally made of light wicker-work, and rather shallow; but when baskets are required for soil, pots, crocks, or any other rough and heavy substance, nothing is better than the wooden baskets. These are made of thin tough strips of ash or other wood, and last for several years, if carefully handled. They are the best of all baskets for the garden, and come in handy for many other domestic purposes. They are made in all sizes, and some are finished off in a very neat and ornamental manner.

Labels.—Nothing adds so much to the interest of a collection of healthy plants as to see them all properly named or neatly labelled. Labels are made very variable as to shape, and of various materials. Those of deal (cut with a sharp knife, and the smooth face rubbed over with a thin coat of white-lead) are neat and durable, and can be neatly written with a common lead pencil. Wooden labels ready made cost about a shilling per hundred. Terra cotta labels are too thick and clumsy, as a rule, for small pot-

plants, though they are valuable for trees and shrubs outside. Zinc labels like those figured below are both neat and durable, and when written with an ordinary pen and prepared ink sold for the purpose, it is almost impossible to erase the names or numbers



Zinc labels.

unless immersed in nitric or muriatic acid for a short time. Our illustration shows the shapes best suited for pots, as well as those useful for hanging on trees and shrubs.

Tying materials.—For the purpose of tying plants to supports, either sticks or trellises, strips of bast or Russian matting are generally employed, and are very handy if of good quality. China Grass or Japanese Flax is capable of being subdivided into long hair-like strips which are very strong and neat. Ordinary worsted is elastic and one of the best of all tying materials. For climbers and shrubs on walls or trellises outside, common lead wire is very convenient and durable. Copper wire is also very good and lasting, although not so easily used as that made of lead.

Sticks and Trellises.—Light thin sticks are very useful for supporting plants of weak or straggling habit, as well as for regulating those of stronger growth. Common plasterer's laths, which may be bought for a shilling or eighteenpence a bundle, split easily and make neat little stakes. Bamboo sticks ready made are both neat and durable. A coat of

green paint improves their appearance and prevents their becoming too obtrusive.

Dibbers.—A useful dibber for planting out seedlings may be made from the handle of an old worn-out spade. The handle of an old tooth-brush, if ground or filed to a point, makes an excellent dibber for pricking off young seedlings.

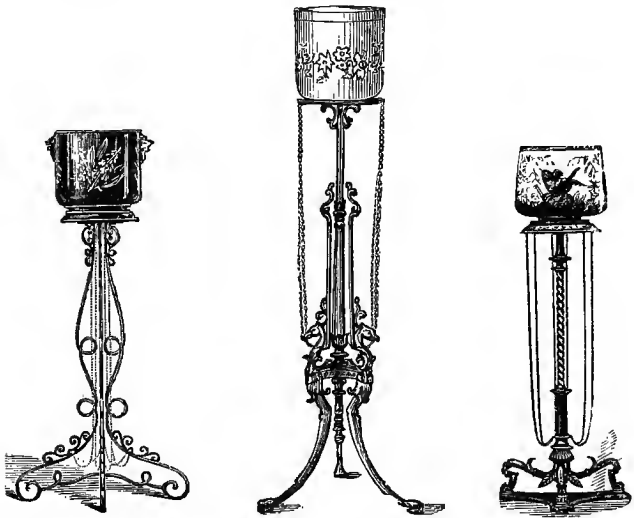
Forks and Trowels.—These are useful for taking up roots or plants from the borders, or for planting bedding stuff out in the spring. They are best made of cast steel, and should be kept clean and bright, or they are apt to clog in working.

Aphis Brush.—This useful little contrivance is of service to the amateur for removing green-fly from rose-trees or the young shoots of other plants. The brushes are very soft, and will not injure the tenderest growth if properly used. They may either be used dry or dipped in liquid insecticide.

Stands and Vases.—In the tasteful arrangement of cut-flowers, much more of the effect obtained depends on the form and size of the vases employed than is generally supposed. For general use nothing is better than plain white glasses or vases, and the more elegant these are the better. Avoid all thick heavily-ornamented patterns, or those of complicated design, as these are not only more expensive, but also ill adapted for our purpose. An expert decorator will obtain the best possible effect with glasses like those formerly figured; and a great point in their favour is, that they require very few flowers to fill them effectively. In selecting vases, and in filling or arranging them, one point must be borne in mind—namely, do not intercept the view across the table, as nothing is more trying to one's patience than to be compelled to bend and peep at your opposite friend

through the tiers or around the sides of a badly arranged stand.

These vases can be bought of almost any size ; and if the trumpet-shaped top is made to fit into a socket in the lower dish so much the better, as it can then be more easily packed away when not in use. Be chary in using coloured or gilded vases, as they are only adapted for particular coloured flowers, while



Stands for Ornamental Vases and Flower-pots.

those of plain glass suit nearly all alike. Very pretty vases are now made in oak, terra cotta, and enamelled porcelain or Etruscan ware. These do very well for a few flowers and cut Ferns on the drawing-room table or sideboard.

Ornamental stone or terra cotta vases look very well on balconies when planted with Yuccas, Agaves, Cannas, Palms, or other foliage-plants during the

summer months. For the winter they can be filled with Yuccas, Ivy, or Periwinkles, and spring-flowering Annuals or Bulbs will make them gay as soon as the weather becomes mild.

LIST OF AQUATIC PLANTS.

These interesting plants may be grown in an aquarium, or the smaller-growing kinds will succeed perfectly well in an inverted bell-glass. Some float on the surface and derive sufficient nourishment from the water itself; but the larger kinds require to be planted in a little sand or gravelly loam at the bottom of the aquarium or bell-glass, whichever may be employed. Some of the most interesting water-beetles and a few minnows or golden carp may be added, as the motion of the water caused by these is very beneficial to the plants. A change of water will now and then be necessary, and a siphon is handy for drawing off the water from the glass without disturbing the contents. A few lumps of fresh charcoal added now and then sweeten the water considerably. The following may be grown in any ordinary apartment protected from frost during severe weather. The last is an imperative necessity, as if the water becomes frozen the safety of the aquarium itself, not to mention its inmates, is imperilled. An aquarium always affords the means of preserving a whole host of fresh microscopic specimens in the best possible condition.

ANACHARIS ALSINASTRUM or "American Waterweed," common in most rivers, ponds, and canals.

APONOGETON DISTACHYON (see page 231).—One of the very best of hardy aquatics, a native of the Cape of Good Hope, but perfectly naturalised in this

country, the finest specimens being in the Edinburgh Botanic Garden.

CALTHA PALUSTRIS.—This is a well-known hardy British aquatic, bearing its deep golden-yellow flowers very profusely in April or May. In country places where not indigenous it may readily be naturalised by planting it by the moist spongy margins of streams or ponds. There is a double-flowered variety in cultivation.

CHARA.—Several species common in ponds and ditches, all beautiful objects for the microscope under a low power.

LEMNA.—Four British species commonly known as "Duckweeds." *L. gibba* and *L. minor* are found in nearly every pond. *L. polyrhiza* is the most ornamental, and all are nice microscopic objects, the end of each little root being protected by a well-defined semi-transparent sheath.

LYMNOCHARIS HUMBOLDTII.—A very graceful water-plant, having bright green heart-shaped leaves and pale sulphur-yellow flowers with a dark purple centre. Though generally treated as a stove-plant, it will succeed perfectly in an ordinary aquarium during the summer months, and flowers profusely. It flowers out of doors every summer in the Jardin des Plantes, Paris.

PISTIA STRATIOTES (*Water-Lettuce*).—A bright green little plant which floats on the surface of the water, and succeeds well treated like the last.

PONTEDERIA CRASSIPES.—This is a fresh-looking exotic with curious swollen petioles to its kidney-shaped leaves. It grows well in a bell-glass during summer, but requires heat in winter.

POTAMOGETON CRISPUM.—This is another British plant well worth culture either in a tank or pond out-

side, or in the parlour aquarium. Small pieces look very pretty in a bell-glass, and soon root and form plants.

RICHARDIA ÆTHIOPICA (*Lily of the Nile*) (see page 334).—This beautiful plant succeeds well treated as a hardy aquatic, and withstands the severity of our southern winters with impunity if plunged two or three feet below the surface of the pond or lake in which it is grown.

VALISNERIA SPIRALIS (see page 354).—A slender-growing diœcious plant, often grown in fresh-water aquaria as a curiosity. Does best in fibrous loam. Division.

More species might be added, but a selection from the above will be amply sufficient for ordinary collections.

PALMS AND CYCADS.

LIST SUITABLE FOR ROOM OR WINDOW CULTURE, OR FOR
OUTDOOR DECORATION DURING SUMMER.

(These plants stand dust well, but should be kept clean by being sponged occasionally with clear soft water.)

<i>Areca lutescens</i>	<i>Chamærops macrocarpa</i>
" <i>monostachys</i>	" <i>palmetto</i>
<i>Attalea nucifera</i>	<i>Cycas circinalis</i>
<i>Carludovica palmata</i>	" <i>revoluta</i>
" <i>rotundifolia</i>	<i>Dion edule</i>
<i>Caryota furfuracea</i>	<i>Eñcephalartos horridus</i>
" <i>sobolifera</i>	" <i>Altensteinii</i>
" <i>urens</i>	" <i>caffer</i>
<i>Ceroxylon andicola</i>	<i>Kentia Baueri</i>
<i>Chamærops excelsa</i>	" <i>sapida</i>
" <i>Fortunei</i>	<i>Livistonia australis</i>
" <i>humilis</i>	" <i>borbonica</i>

Livistonia rotundifolia	Sabal Adansonii
" altissima	" Blackburniana
Phoenix dactylifera	" umbraculifera
" reclinata	Seaforthia elegans
" farinifera	Thrinax radiata
" sylvestris	Zamia Lemanii
Rhapis flabelliformis	" M'Kenii
" humilis	

FERNS AND LYCOPODS.

Ferns are easily raised from the dust-like seeds (spores) found beneath their fronds. In order to get them to germinate, if no better appliance is at hand, get a wide-mouthed glass bottle, and fill it half full of sandy peat. Press it down tolerably firm and level, then scatter the spores over the soil, and cork the bottle. In order to give them sufficient air, either insert a quill through the cork, or cut one or two nicks in the side with a sharp knife. When the young plants are large enough for planting or potting, break the bottle carefully, and then gently separate the little plants. When the insides of glass shades and room ferneries become covered with condensed moisture, it is an excellent plan to wipe them quite dry with a sponge or soft cloth.

LIST SUITABLE FOR ROOMS, WINDOWS, AND BALCONIES
DURING SUMMER.

(Those marked * do best in Wardian cases.)

* Adiantum assimile	Adiantum hispidulum
" capillus Veneris	" intermedium
" colpodes	" macrophyllum
" concinnum	" pedatum
" " latum	" reniforme
" cuneatum	" tenerum
" decorum	" tinctum

- * *Anemædictyon phyllitidis*
 " *fraxinifolium*
 * *Asplenium adiantum-nigrum*
 " *alternans*
 " *auritum*
 " *bulbiferum*
 " *flaccidum*
 " *furcatum*
 " *nidus avis*
 " *pulchellum*
 " *trichomanes*
Athyrium filix-fœmina (many very beautiful varieties)
Blechnum gracile
 " *lanceola*
 " *occidentale*
 " *spicant* (hardy)
Cyrtomium falcatum
 " *caryotideum*
 * *Davallia bullata*
 " *canariense* (*Hare's-foot*)
 " *elegans*
 " " *dissecta*
 " *parvula*
 " *pentaphylla*
 " *pyxidata*
 " *solida*
 " *tenuifolia*
 " " *stricta*
 * *Dicksonia antarctica* (*Tree Fern*, very pretty in Wardian case when in a young state)
Doodia aspera
 " *caudatâ*
 " *dives*
 " *lunulata*
 " *media*
 * *Doryopteris collina*
 " *nobilis*
 " *palmata*
 " *pedata*
 " *sagittæfolia*
 * *Faydenia prolifera*
Goniophlebium appendiculatum
- Goniophlebium Catherinæ*
 " *subauriculatum*
 " *squammatum*
 * *Hemionites cordata*
 " *palmata*
 * *Humata* (*Davallia*) *alpina*
 " *heterophylla*
 " *pedata*
Hymenodium crinitum
 * *Hymenophyllum asplenioides*
 " *demissum*
 " *flabellatum*
 " *flexuosum*
 " *hirtellum*
 " *Luschnatianum*
 " *polyanthos*
 " *Tunbridgense*
 (These must be grown in a genial heat, and humid atmosphere.)
Lastræa atrata
 " *dilatata* (hardy)
 " *filix-mas*
 (The two last species are hardy, and sport into many beautiful and interesting varieties)
Lastræa glabella
 " *opaca*
 * *Leucostegia immersa*
 * *Lindsea cultrata*
Lomaria alpina
 " *attenuata*
 " *Chiliensis*
 " *lanceolata*
 " *L'Herminierii*
 " *nuda*
 * *Lygodium palmatum*
 " *scandens*
 (These are beautiful climbing Ferns, and do well in a close case.)
Nephrodium molle
 * *Nephrolepis pectinata*
 " *tuberosa*
Nipholobus lingua
 " *corymbiferum*

Phlebodium aureum
 " sporodacarpum
 (Two strong-growing Ferns, of a bluish-green colour, grow well in the drawing-room window.)
 * Platycerium alcornae
 " biforme
 " grande
 " stemmaria
 (*Stag's-horn Ferns*; very distinct, and grow well in a Wardian case.)
 Polypodium vulgare
 (Many fine varieties, all hardy.)
 Polystichum angulare
 (Many elegant varieties.)
 Polystichum capensis
 " lonchitis (*Holly Fern*)
 Pteris arguta
 * " argyrea
 * " cretica
 * " albo lineata
 " longifolia
 " serrulata (one of the best for cutting; several varieties)
 " tremula
 " straminea (this last stands well when cut)
 Scolopendrium (*Hart's-tongue*)
 " vulgare
 (Many elegant varieties.)
 * Todea superba
 " pellucida
 (Two fine elegantly cut Ferns, for

a cool and very moist plant-case.)
 * Trichomanes crispum
 " radicans
 " reniforme
 " venosum
 Woodwardia radicans
 " orientalis
 (Strong-growing Ferns, of elegant habit, fine for a drawing-room vase.)

LYCOPODS.

* Lycopodium dendroideum
 * Selaginella africana
 " apoda (densa)
 " atro-viridis
 " caesia
 " " arborea
 " caulescens
 " cuspidata
 " denticulata
 " elongata
 " erythropus
 " Martensii
 " " variegata
 " mutabilis
 " sarmentosa
 " serpens
 (These graceful little plants are well adapted for a humid and moderately warm case, where they keep fresh and green all the year.)

SUCCULENT PLANTS.

LIST SUITABLE FOR WINDOW-CULTURE, OR FOR BALCONIES,
DURING SUMMER.

(All succulents stand dust well, and should be placed in the hottest and driest position, fully exposed to the sun. Keep clean by sponging, and give no water during the dull winter months.)

Agave Americana	Aloe Africana
" variegata	" lineata
" striata	" ciliaris
" mediopicta	" tenuior
" potatorum	" consobrina
" Humboldtii	" grandidentata
" horrida	Beaucarnea recurvata
" glaucescens	" tuberculata
" filifera	" glauca
" Saundersii	" longifolia
" Mastersii	" stricta
" Hookerii	Bryophyllum calycinum
" Celsiana	" proliferum
" dealbata	Cereus strigosus
" xylacantha	" Tweideii
" Verschaffeltii	" cinerascens
" Besseriiana	" flagelliforme
" Karatoo	" repens
" Smithii	" monstrosus
" Seemanii	Cotyledon coruscans
" ensiforme	" orbiculata
And many others.	" pulverulenta
Aloe picta	" fulgens
" variegata	" undulata
" serrulata	" gracilis
" prolifera	" mammillaris
" frutescens	" " cristata
" soccotrina	Crassula lactea
" arborescens	" cordata
" ferox	" perfoliata
" supra-lævis	" coccinea
" Salm Dyckiana	" retusa
" cæsia	" pyramidalis
" cæsia elatior	" rosularis

Crassula multiceps	Echeveria pulverulenta (rare)
" lycopodioides	" globosa
Echinopsis multiplex	Euphorbia caput Medusæ
" oxygona	" globosa
" Eyriesii	" Commelini
" Zuccariniana	" meloformis
" tubiflora	" splendens
" Schellhasii	" Bojeri
Echinocactus Californicus	" bupleurifolia
" mamillosus	Gasteria pulchra
" scopa	" bicolor
" " cristata	" maculata
" cornigerus	" subnigricans
" ourselianus	" Bowieana
" hexædrophorus	" verrucosa
" Ottonis	" glabra
" uncinatus	" undata
" ornatus	" albicans
And several other species.	" lingua
Echinocereus pectinatus	" acinacifolia
" Labouretii	" Croucheri (rare)
" texensis	" candicans
" viridiflorus	" trigona
Epiphyllum truncatum	" nitida
" " violaceum	" carinata
" " Snowii	" prolifera
" " splendens	" spiralis
" " aurantiacum	Haworthia concinna
" " other va-	" torquata
rieties	" mirabilis
" Russellianum	" turgida
Echeveria agavoides	" arachnoides
" Californica	" translucens
" secunda	" margaritifera
" " glauca	" subulata
" " retusa	Kalanchoe Ægyptiaca
" " metallica	" crenata
" " atro sanguinea	" laciniata
" metallica	Kleinia repens
" bracteosa	" ficoides
" fulgens	" tomentosa
" pubescens	" fulgens
" velutina	" articulata
" canaliculata	" papillaris
" pumila	" neriifolia

Mammillaria

- " stellaris
- " decipiens
- " crucigera
- " acanthophlegma
- " discolor
- " angularis
- " densa
- " Parkinsoni
- " auriceps
- " elephantidens
- " spinosissima
- " gracilis
- " polyedra
- " stella aurata
- " straminea
- " coronaria
- " pusilla
- " bicolor
- " nivea
- " " longispina
- " rhodanthe
- " stellata
- " Wildiana
- " phymatothele
- " flavescens
- " Newmannii
- " cirrifera
- " mutabilis
- " cornifera
- " Schiediana
- " echinata
- " erecta
- " caput Medusæ

Melocactus communis (*Turk's cap*)

Mesembryanthemum minutum

- " obcordellum
- " octophyllum
- " tigrinum
- " maximum
- " densum
- " amœnum
- " blandum
- " lacerum
- " conspicuum

Mesembryanthemum formosum

- " imbricans
- " polyanthum
- " aureum
- " roseum
- " incurvum
- " lepidum
- " retroflexum
- " aurantiacum
- " barbatum
- " dolabriforme
- " stellatum

Opuntia cylindrica

- " tuna
- " Missouriensis
- " clavarioides
- " " cristata
- " vulgaris
- " Rafinesquiana
- " microdasys
- " corrugata

Pereskia aculeata

- " grandiflora

Pilocereus senilis

Phyllacactus Ackermannii

- " anguliger
- " crenatus
- " hybridus
- " oxypetalum
- " Parkinsonii
- " speciosus

(These are the well-known "Cactuses" often cultivated in cottage windows, where they produce their scarlet, white, or soft rosy-lilac flowers very freely during the summer months.)

Pachyphyton bracteosum

- " linguum
- " roseum

Portulaca grandiflora

- " Thellusonii
- " Gilliesii
- " grandis

Portulaca grandis rosea
 " *variegata*
 " *Thornburnii*
 " *aurantiaca*
 " *aurea*
 And many beautiful varieties.
Rhipsalis funalis
 " " *gracilis*
 " *cassytha*
 " *saglionis*
 " *salicornoides*
 " *Swartziana*
 " *pachyptera*
Rochia falcata
 " *perfoliata*
 " *albiflora*
Sempervivum tectorum
 " *calcareum*
 " *hirtum*
 " *aureum*
 " *arachnoideum*
 " *montanum*
 " *tabulare*
 " *subtabuliforme*
 " *canariense*
 " *velutinum*
 " *arboresum*
 " " *variegatum*
 " *pumilum*
 " *holochrysum*
 " *ciliatum*
 " *glutinosum*
Stapelia maculata
 " *hirsuta*

Stapelia Plantii
 " *grandiflora*
 " *hystrix*
 " *reflexa*
 " *variegata*
 " *Buffonis*
 " *Europea*
 " *asterias*
 " *lucida*
 " *deflexa*
Sedum spectabile
 " *Sieboldii*
 " " *variegatum*
 " *sempervivum*
 " *pulchellum*
 " *oppositifolium*
 " *dasyphyllum*
 " *hirsutum*
 " *villosum*
Yucca aloifolia
 " " *variegata*
 " " *quadricolor*
 " *gloriosa*
 " *flaccida*
 " *recurvata*
 " *filamentosa*
 " *glaucescens*

(For the above List of Succulents I am in part indebted to Mr J. Croucher, formerly of the Royal Gardens, Kew, and one of our best practical authorities on these interesting plants.)

FOLIAGE-PLANTS.

LIST SUITABLE FOR THE WARDIAN CASE OR WINDOW
CONSERVATORY.

Alocasia Jenningsii	Ficus repens
Bertolonia guttata	Fittonia argyronentra
" margaritacea	" Pearcei
Cephalotus follicularis	Higginsia refulgens
Cyperus alternifolius	Maranta illustris
" " variegatus	" ornata
Dionæa muscipula (<i>Fly-trap</i>)	" roseopicta
Dorstenia argentea maculata	" vittata
Dracæna ferrea	" faciata
" marginata	Panicum variegatum
" " gracilis	Pothos argyrea
" terminalis	Sarracenia Drummondii
" rubra	" flava
" congesta	" purpurea
And many others, all being easily grown.	" variolaris
Drosera (<i>Sundews</i>)	(These are easily grown in a close case, and are highly interesting, their leaves re- sembling purple or green pitchers.)
" capensis	Sonerila margaritacea
" dichotoma	Tradescantea zebrina
" spathulata	" " variegata
" rotundifolia (common)	Vitis heterophylla variegata (a very elegant creeper, the foli- age blotched with white tinged with purple. Stems and tendrils also purple. Several other small-leaved Vines are very ornamental.)
" longifolia	
Dioscorea batatas (<i>Chinese Yam</i>)	
(Tubers of this elegant plant grow well in moss and water in an ornamental drawing- room vase.)	
Eranthemum sanguineolentum	
Ficus barbatus	
" elasticus	

FOLIAGE-PLANTS FOR THE WINDOW IN WINTER OR THE
BALCONY DURING SUMMER.

Agaves and Aloes (many kinds)	Aralia Sieboldii variegata
Aralia crassifolia	" trifoliata
" heteromorpha	Aspidestra lurida variegata
" papyrifera	" elatior "
" Sieboldii	Bambusa Fortunei "

Bambusa nigra	Isolepis (pygmæa) gracilis
Dammara ovata	Myrtus communis
" robusta	" " angustifolia
Dracæna australis	" " latifolia
" draco	Phormium tenax (<i>New Zealand</i>
" Veitchii	<i>Flax</i>)
Farfugium grande	" " variegatum
Ficus elastica	Richardia æthiopica (<i>White</i>
" Chauvierii	<i>Trumpet-Lily</i>)
And other varieties.	" albo maculata
Grevillea robusta	Yuccas—see List of Succulent
Hedera—see Hardy Climbers	Plants

HARDY CLIMBING AND TRAILING PLANTS FOR WALLS AND TRELLISES.

Ampelopsis hederacea	Clanthus Dampierii (<i>Silver-leaved</i>
" Japonica	<i>Glory Pea</i>), one of the most
" Veitchii	gorgeous of all plants.
Aristolochia siphon	Clanthus puniceus (this has bright
" tomentosa	green foliage, and flowers well
Berberidopsis corallina	outside in warm sheltered
Bignonia radicans	situations. Like the last it
Calycanthus occidentalis (this is	has bright crimson - scarlet
commonly called "Carolina	flowers in dense clusters, but
allspice," and bears its large	in this species they are devoid
crimson purple flowers all	of the bluish-black blotch or
through the summer. They	boss so prominent in C. Dam-
are very aromatic.)	pierii.)
Calystegia pubescens	Corchorus Japonicus
" dahurica	" " fl. pl.
" sepium	Cotoneaster buxifolia
Chimonanthus fragrans	" microphylla
" " grandiflorum	" Simmondsii
Clematis candida (white)	Cratægus pyracantha (fine clusters
" Florida "	of scarlet berries)
" Fortunei (double white)	Coprosma Baueriana (one of the
" Jackmannii (purple)	very best of all glossy-leaved
" lanuginosa (blue)	climbers for a warm sunny
" magnifica (purple)	wall)
" Reginæ (mauve), and many	Cydonia (Pyrus) Japonica (one of
other hybrid varieties, all in-	the finest spring - flowering
valuable for trellis-work.	shrubs for a wall)

- Edwardsia microphylla
 Escallonia macrantha (fine glossy foliage)
 " rubra
 Euonymus Japonicus
 " " fol. argenteis var.
 " " aureis-maculatis
 " " radicans
 " " albo-marginatus
 (These are among the finest of all glossy-leaved evergreens for covering walls, or for pot-culture and window-boxes in winter.)
 Habrothamnus corymbosus
 Hedera (all evergreen)
 " albo-marginata
 " Algeriensis
 " " variegata
 " argentea
 " argenteo-marginata
 " aureo-marginata
 " baccifera lutea
 " Canariensis aureo-maculata
 " Cavendishii
 " digitata
 " donerailensis
 " helix (*English Ivy*)
 " " aurea densa
 " " " " minor
 " " maculata
 " " gracilis
 " " minima
 " " elegantissima
 " " latifolia
 " " major
 " " pulchella
 " " rhombifolia variegata
 " " rubra argentea
 " Hibernica (*Irish*)
 " " aurea-maculata
 " " marmorata
 " Japonica argentea
 " " elegantissima
 " " fol. variegatis
- Hedera Japonica marmorata elegans
 " " palmata-aurea
 " " Pennsylvanica
 " " Rægneriana
 " " rhomboidea obovata
 " " sagittæfolia
 " " spectabilis
 " " tricolor variegata
 Jasminium (*Jasmine*) nudiflorum
 " officinale (white Jasmine)
 " revolutum (yellow)
 " grandiflorum (white)
 Lonicera (*Honeysuckles* or *Wood-bines*)
 " brachypoda
 " " aurea-reticulata
 " flexuosa
 " fuchsioidea
 " Japonica
 " Magnevilleii
 " pubescens
 " sempervirens
 " Standishii
 Lycium barbarum (*Tea-tree* or *Common Box-Thorn*)
 Magnolia conspicua
 " grandiflora
 " Lenné
 " macrophylla
 " purpurea
 " glauca
 " Soulangeana
 (These last are glossy-leaved plants, bearing large white or purple flowers deliciously perfumed. *M. grandiflora* is a specially valuable evergreen for the front of the house or anywhere on a warm sunny wall. Plant in deep sandy loam.)
 Menispermum Canadense (fine foliage, something like the *Aristolochias*)

- | | |
|---|---|
| <p><i>Passiflora</i> (<i>Passion-flower</i>)</p> <p>" <i>cœrulea</i> (an elegant climber bearing white and blue radiate flowers all the summer. Sunny wall in loam.)</p> <p><i>Punica granatum</i> (<i>Pomegranate</i>), a glossy-leaved plant, well suited for a wall in warm districts, or for pot-culture indoors.</p> <p><i>Pyrus</i>—see <i>Cydonia</i></p> <p><i>Rosa Fortuneana</i> (<i>Fortune's Double Yellow</i>)</p> <p>" <i>Banksiæ</i></p> <p>" <i>Devoniensis</i> (climbing)</p> <p>" <i>Gloire de Dijon</i> and many other varieties</p> <p><i>Solanum Jasminioides</i> (one of the finest of all hardy climbers on a warm south wall. It flowers freely up to November.)</p> <p>" <i>pseudo capsicum</i> (another species bearing fine crops of orange-scarlet berries in autumn. Does well on a warm border and also in pots.)</p> | <p><i>Veronica Andersonii</i></p> <p>" " <i>variegata</i> (a fine variety bearing numerous spikes of bright purple flowers like the last. Its leaves are blotched or margined with creamy white.)</p> <p>" <i>lobelioides</i></p> <p>" <i>decussata</i></p> <p>" <i>angustifolia</i></p> <p><i>Vitis vinifera</i> (<i>Grape Vine</i>)</p> <p>" <i>vulpina</i> (<i>Fox-Grapes</i>)</p> <p>(These and the Canadian Vine are strong and elegant deciduous climbers, perfectly hardy.)</p> <p>(The common Fig-tree (<i>Ficus carica</i>) has fine-lobed foliage, and makes a noble hardy climber on a warm wall, besides often affording abundant crops of luscious fruit. It is well worth culture as a fine foliage-plant.)</p> <p>All the above do well on a warm sunny wall in sandy loam, and they are well adapted for pot-culture.</p> |
|---|---|

LIST OF ORCHIDS

THAT MAY BE GROWN IN THE GENERAL ATMOSPHERE OF A DRAWING-ROOM CASE OR SHADE.

(Temperature not below 40° nor above 50° during winter.
Keep always moderately moist.)

We are frequently told that Orchids require houses to themselves, but really, in all truth, a greater or more absurd fallacy could not easily be promulgated. One would almost be led to infer from this that Orchids were exclusive, and occupied some particular

portions of our globe, to the utter exclusion of all other vegetation. We can grow the Palms, Melastomads, Begonias, Ferns, and Peperomias, in an ordinary plant-house; but the Orchids which have grown side by side with them in their native habitats must be placed in a structure called an "Orchid-house" ere they can be expected to succeed in our gardens at home. There are hundreds of plant-stoves in this country in which Orchids might be grown as well as in the best Orchid-house ever made, were it not for the superstitious principles entertained by many on the above point. It may be taken as a rule that wherever tropical Ferns and fine foliage-plants succeed, there also Orchids, or at least many of them, would luxuriate often with far greater chance of success than when placed in our so-called Orchid-house, which, however desirable, is not absolutely essential to Orchid-culture.

Barkeria Skinnerii	plants, and will grow freely in
" spectabilis	a close humid case.)
Cypripedium barbatum	Oncidium flexuosum
" spectabile	" obryzatum
" venustum	Odontoglossum Alexandræ
" insigne	" Pescatorei
" villosum	" nebulosum
" hirsutissimum	" Lindleyana
" Schlimmii	" grande
Dendrobium nobile	(Nearly all the species of this
" transparens	group may be grown in a case
" heterocarpum	or under a shade.)
Lycaste Skinnerii	Pleione maculata
" aromatica	" Wallichii
" cruenta	Sophronites cernua
Masdevallia Lindenii	" grandiflora
" tovarensis	(These grow best on flat blocks
" ignea	of wood suspended on the
(These are very cool growing	sides of the case.)

SELECT LIST OF ORNAMENTAL GRASSES.

(Those marked * are perennials ; † specially adapted for bouquets.)

	Feet high.		Feet high.
Agrostis argentea		Eragrostis inconspicua	2
* " nebulosa	1½	" namaquensis	2
" plumosa		" pectinata	2
† " pulchella (syn. A. tenella)	½	" Purshii	1
Anthoxanthum gracile	1	" suaveolens	
Brachypodium distachium	1	" thephrosanthes	2
" pinnatum	¾	Festuca glauca	
† Briza compacta (<i>Quaking- grass</i>)	¾	Hordeum jubatum	2
† " gracilis	¾	" myuroides	2
† " maxima, splendid for bouquets	2	Isolepis gracilis	
† " minima	1	† Lagurus ovatus (<i>Hare's- tail</i>)	1
Brizopyrum siculum	2½	Lappago racemosa, dwarf, very fine	¾
†* Bromus brizæformis	1	† Leptochloa gracilis	
" macrostachya	2½	" tenerrima	1½
Chloris cylindriflora	2	* Molinia cærulea fol. var.	1
" fimbriata	2	Muhlenbergia diffusa, very fine	1½
" polystachia	2	† Panicum variegatum	
Chrysurus cynosuroides, splendid for bouquets	¾	† " sulcatum	
* Cyperus papyrus	2	Pennisetum longistylum	3
Deyeuxia retrofracta	1½	Phalaris minor, dwarf	1
Diplachne fascicularis	2	Setaria aurea	2½
Eleusine coracana	1½	" glauca	2½
" indica	1½	" macrochæta	
" oligostachya	1	†* Stipa elegantissima	2
Eragrostis Ægyptiaca	2½	" pennata (<i>Feather- grass</i>)	2½
† " elegans (<i>Love-grass</i>)	2	Zea japonica foliis variegatis	3

These plants are very elegant in habit when growing ; and their feathery plumes or drooping panicles are very beautiful for winter decorations, bouquets, or as chimney-piece ornaments for vases.

LIST OF HARDY ANNUALS.

Sow in pots of light earth in March, or in the open border during April and May (*see* Propagation).

Alyssum calycinum
 Amaranthus atropurpureus
 " caudatus
 Antirrhinum majus
 Artemisia annua
 Atriplex hortensis rubra
 Candytuft (Iberis)
 Clarkia elegans
 " pulchella
 Cochlearia acaulis
 Collinsia bicolor
 " verna
 " violacea
 Convolvulus tricolor
 Coreopsis tinctoria
 Delphinium consolida
 Gypsophila elegans
 " saxifraga
 Helianthus argophyllus
 " annuus
 " Indicus
 Helichrysum of sorts
 Hibiscus africanus
 Hyoscyamus pictus
 Lathyrus azureus
 Leptosiphon rosaceus
 " aureus
 Linaria cymbalaria
 Linum grandiflorum rubrum
 Loasa (laterita) tricolor
 " Herbertii
 Lupinus albo-coccineus
 " Hartwegi
 " hirsutus
 " hybridus of sorts

Marigolds. French of sorts
 Mathiola bicornis
 " tricuspidata
 " triste
 Mignonette (Reseda odorata)
 Mimulus hybridus
 " moschatus (*Musk*)
 " cupreus
 Nasturtium (Tropæolum) of sorts
 Nemophila atomaria
 " insignis
 " maculata
 Oxalis corniculata rubra
 Platystemon californicum
 Pyrethrum Golden Feather
 Saponaria calabrica
 " " alba
 Schizopetalon Walkeri
 Sedum azureum
 Senecio elegans
 " Jacobæa
 Silene armeria
 " pendula
 Sweet Peas (Lathyrus odoratus)
 Tagetes lucida
 Tropæolum perigrinum (*Canary-
 flower*)
 " majus of sorts
 Virginian Stock (Malcolmia)
 Viscaria elegans
 " oculata
 " splendens
 Wall-flower (Cheiranthus cheiri)
 Whitlavia gloxinoides
 " grandiflora

LIST OF HALF-HARDY ANNUALS.

Sow in a gentle heat in March (see Propagation), and prick off into pans of light earth when they have three or four leaves each. Plant out in the open border or balcony boxes in May.

Acroclinium roseum	Mesembryanthemum cordifolium
" " album	" variegatum
Alonsoa Warszewiczii	" crystallinum
" " compacta	" tricolor
Amaranthus salicifolius	Mormordica charantia
Anagallis grandiflora	" elaterium
" " Brewerii	Nicotiana glauca (<i>Tobacco-plant</i>)
" Indica	" rustica
Asters of sorts	Nierembergia frutescens
Balsam (<i>Impatiens balsamea</i>)	" gracilis
Celosia pyramidalis	Oxalis rosea
" " aurea	Palava flexuosa
" " coccinea	Perilla nankinensis
" " versicolor	Petunia hybrida (mixed)
" cristata (<i>Cockscomb</i>)	Phaseolus coccineus
" Huttoni	Phlox Drummondii of sorts
Clianthus Dampierii	Phygelius capensis
Clintonia pulchella	Physalis alkekengi
" elegans	" edulis
Cucumis perennis	Phytolacca decandria
Godetia Whitleyi	Portulacca anrea
Gomphrena globosa	" caryophylloides
Gossypium Barbadense (<i>Cotton-plant</i>)	" Thellusoni
" herbacenum	" Thornburni
Gourds, many kinds	" grandiflora (mixed)
Helipterum Sandfordi	Rhodanthe atrosanguinea
Impatiens glanduligera	" maculata
Ipomœa of sorts	" " alba
Lagenaria (<i>Bottle-gourds</i>) of sorts	" Manglesii
Lobelia erinus speciosa	Ricinus communis (<i>Castor-oil</i>)
" gracilis	" of sorts
" of sorts	Schizanthus pinnatus
Mesembryanthemum cordifolium	" retusus
	Scotanthus tubiflorus
	Statice spicata

Tagetes signata pumila	Vinca alba
Thunbergia alata	Waitzia corymbosa
Trichosanthes anguinea (<i>Snake-gourd</i>)	" grandiflora
Tropæolum Lobbianum	Xeranthemum annuum
" minus (of sorts)	" " album
Vinca rosea	" of sorts
	Zinnea elegans of sorts

SEEDS FOR AUTUMN SOWING.

Many of the following hardy plants, if sown in a warm, dry, sunny border, will flower well in the spring, or much earlier than it is possible for plants to do which are sown in March or April. Nature's plan is to sow her seeds as soon as ripe; and she can often be imitated with advantage in the case of hardy annuals, perennials, and other decorative plants. With a selection from the following short list alone, it is possible, indeed easy, to keep the window-boxes or balcony gay for at least nine months of the year. Some of those sown in the autumn flower early in spring; and the same kinds sown in spring will bloom during the summer and autumn. They will grow in ordinary garden soil.

	Feet high.		Feet high.
Alyssum maritimum (sweet), white	½	Campanula pentagonia, purple	¾
Asperula azurea setosa, light blue	1	" " alba, white	¾
Bartonia aurea, orange	1½	Candytuft, dark crimson or purple	1
Calandrinia speciosa, rose	½	" lilac	1
" umbellata, crimson	½	" sweet-scented	1
Calliopsis coronata, yellow spotted	2	" white rocket	1
" tinctoria, yellow and brown	3	Centranthus macrosiphon, red	1½
Campanula carpatica, blue	½	Clarkia pulchella, rose	1
" " alba, white	½	" " alba, white	1
		Collinsia bicolor, purple and white	1
		" " alba, white	1

	Feet high.		Feet high.
Collinsia grandiflora, purple	1 ½	Lupinus nanus albus, white	1
" verna, blue & white	1	Mignonette, buff . . .	1
Erysimum Peroffskianum, orange . . .	1 ½	" large-flowered, buff	1
" arkansanum, yellow . . .	1 ½	" new pyramidal, orange . . .	1
Eschscholtzia californica, yellow . . .	1	Myosotis dissitiflora	
" crocea, orange	1	" sylvatica . . .	¾
" " alba, white . . .	1	" " alba . . .	¾
Eutoca viscida, dark blue .	1	Nemophila atomaria, white, spotted . . .	1
Gilia tricolor, white, lilac, and purple . . .	1 ½	" discoidalis, black and white . . .	½
" " alba, white . . .	1 ½	" insignis, blue . . .	½
" " rosea splen- dens, rose . . .	1 ½	" maculata, white and purple . . .	½
Godetia rosea alba, rose and white . . .	1 ½	Nolana lanceolata, blue . . .	½
" rubicunda, rosy crimson . . .	1 ½	Peas, Sweet, mixed . . .	6
" The Bride, white and crimson . . .	1 ½	" " Invincible Scar- let, fine . . .	6
Kaulfussia amelloides, blue	¾	Platystemon californicum, yellow . . .	1
Larkspur, dwarf rocket, finest mixed . . .	1	Prince's Feather (Amaran- thus), giant crimson . . .	3
" tall rocket, finest mixed . . .	2	Pyrethrum Golden Feather, yellow foliage . . .	1
Leptosiphon densiflorus, lilac	1	Saponaria calabrica, rose . . .	¾
" " albus, white . . .	1	" " alba, white . . .	¾
" aureus, orange	½	Silene pendula, pink . . .	1
Limnanthes Douglasi, white and yellow . . .	½	" " alba, white	1
Lobelia erinus erecta, blue .	¼	" " ruberrima, carmine rose . . .	½
" " " alba . . .	¼	" pseudo-atocion, rose	1
" " " rosea . . .	¼	Stock, Intermediate, scarlet	1 ¼
" gracilis, blue . . .	½	" " purple	1 ¼
" " alba . . .	½	" " white	1 ¼
" Paxtoniana, blue and white . . .	½	" Virginian, red . . .	½
" speciosa, dark blue	½	" " white . . .	½
Love-lies-bleeding, red . . .	2	Venus's Looking-glass, blue	½
Lupinus nanus, blue and white	1	" " white	½
		Viscaria oculata, rose, dark eye . . .	1
		Whitlavia grandiflora, violet	1
		" " alba, white . . .	1

LIST OF HARDY HERBACEOUS PLANTS FOR WINDOW
AND BALCONY DECORATION.

Name.	Height in feet.	Colour.	Time of flowering.
<i>Acanthus candelabrum</i> . . .	2-4	Foliage green	August
<i>Acorus gramineus</i> fol. var. . .	1½	Var. foliage	
" <i>japonicus</i> " . . .	2	"	August
<i>Agapanthus nanus</i> " . . .	1½	Blue	July
<i>Agrostis vulgaris</i> " . . .	1		August
<i>Anthyllis montana</i> . . .	¼	Purple	July
<i>Arabis lucida</i> fol. var. . .	"	"	"
" of sorts			
<i>Armeria angustifolia</i> . . .	¾	Rose	"
<i>Artemisia frigida</i> . . .	1	Yellow	August
" <i>Villarsii</i> . . .	"	"	"
<i>Aspidistra elatior variegata</i> . . .	½	"	April
" " <i>aurea-punctata</i> . . .	1½	"	
<i>Aubrietia Campbellsii</i> . . .	¼	Blue	June
" of sorts			
<i>Bambusa Fortunei</i> fol. var. . .	1		
" <i>nigra</i> . . .	10		
" <i>metake</i> . . .	8		
" <i>gracilis</i> . . .	12		
<i>Bellis perennis aucubæfolia</i> . . .	¼	Red	July
" " <i>conspicua</i> . . .	"	"	"
" " <i>prolifera</i> . . .	"	Pink	"
" " <i>Snowflake</i> . . .	"	White	"
<i>Betonica grandiflora</i> . . .	1½	Purple	August
<i>Calandrinia umbellata</i> . . .	½	Magenta	September
<i>Caltha palustris</i> fl. pl. . .	1	Yellow	March
" <i>radicans</i> . . .	½	"	April
<i>Calystegia pubescens</i> fl. pl. . .	10	Rose	July
" <i>sepium grandiflorum</i> . . .	12	White	August
" <i>soldanella</i> . . .	1	Flesh colour	June
<i>Campanula Barrelieri</i> . . .	½	Blue	August
" <i>hirsuta</i> . . .	"	"	"
" <i>collina</i> . . .	"	"	"
" <i>Elatine</i> . . .	"	Pale blue	"
" <i>fragilis</i> . . .	"	Blue	"
" " <i>alba</i> . . .	"	White	"
" <i>garganica</i> . . .	"	Pale blue	"

Name.	Height in feet.	Colour.	Time of flowering.
Campanula garganica alba . . .	½	White	August
" glomerata . . .	1½	Purple	"
" pulla (very pretty) . . .	½	Blue	July
Centaurea Clementei . . .	3	Yellow	"
Cerastium alpinum . . .	½	White	"
Cheiranthus alpinus . . .	½	Yellow	"
" Delayhanus . . .	¾	Purple	June
" longifolius . . .	1	Puce	July
" Marshalli . . .	¾	Orange	"
" ochroleucus . . .	1	Yellow	August
Cineraria acanthifolia . . .	2	"	July
" maritima . . .	1½	"	August
Convallaria majalis (<i>Lily of the Valley</i>) . . .	1	White	June
Convolvulus mauritanicus . . .	"	Blue	"
Cortusa Mathioli . . .	½	Red	May
Corydalis nobilis . . .	1½	Yellow	July
Cyclamen Atkinsii . . .	¼	White and rose	April
" " roseum . . .	"	Rose	"
" " carneum . . .	"	Flesh	"
" europeum . . .	"	Red	August
" hederæfolium . . .	½	Rose	October
" " album . . .	"	White	"
" " græcum . . .	"	Red	April
Dactylis elegantissima . . .	1½		
Dianthus (Pinks), many free- flowering hybrids . . .	1	Rose or white	June
Dielytra spectabilis . . .	2	Pink	July
" " alba . . .	"	White	"
Dodecatheon media . . .	1	Red	"
Draba agoides . . .	¼	Yellow	May
Equisetum (<i>Horse-tails</i>), several graceful species . . .			
Erinus alpinus . . .	¼	Rosy purple	April
Euphorbia cyparissus . . .	1	Yellow	August
Funkia ovata (cœrulea) . . .	1½	Puce	"
" " variegata . . .	"	"	"
(There are about twenty species and varieties in cultivation, all handsome foliage and flower- ing plants.) . . .	1-2	White or purple	"
Geranium sanguineum . . .	1	Blood-coloured	"
Gypsophila prostrata . . .	½	Blush	"

Name.	Height in feet.	Colour.	Time of flowering.
<i>Helianthemum album plenum</i> .	$\frac{3}{4}$	Yellow	July
" <i>aurantiacum</i> .	$\frac{1}{2}$	Orange	"
" <i>roseum plenum</i> .	"	Rose	"
" of sorts			
<i>Hemerocallis disticha fol. var.</i> .	2	Orange	June
" <i>fulva</i> .	2	Copper	July
" <i>Kwanso</i> .	"	"	"
<i>Iris cristata</i> .	$\frac{1}{2}$	Blue	"
" <i>iberica</i> .	"	Purple & yellow	"
" <i>pumila</i> .	$\frac{1}{4}$	Blue and purple	June
" " <i>alba</i> .	"	White	"
" " <i>bicolor</i> .	"	Blue and white	"
" " <i>cœrulea</i> .	"	Blue	"
" " <i>lutea</i> .	"	Yellow	"
" " <i>pallida</i> .	"	Pale blue	"
<i>Jasione perennis</i> .	1	Blue	August
<i>Linaria alpina</i> .	$\frac{1}{4}$	Violet & yellow	"
<i>Linum campanulatum</i> .	$\frac{1}{4}$	Yellow	"
" <i>flavum</i> .	1	"	September
<i>Lithospermum prostratum</i> .	$\frac{1}{2}$	Blue	July
<i>Lobelia fulgens</i> .	2	Scarlet	September
" <i>siphilitica alba</i> .	3	White	"
<i>Lychnis alpina</i> .	$\frac{1}{4}$	Pink	June
" <i>Haageana</i> .	1	"	August
" " varieties			
" <i>viscaria</i> .	$\frac{3}{4}$	Red	"
" " <i>alba plena</i> .	"	White	"
" " <i>rubra</i> " .	"	Red	"
<i>Lysimachia nummularia</i> .	$\frac{1}{4}$	Yellow	July
" " <i>aurea (fine)</i>	"	"	"
<i>Myosotis dissitiflora (a gem)</i> .	$\frac{1}{2}$	Blue	April
" of sorts .	1	"	"
<i>Nierembergia frutescens</i> .	1 $\frac{1}{2}$	Lilac	September
" <i>gracilis</i> .	$\frac{1}{2}$	"	"
<i>Onosma taurica</i> .	1	Yellow	August
<i>Ophiopogon Jaburan</i> .	1	Blue	September
" " <i>aureo variegatum</i>	1	"	"
" <i>Japonicum</i> .	$\frac{1}{2}$	Yellow white	July
" <i>spicatum</i> .	1	White	August
" " <i>argenteo-marginata</i>	1	"	September
<i>Orobus vernus</i> .	1	Purple	March
<i>Papaver nudicaule</i> .	1	Yellow	August
<i>Pentstemon</i> of sorts .	2	Purple and red	July

Name.	Height in feet.	Colour.	Time of flowering.
<i>Phalaris elegantissima</i> . . .	2	White	July
<i>Phlox frondosa</i> . . .	$\frac{3}{4}$	Pink	May
" <i>Nelsonii</i> . . .	$\frac{1}{2}$	White	"
" <i>subulata</i> var. <i>amœna</i> . . .	"	Dark purple	"
<i>Poa trivialis</i> for. var. . . .	$\frac{3}{4}$	White	July
<i>Polemonium cœruleum</i> fol. var. .	1	"	"
" <i>humile</i> . . .	1	Blue	August
<i>Primula acaulis</i> . . .	$\frac{1}{2}$	Yellow	March
" double white . . .	"	White	"
" " lilac . . .	"	Lilac	"
" " purple . . .	"	Purple	"
" " rose . . .	"	Rose	"
(Nearly all the Primroses may be grown in pots plunged in moist borders until they flower.)			
<i>Ranunculus acontifolius</i> fl. pl. .	1	White	June
" <i>chœrophyllus</i> (fine) .	1	Yellow	"
" <i>gramineus</i> (good) .	"	"	"
" <i>speciosus</i> . . .	$\frac{1}{2}$	"	"
<i>Saxifraga</i> , many kinds—see List of Succulents			
<i>Scilla</i> , in variety			
<i>Sempervivum</i> —see Succulents			
<i>Sibthorpea europea</i> . . .	$\frac{1}{4}$	Purple	August
<i>Sisyrinchium grandiflorum</i> . .	1	"	March
" <i>odoratissimum</i> . . .	1	Striped	July
<i>Smilacina bifolia</i> . . .	$\frac{1}{2}$	White	May
<i>Spiræa Japonica</i> . . .	2	"	July
" " <i>aurea</i> var. . .	"	"	"
<i>Thalictrum minus</i> . . .	1	Yellow	"
<i>Veronica gentianoides</i> . . .	$1\frac{1}{2}$	Violet	June
" " fol. var. . .	"	"	"
" " <i>elegantissima</i> . . .	"	"	"
" <i>prostrata</i> . . .	"	Blue.	"
" <i>spicata</i> . . .	1	"	August
" " <i>alba</i> . . .	"	White	"
" " fol. var. . .	"	Blue	"
<i>Vinca major</i> of sorts . . .	1	"	April
" <i>minor</i> " . . .	$\frac{1}{2}$	Blue & white	"
<i>Viola</i> of sorts			
(The varieties of the common Violet, Pansies, <i>Viola cor-</i>			

Name.	Height in feet.	Colour.	Time of flowering.
nuta, and its white var., and many others, are well suited for window-boxes, balconies, or pots outside.)	$\frac{3}{4}$	Purple. Yellow	April

HARDINESS OF PLANTS.

Persons interested in trying what plants will survive the winter in the milder parts of Britain, will probably find an aid in the following list of plants which, in the winter of 1870-71, withstood without injury 15° Fahr. of frost in the open air in the Botanic Garden at Brest:—

Bambusa	excelsa	candida	Tritonia
nigra	humilis	rosea	aurea
viridi-	Tricyrtis	Hypoxis	Sagittaria
glaucescens	hirta	villosa	chinensis
aurea	Xerotes	Sisyrinchium	lanceifolia
violascens	longifolia	laxum	Aponogeton
gracilis	Smilax	convolutum	distachyon
Arundinaria	horrida	Moræa	Chamæpeuce
falcata	Dracæna	iridioides	diacantha
Gymnothrix	congesta	Agave	Helichrysum
latifolia	Dianella	americana	orientale
Pennisetum	cærulea	Iris	Pyrethrum
longistylum	Ruscus	fimbriata	cinerariæfolium
Cyperus	androgynus	Babiana	Eupatorium
asperifolius	Aspidistra	plicata	micranthum
vegetus	lurida	Gladiolus	Aster
Commelina	Rhodea	cardinalis	carolinianus
tuberosa	japonica	Antholyza	Viburnum
Acorus	Tritoma	ringens	odoratissimum
gramineus	uvaria	Meriana	grandiflorum
Sauromatum	media	Watsonia	Rhynchosper-
guttatum	Burchelli	rosea	mum
Arum	Phormium	All the Sparaxis,	jasminoides
pictum	tenax	Ixias, and Tri-	Convolvulus
Chamærops	Zephyranthes	chonemas	Cneorum

mauritanicus	ledifolia	papyrifera	Medicago
Myosotis	Olea	Sieboldii	arborea
azoricus	europæa	trifoliata	Erythrina
Lycium	ilicifolia	Garrya	laurifolia
afrum	Ilex	elliptica	Cassia
Solanum	Dahoon	macrophylla	falcata
jasminoides	Thea	Aristolochia	Quercus
Phygelius	sinensis	altissima	glabra
capensis	Oxalis	Fuchsias, many	Cupressus
Pentstemon	Deppei	kinds	lusitanica
gentianoides	fabæfolia	Lagerstræmia	funebis
Diplacus	versicolor	indica	Thujopsis
glutinosus	Melianthus	Lythrum	dolabrata
Veronica	major	alatum	Libocedrus
Lindleyana	Rhus	Eucalyptus	chilensis
salicifolia	semi-alata	resinifera	Juniperus
decussata	Cissus	viminalis	bermudiana
Teucrium	orientalis	Leptospermum	Acanthus
regium	Iberis	lanigerum	lusitanicus
Salvia	semperflorens	Myrtus	Eucomis
Grahami	Akebia	communis	punctata
cacaliæfolia	quinata	Eugenia	Richardia
Rhododendron	Urtica	apiculata	æthiopica
arboreum	nivea	Eriobotrya	Rubus
argenteum	Boehmeria	japonica	australis
Azalea	cylindrica	Cissus	Begonia
indica	Aralia	tomentosus	discolor

These plants had no covering, nor any protection whatever from walls, houses, &c., but were fully exposed in the open ground to all the rigours of the winter.

**LIBRARY
ANNEX**

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