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# GARDENERS' CHRONICLE OF AMERICA

THE OFFICIAL ORGAN OF  
THE NATIONAL ASSOCIATION OF GARDENERS

Devoted to the Science of Floriculture and Horticulture.

THE AMERICAN ASSOCIATION OF PARK SUPERINTENDENTS.

Devoted to Park Development and Recreational Facilities.

Vol. XX.

JANUARY, 1916.

No. 1.

## *Things and Thoughts of the Garden*

By The Onlooker

IF we have not done any trenching in the autumn we cannot do it now unless we have a garden or gardens in some of the more favored parts of the South. There has always been a difference of opinion among good gardeners as to the real advisability of trenching in the fall. With us, of course, it is almost a necessity to get our trenching done before hard freezing occurs in the early winter, since the frost lies in the ground so late in the spring that it makes it next to impossible to get through the work in the two or three weeks between the tenth of April and the time when most of the sowing or planting has to be done. As early as the middle of October one may see trenching undertaken, especially if it is the desire of the grower to make sure that all is ready for some pet crop upon which he is "sweet." The theory—I do not know if it is anything more than a theory—in regard to trenching in the spring rather than in the fall, is that the land remains drier, gets just as well and deeply frosted, and because it is drier is therefore the more quickly fit to be worked. To be able to get on the land to fork it or spade it or rake it, and to find it in that good crumbling condition that is so desirable, is surely a great gain. By trenching in the fall it is contended that the land, being loose, acts like a sponge and holds the water, causing it to be cold and resistive to the genial rays of the sun in the earlier months of the year, just when all the warmth and stimulating influences are most to be desired. At one time there was a keen contest of wits in the Old Country between the fall trenchers and the spring advocates of that job, and very likely the contest will go on until the crack of doom, for as the elders pass away their disciples on either side take up the fight. It is a very significant fact, however, that the best vegetable grower in England today, bar none, to wit, Edwin Beckett, whose soil is a heavy clay, does not hesitate to dig or trench in the fall. Of course there the frosts are lighter than with us, but when all is said and done, most of us will always prefer to see our land turned over at the earliest possible moment after the crops are cleared in October or November.

But whether we dig in the late part of the season or as soon as practicable when the weather opens up, let the digging be deep. It is really painful, it is certainly surprising, to observe the slipshod work that passes both in the nurseries, or many of them, in this country. It better deserves the name scratching. There is a great outcry for potash at the present time because the German supply is not available. Yes, but is it not possible to utilize some more of the unexhausted store in the soil by digging for

it? We all recall the story of the old man who, feeling the sands of time were running low and that soon he would pass to that bourne from which no traveler returns, called his sons to his bedside and said that in the land he was bequeathing to them they would find a treasure hidden. When their father was gone the sons determined to search for the hidden treasure and dug the land in all parts deep and thoroughly, but never a piece of gold or other quickly realizable object of value did they find. It was not long before they saw the meaning of their parent's words, however, since never previously had such crops rewarded their toil. In this simple tale there is a very valuable moral for all those who shirk deep digging.

\* \* \*

Possibly an excellent and useful story could be written on the subject of "balance" in the garden. I am not the one to attempt much of an exposition of the matter. I have sat through a course of lectures on landscape gardening (not landscape "engineering," if you please) and took copious notes of what was said, besides having given some attention to the not inconsiderable literature of the art, but the discussion of what pertains to laying-out a garden is one not to be entered upon lightly. Yet this term "balance" has always had a certain fascination for the present writer. It would be easier to describe the term in a garden, where balance was either in good evidence or lacking, than to try to define it in the GARDENERS' CHRONICLE OF AMERICA. Balance is the opposite of lopsidedness. Balance means supplying something in the lay-out of planting scheme that is necessary to the completion of a good composition. This does not imply that for every tree or group you plant on the right hand you must also plant a tree or similar group on the left. But if you have a thick wood or eminence on the right of your property, and a straggling slope on the left, one that cannot be graded or brought anywhere near level, yet which leads to interesting objects on that side, the place would be "out of balance" if nothing were done to mend matters. In such a case I have seen balance restored by the addition of a large, broad, substantial pergola, supported by a suitable amount of planting. In other instances it might even be necessary to erect something still more imposing than a pergola. Balance is only one of the very many questions that the garden designer has to consider—or which, in some cases, he omits to consider, and one which we can ponder these winter nights.

One of the prettiest additions or change for a dinner table decoration is a little fountain. At the recent flower show in Cleveland the officials very thoughtfully provided the means for having such additions to the decorations of the retail florists—water pipes, the water itself, and what was as important as anything else under the circumstances: small electric dynamos to pump up the water. By this means a comparatively small amount of water sufficed to keep the fountain alive. These dynamos or engines were situated under the tables or elsewhere out of sight; they are made by a New York firm with whom some readers of these notes may wish to get in touch.

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How quickly the Mrs. Peterson Begonia has sprung into prominence. A year ago it was one of the least known of all plants, only then having been exhibited a few times by the raiser, J. A. Peterson, of Cincinnati, Ohio. But some of the plant growers saw in it a subject of very great promise and bought by the thousand, as they are wont to when they think they are "on a good scent." Their expectations have been fully borne out by the results the past Christmas, when tall prices were asked and got for well grown stock. It has been described in one of the trade papers as "one of the greatest plant acquisitions of the last ten years." This seems very high praise, yet when we consider that it is an improved Gloire de Lorraine, at least in the rich warmth of its deep pink flowers and its ruddy metallic leaves, perhaps the verdict may prove to be justified. It has also proved to be a very free grower, and not in the hands of one person, but by many in various sections and in England. So here's to Mr. Peterson!

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While the interest in big-bloomed Chrysanthemums will not be any the less because of the new interest in the single, pompon, and Anemone varieties, still one feels that fresh life and enthusiasm will be infused into the whole cult owing to the fine introductions of these latter types. They require some skill and patience in their cultivation, but do not bother one the same as the huge fellows that require timing and very liberal feeding, staking, tying, and all the rest. It is entirely satisfactory to see a few raisers at work on the Anemones, a type all along, as I thought, that was unwarrantedly neglected. Now the tables assuredly are turning, and if I might be for once a prophet, would say that the next few years will bring to light a number of improved kinds. The firm of A. N. Pierson, Cromwell, Conn., growers of the small flowered true pompons, have also had some fine things placed in their hands. Notable among these are Western Beauty, Harvest Home Golden Harvest, Golden West and Golden Climax, while Chas. T. Totty has given us the singles. There are two kinds of "pompon," the large type, which includes Frank Wilcox, Lillian Doty and the new White Doty. Ought a ruling not to be made on this matter? But if memory serves me right the Chrysanthemum Society of America has before it a motion to consider this very point and a committee of judicial men to take it in hand. Just as it seems a pity to spoil the smaller size and characteristic form of the primulinus strain of Gladioli, it also seems a pity to overincrease the size of the pompons, although there is no objection to adding a distinct giant section on its own.

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Some of the best new things in the seed line seem to be in the Calceolarias, Begonias, Petunias, Antirrhinums, Sweet Peas (as a matter of course in these days); also Aquilegias, the China type of Aster, Zinnias, Marigolds, Cosmos, new red sunflower, including the scarlet

Tithonia speciosa, which, by the way, should be started in good time or sown in a warm and sunny place, as it comes rather late into flower otherwise. There are some magnificent strains of Celosias, too, while the showy Nasturtiums are not to be ignored. The smoke colored Shirley Poppies are still new and quaint. Among biennials there are excellent improvements in the Sweet Williams, including a scarlet, a carmine, a very fine pink, a large flowered white, and the distinctly marked Auricula-eyed varieties. Other biennials that deserve full attention are the Foxgloves and the Scabious. The latter are valuable when treated as annuals by being sown in January or early in February. These are for the outdoor garden; but why not try some of the crested tuberous Begonias, which are more interesting than the singles? The latter are too bald to satisfy nice taste. The Nemesias in rich gold and in pink shades are worthy of cultivation in pots, just as the Clarkias are, and which were not treated as pot plants or grown in benches until a year or two ago. The tall branching greenhouse Calceolarias of the Clibrani type, are notable. To these have been added the new Cotswold Hybrid, Jeffery's Hybrids, the medium growing white flowered Veitchii, as well as choice kinds in the dwarf section (florists' strain).

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Those who have looked into the genus Calceolaria know how diverse are its species, including the Peruvian one alba, very dwarf, and having snowy clusters. It is a "tricky" subject and tests one's skill. The pretty annual Mexican Calceolaria (Mexicana) can be sown toward the base of the rock garden, or in a cool, partly moist spot in good light, but not where it will be scorched to death. It is a little gem, with cut leaves and bright yellow flowers. The tall Burbidgei and amplexicaulis fill a useful place in bedding schemes of the holder character. It is a question whether many of us, also, make as much use as we might of the scarlet Alonsoa Warscewiczii (A. incisifolia), which does remarkably well in a partially shaded border. As a pot or bench plant for winter and spring it is one of the best of the annuals. For woodland effects why not plant some colonies of Polygonum lanigerum, which also does handsomely in the sunniest positions. Its chief characteristic is its silvery leaves; it grows three feet tall. Polygonum orientale (Prince's Feather), with red, drooping "panicles," or dependent, nodding spikes, is likewise desirable, and in many places has become naturalized. None the less it is a notable decorative plant. The same can be said of Impatiens Roylei at its best. But don't sow this where you don't want it to spread else it may turn out to be as bad a weed as you've got.

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This idea of carrying the garden spirit out into the woodland glades and into the parts surrounding the "kept" pleasure grounds or formal flower garden, is gaining headway, and incidentally adding to the work of the poor gardener and his generally too limited staff. But if you find yourself overburdened with work and are sure you are getting the maximum of efficiency from those under you and that your systematization is above reproach, don't begin "wild gardening." It may be wild gardening in name but has its own peculiar difficulties; assuredly it takes time, money and strength to carry out wild gardening properly, tastefully—or according to what is meet and right—and in such a way as to ensure successional effectiveness. Given the facilities, it is worthy and engrossing phase of decorative outdoor horticulture, deserving encouragement wherever possible.

# Garden Clubs and Gardeners' Societies

By William Gray, Rhode Island

**N**O doubt the question, "Is co-operation between garden clubs and gardeners' societies desirable?" has been suggested by the sentiment, that exists to some extent, in local horticultural societies, that membership in those societies affords a channel for the activities of people represented in the garden club movement and that there was no need for starting these separate organizations.

Local horticultural societies, however, are principally composed of gardeners and amateurs, etc., from among those of moderate circumstances, while in nearly every society there may be found a few of the wealthier class, such as are represented in the garden clubs, but generally membership in gardeners' societies has not appealed to this class for various reasons, and which suggested the need of a separate organization.

If we may judge by the way garden clubs have sprung into existence all over the country, an opportunity to become more actively interested in horticulture was evidently eagerly sought by the wealthier class, and these clubs should receive the support and co-operation of the horticultural societies in view of the fact that the results they are accomplishing could not be attained through the local horticultural societies. The objects of the two organizations being identical—"the promotion of horticulture"—there can be no reason why co-operation between the two should not prove a greater force for promoting horticulture than through working separately.

Another factor in favor of the garden club movement being separate from the local horticultural society is the greater financial assistance that can be rendered by these clubs for the development of horticulture, the annual dues in the garden clubs being as high in some cases as life

membership in the local horticultural societies. It can therefore be readily seen that co-operation could be a great aid to the societies through the financial support of the garden clubs and, as our local horticultural societies as a rule are handicapped in their activities by their low income, such co-operation should be welcome.

The question may arise that the garden club being of greater financial strength would, in co-operating in any project, dominate the horticultural society, but this support surely is greatly offset by the practical working power that can be furnished by the horticultural society in carrying out any undertaking entered into by these different organizations.

There are other ways in which co-operation should prove of great benefit to many of our horticultural societies, for we would meet with people of different ideas, and the horticultural societies would be lifted out of the rut of doing things in the same old way year after year. With the co-operation of the garden clubs in the exhibitions held each year, greater taste would be displayed in the way of exhibiting and arranging of flowers, etc., and with the enthusiasm aroused by the garden clubs among their members much more interest would be manifested by the wealthy people in attending the exhibitions.

A great opportunity now presents itself to these organizations, to develop a greater interest in horticulture, by creating an amateur spirit in America similar to that on the other side. With the garden clubs working with this object in view among the wealthy classes, and the local horticultural societies among the classes of more moderate means and both co-operating in this effort, immeasurable results are possible in furthering the interests of horticulture in this country.



VICTORIA REGIA.—THE LEAVES OF THESE PLANTS, GROWN IN PUIPPS' CONSERVATORY, WEST PARK, PITTSBURGH, PA., BY JAMES MOORE, ARE OVER 7 FEET IN DIAMETER, WITH RIMS 5 INCHES DEEP.

### A NEW RACE OF COSMOS

ONE of the flower novelties of 1916 which is being offered by the Stump & Walter Company, New York City, is being introduced by them as an entirely new race of cosmos. The plants are said to be similar in habit to the early flowering cosmos and that a fair per-



A DOUBLE-CROWNED AND CRESTED COSMOS.

centage have double crowns which gives the flower a dainty appearance. The colors are pure white and a delightful shade of shell pink. Seeds sown in early August have produced blooms by the middle of October.

### HARDY FUCHSIAS

IT is not well known that there are a few species of Fuchsias much hardier than others, being capable of enduring a few degrees of frost uninjured, but such is the fact. Fuchsias came in the first place from South America (chiefly), Chili and Peru, also from Mexico. It seems understood that they were first known in England from a plant brought there by a sailor about the year 1800. The hardiest ones are those brought from Chili, from which country other plants more or less hardy have been introduced. The original hardiest one is called *Fuchsia macrostema*, but this gave rise to a seedling called *Fuchsia gracilis* and another called *F. Riccartoni*, and these two seedlings are now known as the hardiest Fuchsias. But it is only when compared with ordinary Fuchsias that the term hardy may be applied to them, as they endure only about 5 degrees of freezing. If the mercury falls to, say, 28 degrees, the tops would be killed, therefore it is only in States almost frostless that they grow to be large bushes. But that they can be had to live through Winters of zero weather the writer has proved. All that is necessary is to protect them at the base, not minding the tops at all. Place a good covering of forest leaves about their base or even pile up soil a few inches high, covering up snugly an inch or two of the stems, and all will be well. From the covered portions new shoots will form when Spring opens, which will flower profusely as growth proceeds, and this blooming continues until frost closes the season. The flowers of these hardy sorts are of a deep red. They have a long,

slender tube, of great beauty, their foliage, too, being quite small. When Spring comes the dead tops are cut away and the Winter covering cleared away. The only requisite in order to have this Fuchsia endure the Winter is that an inch or two of the shoots be well protected.

It may not be known that ordinary greenhouse Fuchsias may be carried through the Winter in much the same way, but it is a fact. If heavily covered at the base they have been known to live through very severe Winters, though they are not as hardy as the Chili ones.

It is a good way, when planting Fuchsias, to set them deep enough so that the stems are slightly below the surface, as this helps to make more protection for an eye or two, so that should all above ground be destroyed by frost, there could still be fresh shoots starting from below the surface. Fuchsias are easily rooted from young shoots under glass at any season.—*Joseph Meehan in Florists' Exchange.*

### REPOTTING THE ASPIDISTRA.

AMONG the numerous plants grown in pots for indoor decoration, none equals the *Aspidistra* for dark corners, draughty passages and other positions unfavorable for plant growth in the house.

*Aspidistra lurida*, to give our friend its full botanical name, is said to have been first introduced to this country from China in 1822, and two years later, in 1824. Though of such inestimable value as a foliage plant, the flowers are insignificant, though very interesting to those who love the quaint and uncommon. They appear generally in early Spring, nestling among the stalks of the leaves and quite close to the soil in the pot. Less than an inch across when fully expanded, the blooms are buff outside and rich purple inside. The *Aspidistra* gets the name of *lurida* from the poor quality of the flowers, the common name of the Dingy-flowered *Aspidistra* being also sometimes used.

The best time to pot the plants is during March and April, those who are fortunate enough to possess a greenhouse doing such work in March, while April is soon enough for plants which, when potted, must be kept in a window or room. *Aspidistras* will grow in most soils, a suitable compost being a mixture of three parts loam, one part leaf mold and one part coarse sand. There is no necessity to put *Aspidistras* in large pots, though the roots must not be unduly crowded; the plants will be found to thrive better when the quantity of soil in the pot is not excessive in comparison with the size of the plants.

The question of when a plant requires repotting and how often may now be considered. As long as a plant remains healthy, the soil in the pot keeps sweet, and the leaves are not unduly crowded, there is no need for repotting. For plants growing in a room it is most important to have ample drainage in the bottom of the pots to allow water to pass away freely. Place one large crock over the hole in the bottom of the pot, next several rather smaller pieces, and on these some still smaller, covering all with a little moss to prevent the soil trickling down and stopping the surplus water from passing out at the bottom. Sometimes when repotting *Aspidistras* the soil is in such bad condition that it is necessary to wash all the old soil away from the roots; in others, when the soil is sweet, only the loose soil need be taken off.

*Aspidistras* are such good-natured and hardy plants that repotting checks them little, if at all. While most of what has already been written applies to both the green-leaved and variegated-leaved *Aspidistras*, those with the

(Continued on page 34.)

# Young Gardeners' Opportunity in America

By Henry Gibson, New York

MANY of you are more familiar with the rapid progress that has been made in the gardening world in this country and are therefore better able to foretell the prospects of the young gardener. However being quite a young chap and having made pretty good headway since I have been in America I will endeavor to give you my version of the opportunities of the young gardener.

My experience and observations for a number of years past have led me to believe that opportunity for advancement in this country is second to none in the world. This may not be a very strong assertion when we take into consideration the devastating war that is being waged between those European countries that have hitherto been the leaders in horticultural thought. Yet even had Europe been at peace it would have been no exaggeration to say that today America offers greater opportunities to young men of ability and experience who possess energy enough to back up these qualifications.

Commercially it is claimed that America is but a child, and I contend that horticulturally she is yet an infant, but a vigorous one.

Each year new estates are being opened up, and there can be no doubt that many more will be developed in the near future. To manage these estates and maintain them in good condition, young men of experience, ability and untiring energy are in demand. I say young men, because in this country at the present day in almost every line of business there is an unusual demand for young men. It may well be called the age of the young man, for nowhere does history record such large commercial enterprises, being conducted by men so young. Look at some of our superintendents and head gardeners, men who could not have secured such positions for many years to come under the conditions that obtain in most European countries.

Take Britain, for instance. A man could not reasonably expect to obtain a desirable position as head gardener until he is well over thirty years of age. After serving his apprenticeship he serves for some years as journey man in the different departments until he arrives at the position of general foreman. Here he has to remain, it may be for years, before an opportunity of securing a head place presents itself. In this country it is entirely different; a young man who has ability and energy to back him up seldom has to wait very long for a position. As soon as his qualifications become known he is in demand.

It is idle folly for the proficient young man of today to say that he cannot compete favorably with men of older experience. Anyone who observes the trend of the times will notice that the young man is more than holding his own. Only a short time ago the writer heard of a gentleman who had engaged quite a young man as his gardener. On being questioned why he had selected a young man when there were men of older and wider experience obtainable, he replied: "Well, I have a young man at the head of my business office, he is making good, and I see no reason why a young man shouldn't make good at the head of my estate. There exists a good deal of rivalry among gardeners and the young fellows like to vie with the older ones in getting results, and an enterprising young man whose heart is in his work will usually get

there." These gentlemen, are the words of a very enthusiastic estate owner, and are, I believe, a fair expression of the sentiments of estate owners generally.

There is, however, one serious rival that the young gardener of today has to compete with in this country, and that is the horticultural and agricultural college graduate. We are being constantly reminded that the college chap is taking the best positions from the gardeners today, yet a careful survey of our estates will scarcely bear out this contention. The majority of the best positions are still held by men who have graduated from the potting bench, the school of experience, and who extended their studies with the closest application to the fireside university during the long winter evenings.

It has, of course, been contended that fear of competition by the college man is not great since his knowledge is more theoretical than practical. If, however, this has been the tendency in the past it must be understood that the mistake has been discovered and practical training is today forming a large part of the curriculum of the college course. Numerous cases are to be found where under graduates are going out to large estates and commercial establishments in order to obtain practical experience. This, in conjunction with his higher theoretical and scientific knowledge is bound to make him the more proficient and a most serious competitor.

To any young men present I would say, heed this warning, not that I deprecate the college man, on the contrary I welcome him, not only because he stands for progress but because he proves another incentive to spur us on to further efforts to increase our knowledge of our business, that we may also be progressive and become the more fitted to assume the duties of the position we aspire to, with satisfaction to our employers and dignity both to ourselves and our profession.

A year or more ago we heard a great deal about cheap gardeners and why, through the columns of the horticultural press. Some contended that the young gardener was to blame, others that the horticultural societies were the delinquents, and still others that the experienced gardeners themselves were at fault. Of the three it would be hard to place the whole of the fault on the proper shoulders. If the horticultural societies are responsible, then surely the gardeners must be at fault since the societies are composed chiefly of gardeners. Personally I do not think that any of these are responsible for cheap gardeners. My experience of cheap gardeners is that they are men whose ideas were a great deal bigger than their ability and having lost the goal aimed at selling their services at almost any old price to the detriment of their more capable and proficient brother. These men are to be found in all professions. To the young man who is at all discouraged with his prospects, I would say do not lose your grip on life, clouds will gather, yet every one has a silver lining. Get hold of yourself and determine to become as proficient as possible, establish your ability, and you will never lose confidence and have to sell your services for a mere existence.

Of course, I realize that to be able to compete favorably with others and especially the college graduate, requires a good deal of personal effort. All of us cannot have a college training and many are located miles and miles away from any source of technical instruction of

any form. Nevertheless to become a really competent all-round man something more than the daily routine work in the greenhouse or vegetable garden is necessary.

Make a point of studying systematically subjects that have a direct bearing upon your work, and if any new development work is being done upon the place where you are employed make it your business to get there as much as possible, even if you have to go in your own time. Ask your superintendent to let you go periodically to inspect the work if it is outside of your department. No reasonable man would refuse you this privilege, if he has the welfare of his profession at heart. Question him about anything that you do not understand, draw diagrams and make notes for future reference.

Another weak point with the young gardener of today in this country is that he will sacrifice a wide field of useful experience for the sake of \$5 per month more wages. I maintain that every man should get all the wages he can, yet I do think that a young man is foolish who turns down a position which will afford him desirable knowledge and experience because another pays more money. Then again it is looked upon by some as quite a come down to go from under glass to an out door department. This is all wrong and the young man who entertains these views is likely to regret it.

In Britain wages with the young gardener is a secondary consideration, and a place where good experience may be acquired is what he looks for. The transfer from under glass to outdoors or vice versa is looked upon as a necessity and is such if one wishes to advance. By the time he has put in two or more years in the various departments he is an all-round man, and then he demands his wages. This attitude, if adopted in this country, would do much to uplift our profession.

There are a few young men within the profession who make it their business to visit the dairying, poultry, farming and other departments on the estates where they are employed in order that they may be conversant with the duties of the men employed therein. Feeding of stock, poultry, the care of milk and the rotation of crops on the farm, are all matters that these young men give careful attention to, and there can be no doubt that their note books contain some very useful and interesting data. To many this may seem a great deal of unnecessary trouble, and some may say that they are unable to find time to do this kind of thing. Much of this kind of work may be done evenings, week-ends and on holidays. Aspiring young men would do well to commit to memory those lines from Longfellow, which read:

*"The heights by great men reached and kept  
Were not attained by sudden flight,  
But they, while their companions slept,  
Were toiling upward in the night."*

Having endeavored to impress upon the young man the necessity of becoming proficient, let us look to see if we cannot afford him some assistance.

In Boston, I believe, there are classes in landscape gardening and weekly lectures during the winter months on various phases of horticultural activities. This is an opportunity that every one should avail himself of. Unfortunately, every locality does not present these privileges and it is or should be the duty of the National Association of Gardeners to assist and arouse the interest of the less fortunate young men.

Some similar action might be started by the National Association of Gardeners, and it is my opinion that we ought to get busy. The organizers of our national association no doubt look to the rising generation of gardeners to carry on the good work they have started, and they

ought to get in touch with these young men in a practical sort of way and arouse their interest. Let the young man see that the association has more than a passing interest in him, make him understand that there exists a feeling of good will and fellowship towards him in the National Association of Gardeners, which should be mutual, and you will have the pleasure and satisfaction of knowing that the association will be supported by capable worthy men who have become such by your aid and their own endeavors.—*Paper read before the convention of the National Association, Horticultural Hall, Boston, Mass., December, 1915.*

#### SCHIZANTHUS WISETONENIS HYBRIDS

A NEW strain of large flowering *Schizanthus Wisetonensis* hybrids is being offered as the 1916 novelty by Burnett Bros., New York. It is claimed that these hybrids embrace a wide range of colors



SCHIZANTHUS WISETONENIS—HYBRID.

from almost pure white through delicate shades of pink to bright rose and crimson. Also some exquisite mauve lavender tints.

#### STUDYING THE SEED CATALOG.

ONE of the most pleasant recollections of my boyhood days in the winter part of the year concerns discussions we had over the annual flower and vegetable seed order. Not only did my father ponder the catalogs, but my mother, who was an equally keen gardener, expressed her opinion and desires, and together they made out their selections by the fireside while I, as a youngster, helped to mark off the amounts of packages and write the names. There is a fund of amusement as well as a good deal of instruction to be got from scanning seed catalogs. There are the novelties to be noted and the behavior of some of the things one tried the previous summer to be subjected to criticism. If they were entire failures that was a black eye for them; but some may have given sufficient promise to merit another trial. It is in discussions like this, between a gardener and his helpmate that add so much to the pleasure of making out the seed order, a task most of us are now engaged upon.

# Use of Native Plants for Ornamental Planting

By L. P. Jensen, Missouri

THE native plants of North America have long been appreciated and planted in Europe. Miller in his English "Gardeners Dictionary," edition of 1750, describes and recommends a large number. Marschall, in his "Planting and Rural Ornament," Vol. II, 1796, which volume is devoted entirely to descriptions of trees and shrubs suitable for ornamental planting in England, includes most of the American native materials, planted in this country today. Hirschfeld, in his "Theorie der Gartenkunst," Vol. II, published 1780, gives a list of the principal trees and shrubs for ornamental planting in Germany, which includes a long list of American materials. As an introduction to this list, he says: "The trees and shrubs in this list are in part native of Germany, in part introduced from other countries, particularly North America. The latter are particularly adapted to our climate and their rapid growth and great variation make them invaluable in our plantations. How poor we should be if we were deprived of these valuable materials."

Poor indeed they would be when we consider that in all of Europe there are only about 85 species of trees, while we have in North America more than 400 species. Great Britain has less than a dozen native species of trees.

We Americans were very slow in coming to an appreciation of our valuable native planting materials, and have depended too much on exotics for our plantations. This, however, is rapidly changing.

Andrew Jackson Downing, with all his love of plants, utilized but few native plants in his designs, and these were mostly trees, judging from his writings in the "Horticulturist," 1846 to 1850, and his "Landscape Gardening and Rural Architecture," published in 1841.

The beginning of the appreciation and use of our American native planting materials, may be said to date back to the designing of the Central Park of New York City in 1857, by the late Frederick Law Olmsted. Professor F. A. Waugh, in "The Landscape Beautiful," says:

"Olmsted discovered the native flora. Though artistically less important than other contributions of Olmsted, this was the most revolutionary of his innovations. Downing was a collector of plants, with a fondness for exotics. Gardeners everywhere where planting Japanese magnolias, purple beeches and Camperdown elms. Olmsted turned boldly, and not without violent opposition, to the commonest roadside shrubs. He adopted the outcast weeds. Peter after his vision could not have been more completely converted to what had previously been thought unclean.

"Up to this time, strange as it may seem, American plants had been more used in Europe than here. With the richest indigenous flora of any country in the world, we were still planting the species and varieties of European nurseries. We may remark further that this use of the native flora was the one Olmstedian principle most quickly acclaimed and adopted by others. It has had a tremendous vogue in this country.

"The native plants were used in large quantities. Common dogwood and viburnums were put in by carloads. For the first time in the history of landscape art, plants were adequately massed. This principle was not carried to an extreme, however; and, in fact, it has not yet received the development which it merits.

"Indigenous plants were given their natural environment. Up to this time, along with the preference for

exotics, had gone the gardener's pride of growing plants out of their altitude, latitude and longitude. The Alpine garden was the gardener's pet, and Downing himself nursed his lonely fig-trees through the cold New York winters."

To be able to make use of our native planting materials in our plantations we must first of all have a thorough knowledge of the plants, and, secondly, be able to secure them, either personally or through nurserymen or collectors. Not so many years ago this was very difficult, but now, owing to a demand created by a few designers who realize the value of our native plants, these plants are to be obtained from men who make a business of growing and collecting.

In spite of the large numbers of native plants utilized annually in American landscape work I dare say that there is still a great need of an educative campaign on the use of native materials in ornamental planting, particularly among the gardeners. Comparatively few gardeners have a wide knowledge of our native plants and their use.

Acre after acre of native plants are being ruthlessly destroyed and replaced by exotics, which in most cases are absolutely out of harmony with their surroundings.

I believe that our American ornamental plantations should consist of about ninety per cent. of native material, and the remaining ten per cent. consist of exotic material carefully selected to fit the climatic and soil conditions of the particular part of the country in which they are to be planted.

One of the most important factors in the make-up of a designer of American plantations should be a thorough knowledge of the native plants in the region in which he is working. If his work carries him over a wide territory, he must familiarize himself with all of the native materials suitable for his work, which is to be found in all of that territory.

Many failures in ornamental planting have resulted from utilizing eastern plants for western plantations; this is particularly true in regards to such plants as rhododendrons, kalmias and other broad-leaf evergreens, and also many coniferous trees.

To specify the various uses which might be made of our native plants for ornamentation would mean the writing of volumes, as this subject is practically inexhaustible. Consequently, this short article will only be able to touch lightly and superficially on some of the uses which observations, experience and study have shown the writer to be of value.

Let us first consider the requirements which will enable us to use these plants properly and artistically. The best teacher on this subject is nature. We must study her first hand, the plant growth along the roadside, along the banks of rivers and streams, on the borders of the lake, the vegetation of the deep shady woods and of the open sunny prairies. We must pick out and store away, for future use any little pleasing vista caused by plant growth, any pleasing combination of plant material which strikes our eye. We must analyze, and, so to say, pick to pieces the various materials of these pleasing compositions.

By studying the plants in their native environment we learn their habit of growth, their requirements as to soil, moisture and light.

Places noted for good natural planting should be visited, if possible, and results noted. Among such places may be mentioned:

Central Park, New York City; Prospect Park, Brooklyn; Franklin Park, Boston; The Parks of the Boston Metropolitan Park System; The Arnold Arboretum, Boston; Professor Sargent's home grounds, and a number of private estates in Brookline, near Boston; Graceland Cemetery, Chicago, the larger parks of the south and west park commission of Chicago; Monument Valley Park, Colorado Springs; Glen Eyrie, near Colorado Springs, some of the parks of Seattle and Point Defiance Park of Tacoma. These are a few notable examples of work worth studying.

Travel is a wonderful teacher in the use of native plants. A few examples of my own observations might be worth mentioning. When studying the planting of parkways and boulevards in numerous cities I have often wondered why some of the wide spaces of turf were not utilized for the planting of native shrubby material. In some cities there seems to be a sameness bordering on monotony in the planting of such streets. There may be sufficient variety in the species of trees planted, but imagine the variety which might be produced by the utilization of such material as our native dogwoods, viburnums, roses, sumachs, gooseberries and spiraeas, with an addition of native perennials and native climbing plants softening the harsh outlines of an iron or concrete lamp post.

Why should not more elm, tulip-tree, sweet gum, pin oak, hackberry, ash and similar desirable and permanent trees be planted to replace the brittle and short lived soft maple, poplars and box elders.

Why are not such beautiful native plants as the white-flowered dogwood, red bud, wild plum, Virginia cherry, Juneberry, native thorns, sassafras, and crab apples occasionally used in the wide spaces between the walk and curb along the streets of some of our cities. This material, used as indicated, would certainly be notable.

In the newer settlements of our western states there exists a pressing need for instruction on the use of native planting material: Owing to the rapid growth of the Lombardy and Carolina poplars, it seems to be the general opinion, that those are almost the only trees to plant in these sections, whereas, observation has shown, that with proper attention to selection a large number of native trees and shrubs might take their place, thereby relieving the monotonous appearance of these sections of the country, caused by the too numerous poplars.

I have seen a railroad embankment covered for miles with the purple cone-flower (*Echinacea purpurea*). This suggested to me, its extensive use in ornamental plantations. The American blue-bell (*Campanula Americana*) is very beautiful when in bloom, but the effect that might be produced by having hundreds of them in flower against a background of foliage never occurred to me until I saw them growing naturally in this manner along the north Missouri hills.

On another occasion I saw railroad embankments covered for long distances with the blazing star (*Liatris pycnostachya*) producing a most gorgeous effect with their spikes of purple flowers.

The mere fact that the display of native flowering material is so abundant and glorious as to defy description is often the cause of its non-employment in ornamental plantations, in regions adjacent to its growth. This was forcibly brought to my attention when I visited the Glacier National Park this summer. Stepping off the train the visitor is given no indication of the wonderful masses of bright colored native flowers just beyond his vision. The space between the railroad station and the

hotel, which serves as a sort of entrance to the reservation, is utilized for lawn, with borders of petunias, verbenas and other annuals along the drive. This makes a most unsatisfactory and tame introduction to the natural beauty displayed by millions of native flowering herbs and shrubs which cover the adjacent territory for miles. This foreground should have been planted with the native ornamental material so easily collected in the vicinity, thereby producing an effect which would invite you to stop for further investigation and study.

The wonderful effect produced by the native perennials and shrubs at the Glacier National Park suggested to me how we might add interest and beauty to our parks and gardens by a lavish use of our local plants. I pictured in my mind a drive through a park or large estate on the borders of which were planted successive large masses of such herbs as bluets, spring beauty, phlox, larkspurs, purple coneflower, Virginia snakeroot, Oswego tea, both the red and purple, blazing star, violets, butterflyweed, asters, golden rods, compass plant and others for the more open and sunny places, and bloodroot, Jack in the pulpit, wake robins, false Solomon's seal, native ferns and orchids for the more shady and moist places. The steep banks would be covered with native honeysuckles, grapes, roses, blackberries, bittersweet, Indian currant and snow-berry. Along the watercourses near the road would be found masses of native flags, cardinal flower, cat-tail, arrow heads, water lilies and other attractive moisture-loving plants. What wonderful, interesting and instructive scenes might be produced in this way by simply selecting the local native plants particularly adapted to each particular situation.

So much for the herbs. These should have a background selected from our long list of beautiful and attractive shrubs and small trees, with large masses of the most conspicuous flowering ones placed in the distance. The larger trees would be disposed of in masses, the ground around them covered with native shrubs and herbs, except in places where a grove, or a single tree might prove advantageous. There is enough variety in the form and growth of our arboreal plants to serve every conceivable purpose, and to suit any soil or situation. We might go a little further into the specific uses of native material for ornamental planting. Suppose we were to select such material for the planting at the base of a building, we would use the downy-leaved arrow-wood (*Viburnum pubescens*), the maple-leaved arrow-wood (*Viburnum acerifolium*), spiraeas, the prairie rose (*Rosa sitigera*), the Indian currant, the snowberry, the New Jersey tea and the flowering raspberry for low and medium growth, the high-bush cranberry, sumachs, elders, prickly ash, calyanthus, clethra, hazel and witch-hazel for taller plantings. For the covering of porches and arbors we would use Virginia creeper, moon-vine, grapes, honeysuckle, trumpet-vine, bitter-sweet and the Virginia clematis.

For the designing of small home grounds, we would select our tree material from the many beautiful native medium and small trees, such as red bud, Juneberry, flowering dogwood, hawthorns, plums, crab apple and winter berry; these should be used where the space is too limited for the employment of our taller growing trees.

Every one is aware of the wonderful variety of colors displayed by our American trees and shrubs in autumn, but I believe very little attention is given to the selection of such plants for autumn effect in our plantations. This subject is somewhat complex, because of the fact that trees of the same species do not all assume the same

(Continued on page 29.)



# Work for the Month of February

Conducted by Henry Gibson, New York.

## BEDDING-PLANTS.

ON places where bedding-out is a feature of the flower garden definite plans must be laid now as to the kind and quality of stock that will be required. No really good gardener can afford to be apathetic about this, and think that next May is soon enough to bother about the flower-beds and borders. Do the planning now and save much time and labor in growing plants that you will not need. There are a few gardeners (now greatly in the minority, however) who continue to grow the same subjects and in the same quantity year after year. They muddle through somehow, and no doubt produce a fair quantity of blooms, yet if they would vary their subjects more, they would get more pleasing results with no extra labor beyond that of studying up the lists of available plants. Bedding-out like all other garden operations, if worth doing at all, is worth doing well, and a little forethought will make a vast difference in the ultimate results.

The raising of bedding plants is interesting work, especially where seedlings predominate. By the aid of a small greenhouse or an early hot-bed, a great variety of plants may be raised for bedding-out purposes. In addition many perennial subjects may be raised in this way, and in the majority of instances February is the best month to carry out the work.

Among the numerous seeds that may be started at this time we can mention but few of the almost inexhaustible list. Such subjects as *Anthriscum ageratum*, asters, centaurias, marguerites, petunias, *Phlox Drummondii*, Stocks, verbenas, etc., can be started in a temperature of about 55 degrees.

The more warmer blooded plants, as *Begonias*, *gloxinias*, *celosias*, *cuphea*, *vincas*, etc., require a temperature of about 65 degrees.

Sweet-peas may of course be sown now for setting out doors in early spring. Dahlias if sown early will bloom at the usual time. The raising of dahlia seedlings is very interesting, and not infrequently one is rewarded with something that is of considerable merit.

## THE VEGETABLE GARDEN.

While it may appear somewhat out of place to say that there is much to do in this department, at this time, yet we must not overlook the fact that to have early vegetables means an early start. Manure may be prepared for hot-beds, wherein cabbage, carrots, cauliflower, lettuce, radish, spinach, and any other vegetables may be raised for early use.

Those who have a greenhouse may sow *Alsia*, *Craig* onions and leeks for exhibition purposes. Globe artichokes should be sown at once if not already done. One should not be afraid to have too many of these, as only a very small proportion will bear the first season. The seedlings require fairly liberal treatment to grow into good plants by planting out time in May. Tomatoes, eggplants, and peppers for an early crop should also be sown now. Early celery should not be overlooked.

The pruning of fruit trees and spraying should be pushed ahead on all favorable occasions. Late flowering shrubs will also need pruning, as time and opportunity permit.

## GREENHOUSE PLANTS.

Preparations should be made for the repotting of greenhouse plants now. An important point is to get a quantity of potting material under cover in good time. If possible, it should be placed in a position where it will get warmed slightly before being required for use. Should this not be practical, or convenient, we have found that warming a barrowful at a time by putting two or three red-hot bricks into it, a good practice.

## BOUVARDIAS.

Root cuttings of these subjects may be put in the propagating bench this month, or if found more convenient, flats may be used. The soil should be washed off the roots of the old plants and the cuttings made an inch to an inch and a half in length. These, whether placed in the propagating bench or in flats, only require to be slightly covered with sand, or the young shoots will not be able to come through. Keep them moist and shaded, and within a month you will have nice young plants. When flats are used instead of the regular cutting bench, it is advisable to fill up to within an inch of the top of each with coarse soil, so as to have ample drainage, finishing off with a top layer of sand, on which the cuttings are placed.

## THE CONSERVATORY OR FLOWERING HOUSE.

To keep a regular supply of fresh flowers in the conservatory at all times requires a good deal of careful planning and premeditation. At this time of the year it is not so difficult with the bulbs coming in as needed. Then we have the *Cinerarias*, *Schizanthus*, and *Primulas* in variety to help out, but there is a period between late spring and early summer when it is not so easy to maintain a bright, attractive appearance. A batch of tuberous *begonias* and another batch of *gloxinias*, started now would help considerably over that period, in so much as these plants would be about at their best then. *Campanulas* are useful for the same purpose, and the introduction of a few tastefully filled hanging baskets would greatly improve the appearance of this department, when suitable plants are used. There are several varieties of *fuchsia* which show to advantage when used in this way. Three of the best that we have seen are *Scarcity*, *Mrs. Rundle*, and *Charming*. Numerous species of drooping plants may also be used, *French Honeysuckle* (*Isolepis-gracilis*), *Tradescantia* in variety, *Nepta Gracilis variegata*, and small-leaved *coleus* are a few that are desirable. Ivy-leaved *pelargoniums* do well under this system of cultivation, and drooping *Campanulas* are splendid. The baskets should be filled in good time to allow the plants to become established before their flowering season comes round.

## DAHLIAS.

Dahlias that have been stored away during the winter should be brought out this month and placed in boxes of light, sandy soil, or, better still, they may be planted in the same medium on the top of a light, sunny bench. They will start freely in a temperature of 55 degrees, and when the young growth is about three to four inches long they should be taken off with a small heel, and either put into the propagating bench

or potted into small pots. Shade from bright sun for a few days, and maintain a moist atmosphere.

When rooted, those in the bench should be potted up, and when the roots of such as are in pots have reached the sides, pot onto the next size pot.

Grow on as near the light as possible and gradually harden off.

#### MISCELLANEOUS.

Fuchsias that have been resting may be pruned and started into growth. Autumn sown cinerarias need potting as soon as their roots reach the sides of the pots. Bedding geraniums that have been wintered over in flats should be potted off before the end of the month. Canna roots will require to be cleaned off and divided ready for starting into growth.

Cyclamen seedlings sown last fall are now ready to prick off. Give them a position near the glass where a maximum of light is available so that they will develop into sturdy plants.

#### THE ICELAND POPPY

THERE are few more beautiful hardy flowers than those of the Iceland Poppy, *Papaver nudicaule*, and it would be difficult to find any that are more highly appreciated for indoor decorations when cut. Unfortunately, they are not grown nearly so extensively as their



A COLONY OF ICELAND POPPIES.

charm and usefulness would justify, a fact that is no doubt due to the troublesome habit the plants have of dying off during the Winter. As the plant is a native of the Arctic Circle, this mortality cannot be due to cold, but is undoubtedly brought about by the excessive moisture that characterizes our Winters.

To get over this difficulty many gardeners, and especially those who have wet, poorly drained soil to deal with, treat these Poppies as annuals, and for that purpose

sow seed in boxes or pans of sandy soil in gentle heat early in February, subsequently pricking out and hardening off the seedlings so that they are ready for planting out early in May. Plants raised in this way commence to flower in July and continue to do so until well into the Autumn. Another method, and one that answers well in many gardens, is to sow the seed outside, where the plants are to flower, about the second week in April, taking care to thin the seedlings early so that they stand about nine inches apart each way. Naturally, these are later coming into flower than those raised under glass in February, but if the following Winter is at all favorable they will stand a much better chance of surviving than the earlier-sown ones.

Where the soil is of a sandy nature and, consequently, well drained, there is no doubt that the best results are obtained by sowing the seed outside, preferably where the plants can be allowed to flower, early in July. The resultant seedlings will not flower the same year, but during the May following, and thence onwards well into the Summer, they will give such a profusion of blossom as to repay the cultivator for the trouble entailed. Even in gardens where the soil is none too favorable a few should be tried in this way, the making up of a bed of sandy soil going far towards enabling the pans to withstand the Winter.

Those who have natural rocks abounding in the garden, or even old retaining walls where a fair amount of soil is available, can scarcely find more suitable flowers for growing there than the Iceland Poppies. These Poppies can now be obtained in a number of beautiful shades, ranging from pure white, through yellow to deep cinnamon red.—*The Garden* (English).

#### POINTS ON ACACIA CULTURE

THE growing of Acacias for conservatory and house decoration is not practised nowadays so frequently as it used to be years ago; but there is much to recommend the use of these handsome plants, especially during the winter and early spring, when it is often difficult to provide variety in suitable decorative plants. In some quarters there exists a totally mistaken idea that Acacias are difficult to cultivate or that they require a lofty house. In such a large genus, numbering altogether some 500 or more stove and greenhouse species, there is no difficulty in finding plants that can be grown and flowered in small pots, and others that can be utilized for clothing pillars or roofs in large, lofty conservatories.

The cultivation of greenhouse Acacias is simple and easy if it is always borne in mind that they are natives of Australia and New Zealand, and do not require anything approaching stove-treatment; in fact, the cooler they are kept without being exposed to frost the better. When grown in pots they should be plunged in ashes out-of-doors in May as soon as all danger of frost is past, and should be supplied with plenty of water while they are growing. Occasional waterings with weak liquid manure are beneficial. The plants should be housed in October and afforded plenty of air on all favorable occasions. The work of pruning should be done as soon as the plants have flowered, and the new growth encouraged to develop as much as possible, the next season's flowers depending on the vigor and health of the young, ripened wood.

Acacias are not exacting as to soil, provided it is well drained and porous; a mixture of equal parts of turfy loam, peat and leaf-mould, with plenty of sharp sand added, forms a suitable compost.—*Gardeners' Chronicle* (English).

# The Flowers of Japan

By E. H. Wilson,\* Massachusetts

ONE may safely assert that no garden large or small in the United States of America is without its something "japonica." True, not all the plants bearing that name are strictly native of Japan, for the ignorance of botanists and others has resulted in many plant names being misnomers, but that is another story. To the horticulturists of this country Japan is of peculiar interest, for not only has it furnished our gardens and our greenhouses with a host of invaluable plants, but it is the only country of which the first fruits horticulturally speaking came direct to the United States of America. The gardens of this country secured the plants of most lands through Europe and not only exotic plants but a great number of North American native plants also. With Japanese plants the case is different thanks to the enthusiasm of Dr. G. R. Hall. It is well that garden-lovers of this country should treasure the name of this gentleman, for the plants he introduced—*Lonicera Halleana*, *Magnolia Stellata*, *Malus Halliana* and others—are indispensables. It was in March, 1862, that Dr. Hall returned from Japan and handed over his rich collection to Samuel Parsons at Flushing, Long Island, for propagation and distribution. But previous to this Francis Parkman, of Jamaica Plain, Boston, had received a consignment of plants from Dr. Hall, through Mr. Gordon Dexter, and among others was the famous *Lilium Auratum*, which flowered for the first time in America in July, 1862. In the early sixties Thomas Hogg visited Japan in the interest of Samuel Parsons and introduced in 1865 many plants including *Magnolia obovata*.

Another American, Professor W. S. Clark, who went from Amherst College, and developed the Agricultural College at Saporu in Hokkaido in the early seventies of the last century, sent in 1876, seeds of many valuable plants such as *Magnolia Kobus*, *Cercidiphyllum japonicum*, *Syringa japonica*, *Actinidia polygama*, etc., etc. In the Arnold Arboretum and elsewhere many fine specimens raised from his seeds are growing today.

A few Japanese plants—*Rosa rugosa* for example—reached Europe toward the end of the eighteenth century, but it was not until after Commodore Perry's expedition in 1852-54, and the signing of the treaty on March 31, 1854, which resulted in the opening of Japan to foreign commerce, that the plants of that land began to find their way freely to the Occident.

Three Englishmen, John Gould Veitch from early spring to autumn of 1860, Robert Fortune from the autumn of 1860 to the summer of 1861, Charles Maries from 1877 to 1880, collected extensively in Japan, and each added to gardens treasures beyond price. During the same period, and in the early eighties, various foreign amateurs in Japan sent to their friends in Europe such valuable plants as *Vitis Coignitiæ*, *Prunus Sargentii*, *Rosa multiflora*, *R. Wichuraiana* and *Rose "Crimson Rambler."*

The pioneer work was supplemented in a remarkable manner by Professor Charles S. Sargent, director of Arnold Arboretum, who visited Japan in 1892. His predecessors in Japan had enjoyed a virgin field, but as an offset to this Sargent had the advantage which full knowledge of a subject gives. He knew not

only the Japanese plants already in cultivation in the Occident, but was also fully acquainted with the whole forest flora of Japan, and the result was that a great number of beautiful and hardy trees and shrubs were added to our gardens. He introduced, among other plants, all the Japanese deciduous oaks, certain hornbeams, birches, alders, *Picea Glehnii*, *Abies sachalinensis*, *Malus zumi*, *M. Tschonoskii*, *M. Sargentii*, *Kalopanax ricinifolium*, *Enkianthus campanulatus*, *Acer nikkoense*, *A. Miyabei*, *Rhododendron Kaempferi*, one of the most beautiful of all shrubs hardy in New England, and many other valuable plants. In fact, this journey was the most fruitful in results of any undertaken in Japan.

The flora of Japan is very rich in ornamental trees and shrubs and the majority of the deciduous plants and nearly all the conifers have proved perfectly hardy and amenable to cultivation in the gardens of New England.

In Japan the pine, the bamboo and the plum-blossom (*Prunus mume*) are emblematic of long life, strength and happiness and a love of flowers is a dominant characteristic of the people. This love is spontaneous and fundamental and is one of the virtues of the race which appeals forcibly to the most casual visitor. The arrangement of flowers for house decoration is one of the three essential parts of every lady's education and be it said it is an accomplishment in which the whole people excel in a manner most artistic.

Here and there throughout the land are places famous for their plum trees, cherry trees, wistaria, iris, pæonies, azaleas, maples, chrysanthemums, pines, cryptomerias and so forth, and in season people flock from far and near to feast on their beauty.

With a few exceptions, it is on trees and shrubs that the Japanese lavish their attentions. The iris, chrysanthemum, lotus lily, *Rhodes japonica*, *Liriope spicata* and the morning glory are the only herbs that they are really fond of. The morning glory (*Ipomoea rubro-cærulea*), an exotic of American origin, is extraordinarily popular and boasts societies whose object is the development of this particular flower. The blossoms open at sun-up and devotees will arise before dawn and walk long distances to gardens where this plant is grown to watch the flowers expand.

The floral seasons of Japan commence with the Ume (plum-blossom, *Prunus mume*) in January, and close with the chrysanthemum in November and December. In March and in April, according to climate, the cherry trees blossom and this is the season par excellence. The Japanese recognize a hundred and more varieties of cherries with white, yellow, pure pink to deep rose blossoms. Some small shrubs, others large trees, with wide-spreading crowns; some have pendent, others quite erect branches, and all are wondrously beautiful. Cherry trees are wild in the woods and thickets throughout the length and breadth of Japan, and are everywhere planted in vast numbers—in temple and castle grounds, in park and garden, in the streets of the cities and alongside the highways, and by pond and river side.

I never knew the full glory of the wistaria until I saw it in Japan. There it is not only wild in profusion, but is abundantly planted by the sides of the ponds, ditches and streams and it is trained over arbors and

(Continued on page 34.)

\*From his lecture before Massachusetts Horticultural Society, Boston, Mass.

# The Causation of Variegated Leaves

THE majority of mature plants are dependent entirely upon their leaves for the formation of organic matter from inorganic—a function which, with the exception of some of the bacteria, is confined exclusively to the substance called chlorophyll, which gives the green color to the leaf. The

answered with absolute certainty careful study has developed some interesting facts concerning this variegation, or chlorosis, as it is technically termed.

For instance, we know that iron and magnesium salts are necessary to the formation of chlorophyll, and that without these chemicals plants will become colorless and may eventually die. Again, some types of variegation take place only in the sunlight, and the mere transfer of the plant to a shady place enables the new leaves to be of the normal green color. Injuries likewise produce chlorosis of different types, and instances of bleaching in cabbage, parsley, and similar garden crops which have been nipped by an early frost are common. Damage induced by insects or unfavorable conditions of the soil may also cause leaves and tender stems to lose their green color, although yellowing due to injury, lack of food, etc., is in general very different from what we ordinarily term variegation or true chlorosis.

Baur, a German botanist, has obtained some interesting results by grafting scions from certain variegated plants on stocks or normally green varieties of the same species. He demonstrated that in some cases stocks thus grafted would later produce variegated foliage, and he consequently believed that the cause of the variegation in the scion is transmitted to the stock.

There seem to be two distinct forms of chlorosis, however, the one, infectious, and the other, non-infectious, since with some plants it is impossible to produce any



EUONYMUS JAPONICUS VAR. AU-REO-VARIEGATUS.



GOLDEN CLUB MOSS (SELAGINELLA KRAUSSIANA).

tremendous importance of this ability to convert the simple inorganic substances, carbonic acid and water, into a complicated organic substance readily transformed into a carbohydrate, like starch, makes chlorophyll one of the most fundamental products of nature. Consequently, any condition which interferes with the normal formation of "leaf green" is of serious import to the plant, and the occurrence of white or variegated leaves is an interesting phenomenon, worthy of study. It is a well-known fact that, with very few exceptions, sunlight is necessary for the production of chlorophyll, and plants grown in the dark are always yellowish, due to the more or less complete absence of this green substance. It is not this type of bleaching, however, which is to be discussed, but rather the mottling, striping, white edging, etc., so commonly seen in the leaves of cultivated plants growing under normal conditions.

Most of these variegated varieties have originated from cuttings made from branches showing this peculiarity, or from plants which have suddenly, for no particular reason, so far as the ordinary observer could detect, produced leaves with white markings. One might very properly ask what has caused a plant, normally green, to develop conspicuous yellow or white areas, although growing in direct sunlight. Why is it that some plants have branches with green foliage, while other branches bear variegated leaves? Why is a leaf spotted with yellowish or white patches instead of being of one color? While all of these questions cannot be



A VARIEGATED PRIVET (LIGUSTRUM OVALIFOLIUM VAR. AU-REO-MARGINATUM).



BOUGAINVILLEA GLABRA VAR. SANDERIANA VARIEGATA.

effect on the stock, even though it be grafted with a variegated variety, and one plant (*Euonymus japonicus*) was found to possess both the infectious and non-infectious forms. It is likewise true that some varieties are immune to the infectious chlorosis which is readily transferred to other closely related forms. Among the plants

which show what is supposed to be non-infectious variegation are *Bougainvillea glabra Sanderiana*, *Fittonia argyroneura*, the silver-banded geranium (*Pelargonium hortorum* var. *albo-marginatum*), varieties of elephant's ears (*Caladium*), which show some of the most remarkable instances of absence of chlorophyll, as well as the numerous striped and banded grasses.

An interesting example of what is apparently an infectious chlorosis may be seen in the whitened tips of the club moss (*Selaginella Kraussiana*). Such variegated forms are always propagated by cuttings, but are never inherited through the seeds. This is not true, however, of the variegation due to non-infectious chlorosis, which is perpetuated through the seed. If the juice of a plant, like tobacco, having an infectious chlorosis comes in con-

first in the very young leaves and when once started is practically incurable. The first apparent symptom is a mottling of the leaf, due to the partial disappearance of the chlorophyll, in irregular blotches. At these points the tissue does not develop normally, and the unequal growth causes a crinkling of the leaf as shown in the accompanying plate. Still later there may be produced long, narrow leaves which ultimately may develop into nothing more than thin string-like strands, this latter condition occurring most frequently in the tomato. All plants thus affected are, of course, stunted because of the malnutrition induced by the absence of chlorophyll.

Various theories have been advanced as to the cause of the mosaic disease of tobacco and tomato. While some have held that the elimination of the chlorophyll is due



1. MOSAIC DISEASE OF TOBACCO. 2. FITTONIA ARGYRONEURA SHOWING WHITE VEINATION. 3. PELARGONIUM HORTORUM VAR. ALBO-MARGINATUM, SHOWING CHLOROSIS. 4. MOSAIC DISEASE OF TOMATO.

tact with a wound on any part of a normal plant of the same kind, the latter may show symptoms of the disease within a week or two. From the point of infection the disorder spreads rapidly to various parts, since the juice of the diseased tissue is extremely virulent. One part of this substance in 10,000 parts of water has been shown to be capable of producing a serious attack of the disease, and dried plants are known to retain their ability for reproducing the disease in other plants for at least two years. It will readily be seen how easy it is to communicate such an infection from plant to plant, and the loss due to "chlorosis" diseases of such crops as tobacco, tomatoes, peaches, beets, etc., is very serious.

Perhaps the so-called "mosaic disease" of the tobacco, due to an infectious chlorosis, has been most carefully studied. This disorder may appear in the seed beds while the plants are still small, but more often it occurs in the mature plant in the field. The mosaic usually develops

to a micro-organism so small that it cannot be detected with the microscope, others believe that the disease is due to a local disturbance of the ferments of the cell or the production of toxins, and that these substances transferred from an affected plant, are capable of creating the diseased condition in the young tissues of the other plants.

(EDITOR'S NOTE: We are indebted to the Missouri Botanical Garden Bulletin for this contribution and accompanying illustrations.)

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To serve until 1917—Wm. Hertrick, San Gabriel, Cal.; Robert Angus, Tarrytown, N. Y.; Robert Bottomley, New Canaan, Conn.; Alex. Fraser, Newport, R. I.; Arthur Smith, Reading, Pa.; Thomas W. Head, Lake Forest, Ill.; L. P. Jensen, St. Louis, Mo.

To serve until 1918—William H. Waite, Rumson, N. J.; William J. Kennedy, Chestnut Hill, Mass.; Edward Kirk, Bar Harbor, Me.; John W. Johnston, Glen Cove, N. Y.; Carl N. Fohn, Colorado Springs, Colo.; Peter Johnson, Dallas, Tex.; Thomas Proctor, Lenox, Mass.

To serve until 1919—John W. Everitt, Glen Cove, N. Y.; Thomas W. Logan, Jenkintown, Pa.; Robert Cameron, Cambridge, Mass.; James MacMachan, Tuxedo Park, N. Y.; A. Bauer, Deal Beach, N. J.; David Fraser, Pittsburgh, Pa.; George W. Hess, Washington, D. C.

OFFICIAL ORGAN OF

AMERICAN ASSOCIATION OF PARK SUPERINTENDENTS

<i>President,</i> EMIL T. MISCHIE, Portland, Ore.	<i>Secretary-Treasurer,</i> ROLAND W. COTTERILL, Seattle, Wash.
<i>Vice-Presidents,</i> J. W. THOMPSON, Seattle, Wash. JOHN F. WALSH, New York, N. Y.	<i>Vice-Presidents,</i> ALEX. STUART, Ottawa, Ont. E. P. GRIFFIN, East St. Louis, Ill.
	L. P. JENSEN, St. Louis, Mo. EUG. V. GOEBEL, Grand Rapids, Mich.

Vol. XX.

January, 1916.

No 1

SWEET PEA SHOW FOR SAN FRANCISCO

It has been definitely decided to hold a Sweet Pea Show in San Francisco in June, 1916, and full details will soon be announced. A number of prizes have already been promised and more are expected shortly. This show will be under the auspices of the American Sweet Pea Society, of which Lester Morse of San Francisco is vice-president. Those in charge of the local arrangements are endeavoring to secure the use of the upper floor of the Ferry Station for the show, as this floor offers opportunities for producing some fine effects in displays, besides being conveniently located and one of the most conspicuous places that could be chosen for a flower show in that city.

THE NEW YORK SPRING FLOWER SHOW

The committee in charge of the New York Spring Flower Show, which will be held in the Grand Central Palace, New York City, April 5 to 12, reports that everything is progressing most favorably and that the indications are that the 1916 show will surpass the previous shows held in the Grand Central Palace in every way. Society is again expected to play an important role in the attendance at the show, for the New York Spring Flower Show is looked upon as one of the season's society events. Some attractive exhibits are promised in the nature of large displays, with such novel features as the Dutch Bulb garden and the rock garden.

The private growers' classes have been liberally provided for and the gardener, it is expected, will take an active part to make the show a big success, both as a "booster" and as an exhibitor.

HORTICULTURAL SOCIETY OF NEW YORK

There will be an exhibition of plants and flowers given by this society at the American Museum of Natural History on Wednesday, January 19. Schedules are now ready and will be sent on application to the secretary, George V. Nash, New York Botanical Garden, Bronx Park, New York City.

Premiums are offered for orchids, carnations, sweet peas, Schizanthus, and snapdragons. One of the uses of these monthly exhibitions is to furnish opportunity to gardeners to exhibit whatever they may have in fine condition at that time, and for this reason the Exhibition Committee is empowered to award special prizes for things not provided for in the schedule. Gardeners are therefore invited to bring in plants or flowers of unusual interest or of unusual excellence in cultivation.

The medals of the society may also be awarded to the best vases of new varieties of carnations.

A meeting of the society will be held in the afternoon at 3:45, followed at 4 by a lecture by Mr. W. N. Craig, superintendent at Faulkner Farm, Brookline, Mass., on "The Home Flower Garden." This announcement insures an interesting and practical talk on a subject of much interest at the present time.

GEORGE V. NASH, Secretary.

THE HORTICULTURAL SOCIETY OF WESTERN PENNSYLVANIA

The Horticultural Society of Western Pennsylvania held its initial meeting for the coming year of 1916 in the East Liberty Branch of Carnegie Library, President David Fraser, presiding. On this occasion the members had as their guest, James Scott, of Scott Brothers, of Elmsford, New York, who talked informally, first on the value of organization work, and then on chrysanthemums, defining distinctly the differential qualities of those grown for private use and exhibition, and those intended for commercial tables. The latter subject was most appropriate, as it was decided definitely at this session to hold the first annual fall or chrysanthemum show next season, certain classes to be open to all exhibitors. Cultural certificates were awarded as follows: Secretary Thomas Edward Tyler, calanthe, ontoglossum and cypripedium lacinum orchids; Neil Forsythe, spirea venus; Mr. McNamara (head gardener for the Pittsburgh Country Club), a collection of vegetables including celery, beets, carrots and onions; Walter James (in charge of the W. Henry R. Hilliard greenhouses), Farquhar's giant pink and white primulae sinensis and Lorraine begonias. At the next session of the society, the subject of "Roses" will be discussed by a specialist.

# NATIONAL ASSOCIATION OF GARDENERS

WILLIAM N. CRAIG, President,  
Brookline, Mass.

OFFICIAL COMMUNICATIONS

M. C. EBEL, Secretary,  
Madison, N. J.

## A MESSAGE FROM PRESIDENT W. N. CRAIG.

### FELLOW MEMBERS:

Having been deemed worthy of election to the presidency of our association for the present year, I want to express my thanks and appreciation for the honor bestowed upon me. While fully aware of my limitations, I will give the association the best service in my power and with the whole-hearted support of our various committees and the members at large I am confident that the present year will be a most successful one.

It is encouraging to note that our association is yearly becoming more truly national in character and scope and that an increasing number of thoughtful members of our profession are joining our ranks. The work of our co-operative committee during the past year and the additional work planned for the present year deserves our hearty support. The fact that so many clubs and horticultural bodies are co-operating in our movement is one sure sign of progress though we have but stepped on the edge of these possibilities for mutual benefit.

The need of instruction to, not only young men, but others of more mature years in our profession was never more urgent than today; landscape gardening, forestry, botany, floral art, are only a few of the important branches which we, as an association, must strive to furnish needed knowledge on.

The Service Bureau of the association as it becomes better known will be of benefit to both employer and employee. I commend it to the support of our membership.

Our association now has a membership of about one thousand, and the growth continues steady and encouraging. I feel that we can without undue effort materially increase the membership to fifteen hundred before January, 1917. The annual dues of \$2, which include the GARDENER'S CHRONICLE, are surely very moderate, and I hope members will aid me in making the necessary addition. I would not ask others to do what I am unwilling to do myself, and will therefore endeavor to add one hundred members myself, and, if those members in a position to do so, will assist me my prediction will be fulfilled.

For those who can afford it, and surely many members can, I would recommend life membership. The \$25 life membership dues are deposited in a reserve fund.

I would like to see more articles from among the members in the CHRONICLE; these may be of a cultural nature, reports of visits to other estates, movements of gardeners and other happenings of interest. Many of our young men could efficiently add to the interest of our official organ and I believe the time is not far distant when we can have a fortnightly and later a weekly CHRONICLE; have a Service Bureau which employers and employees alike will patronize; and have an organization of sufficient financial strength to warrant the entire services of a competent secretary.

For the National Flower Show which opens in Philadelphia on March 25, I bespeak the active support of our members. If you cannot exhibit there be sure and visit it. I hope that we will continue to co-operate with other national societies of allied aims for the advancement of horticulture, and I trust that the New Year which dawns with America at peace with the world and industries prosperous, will materially benefit our profession.

With sincere New Year's greetings to everyone,

Yours fraternally,

WILLIAM N. CRAIG.

## PRESIDENT CRAIG'S APPOINTMENTS.

President Craig has appointed the following directors, to serve for three years: John W. Everitt, Glen Cove, N. Y.; Thomas W. Logan, Jenkinstown, Pa.; Robert Cameron, Cambridge, Mass.; James MacMachan, Tuxedo Park, N. Y.; A. Baner, Deal Beach, N. J.; David Fraser, Pittsburgh, Pa.; George W. Hass, Washington, D. C.

To fill the unexpired term of W. N. Craig, to serve until 1918: William J. Kennedy, Chestnut Hill, Mass.

To fill the unexpired term of A. J. Smith, to serve until 1917: Thomas W. Head, Lake Forest, Ill.

To fill the unexpired term of Theodore Wirth, to serve until 1917: L. P. Jensen, St. Louis, Mo.

The following committee have been appointed by President Craig to serve for the year 1916:

*National Co-operative Committee:* W. N. Craig, Brookline, Mass.; Theodore Wirth, Minneapolis, Minn.; James Stuart, Mamaroneck, N. Y.; Martin C. Ebel, Madison, N. J.

*Committee on Essays and Horticultural Instruction:* William H. Waite, Rumson, N. J.; Edwin Jenkins, Lenox, Mass.; Arthur Smith, Reading, Pa.; Theodore Wirth, Minneapolis, Minn.; William Downs, Chestnut Hill, Mass.

*Committee on Meritorious Exhibits:* William Kleinheins, Ogontz, Pa.; Alexander Mackenzie, Highland Falls, N. Y.; William Hertrick, San Gabriel, Cal.; Duncan Finlayson, Brookline, Mass.; Albin Martini, Lake Geneva, Wis.

*Committee on Bird Preservation and Propagation:* L. P. Jensen, St. Louis, Mo.; Robert Williamson, Greenwich, Conn.; Carl N. Fohn, Colorado Springs, Colo.; William Rennie, San Rafael, Cal.; William Reid, Orange, N. J.; A. J. Loveless, Lenox, Mass.

## OUR PRESIDENT.

William N. Craig was born of Ayrshire Scotch parents at Levens Hall, near Milnthorpe, Westmorland, England, where his father was head gardener and forester for over twenty-five years. He



WILLIAM N. CRAIG.

commenced his gardening career at Levens where the celebrated topiary gardens, planted in 1688, have a national horticultural importance. He later worked for four years at Lambton Castle, Durham, under James Hunter, noted as a fruit grower, and at Park Place, Henley-on-Thames, under George Stanton. For several years, before coming to this country, Mr. Craig was associated with his father in the nursery, seed and florist business at Kendal, England.

Arriving in New York on July 20, 1890, Mr. Craig's first charge was on the Bowditch Estate, Framingham, Mass., and thereafter he was in charge of estates at Springfield and Taunton, Mass. In 1900 he assumed charge of the estate of Mrs. F. L. Ames, at Langwater, North Easton, Mass., where he remained until May,

1913, leaving at that time to take charge of Faulkner Farms, Brookline, Mass., the estate of E. D. Brandegee and which, at the present time, is under his supervision.

Mr. Craig is a life member of the Massachusetts Horticultural Society, having served for nine years as a trustee and on various committees. He has been secretary of the Gardeners' & Florists' Club of Boston since 1905, is a life member of the Society of American Florists and a member of the American Rose, Carnation, Chrysanthemum, and Sweet Pea societies. Past Regent of North Easton Council 866, Royal Arcanum; Past Master, Easton Grange 196, Patrons of Husbandry, and member of the A. F. & A. M.

### NATIONAL CO-OPERATIVE COMMITTEE.

The National Co-operative Committee has issued a communication to local horticultural societies to supply a series of papers on horticultural subjects for discussion at their monthly meetings during the year 1916.

This offer is extended to any other horticultural organization or educational institution that would be interested in receiving the papers.

If any of the horticultural societies or clubs have been overlooked and have not received a letter but desire to obtain this service, the committee asks them to communicate with it. The communication follows:

*"At the convention of the National Association of Gardeners, held in Boston recently, a number of papers were read which elicited the comment that they were among the best essays ever presented in Horticultural Hall of that city.*

*"The subjects related to the profession of gardening, country estate management and the young gardener's opportunity in this country.*

*"It was proposed that some provision be made to give general publicity in gardeners' circles to the contents of these papers, so, in order to carry out this suggestion, the National Co-operative Committee has decided to supply a copy of the first of these papers, entitled 'Is Gardening a Profession?' by W. W. Ohlweiler, of Missouri, (and which is herewith enclosed) to the different local societies and clubs, that it may be presented at the January meetings.*

*"To all societies sufficiently interested to receive the remaining papers for succeeding meetings, and a paper devoted to a horticultural subject for discussion, if opportunity offers, for each successive meeting following, during 1916, the National Co-operative Committee of the National Association of Gardeners will be pleased to supply them.*

*"This service will be free of any expense to the local societies, the motive for this offer being solely to arouse a greater interest in horticulture and to develop a greater co-operative spirit among those engaged in the profession of gardening.*

*"If the offer is accepted, kindly advise M. C. Ebel, secretary, Madison, N. J., at your early convenience, that the name of your organization may be properly recorded to regularly receive the papers."*

### ESSAY COMMITTEE.

Attention is directed to the essay contest (see November issue of GARDENERS' CHRONICLE), which will close on February 1. Those competing are requested to send their essay to Wm. H. Waite, Chairman Essay Committee, Box 290, Madison, N. J., before that date, following carefully the rules governing the contest. The winners will be announced during the National Flower Show, Philadelphia, in March.

### NEW MEMBERS.

The following names have been added to our membership roll since the convention was held in Boston last month: Henry Eaton, Harry E. Fiske, Edward Rose, Frank Murray, Peter M. Miller, John O. A. Guerinneau, of Boston, Mass.; John McIntyre, Charles Cooper, Arthur E. Miles, George W. Duncan, Benjamin McPhee, Bruno Sizenstok, William C. Rust, of Brookline, Mass.; Alexander Reid, Cambridge, Mass.; E. Barmwater, Brooklyn, N. Y.; Andrew K. Rogers, James Methven, Readville, Mass.; Robert Robertson, Stewart A. Forbes, Fitchburg, Mass.; James Morrison, Peter Arnott, Chestnut Hill, Mass.; Thomas Coles, Dedham, Mass.; John C. Latham, Clinton, Mass.; John A. Walker, Dorchester, Mass.; Francis Lazenby, Plymouth, Mass.; Eric H. Waterlow, Manchester, Mass.; Max P. Haendler, South Natick, Mass.; Alphonse Chague, Lenox, Mass.; Ernest Riddell, South Framingham, Mass.; Daniel Whyte, North Easton, Mass.; Albert Jay, Hingham, Mass.; John L. Russell, Somerville, Mass.; Henry Sabot, Chicago, Ill.; Charles Dantle, Rosemont, Pa.; John Burkingham, Wilmington, Del.; Cyril Hayman, Frederick Bateman, Alfred Woodger, Harry Cartwright, Convent, N. J.

## AMONG THE GARDENERS

W. N. Craig, president of the National Association of Gardeners, will lecture before the Horticultural Society of New York at the American Museum of Natural History on Wednesday afternoon, January 19, at 4 o'clock, on "The Home Flower Garden."

John Forbes has resigned his position as head gardener on the Howard Cole Estate, Madison, N. J.

Charles Mavor, formerly of Richmond, Ind., has accepted a position as gardener to William D. Cowen, Wheaton, Ill.

Edward S. James, who for a number of years has had supervision of the Hotel Schanley, Pittsburgh, Pa., has resigned and will shortly open a "Storage Roof Greenhouse" as a service building for the Fort Pitt Hotel and the new William Penn Hotel now under course of construction.

### NATIONAL FLOWER SHOW, PHILADELPHIA.

W. F. Therkildson, chairman of the Publicity Committee of the Fourth National Flower Show, to be held in Philadelphia, March 25 to April 2, is strongly appealing to the private gardeners for co-operation with his committee and has sent the following message:

"The Publicity Committee is in need of photographs and material for the stories that are to go in the local papers. We feel sure that many of the private gardeners are in possession of attractive photographs of some of their specimen plants. We also feel sure that many of them are able to contribute material that will make good reading for the public who will get this material through the Philadelphia dailies. I trust that our garden friends will not lose the opportunity to take advantage of the rich prizes that are offered at the National Flower Show, and that all will co-operate with the Publicity Committee to give the prospective patrons of the Show the information that will be necessary to make real patrons, and that can best be accomplished by giving the public, who are anxious to know more about these things, an interesting story regarding some of the splendid exhibits that will be made from some of the many large estates. I will see that each gardener gets credit for his story, but I particularly recommend that they make an effort to supply good photographs. These are what the newspapers want, and they are always willing to publish a good story about an attractive picture. It behooves private gardeners to make use of every opportunity to increase the interest of the public in things beautiful. If the Publicity Committee has the co-operation of the private gardeners it will do more to make the Fourth National Flower Show a success than any other contributing feature."

The photographs and articles are to be sent direct to Mr. W. F. Therkildson, Chairman of the Publicity Committee, Fourth National Flower Show, 1205 Widener Building, Philadelphia, Pa.

## Of Interest to Estate Owners

The National Association of Gardeners maintains a Service Bureau which is at the disposal of all who may require the services of efficient gardeners in their various capacities.

The association seeks the co-operation of estate owners in its efforts to secure opportunities for those engaged in the profession of gardening who are seeking to advance themselves. It makes no charge for services rendered. It endeavors to supply men qualified to assume the responsibilities the position may call for.

Make your requirements known to

M. C. EBEL, Sec'y, National Association of Gardeners, Madison, N. J.



# AMERICAN ASSOCIATION OF PARK SUPERINTENDENTS

OFFICIAL COMMUNICATIONS.

EMIL T. MISCHE, President, Portland, Ore.

R. W. COTTERILL, Sec.-Treas., Seattle, Washington.

## ASSOCIATION NOTES.

In the October number of this magazine President Mische presented a schedule of proposed articles by members to be presented in these columns during the fiscal year, in the hope that this department could be made more useful.

About fifty members were assigned subjects on which to write, which would have provided about three or four articles per month. Four months of the year have already passed by and but three of our members have responded with the articles assigned, which is somewhat discouraging to the president.

Perhaps the holiday season has had something to do with this neglect, so it is to be hoped that the members will get busy and contribute.

Look up the schedule in the October number, then write up the subject assigned to you and send it along to the secretary, or, if you prefer, direct to Editor Martin C. Ebel at Madison, N. J.

For the benefit of members who have joined the Association during recent years, following is the list of bulletins in pamphlet form which have been published from time to time and which can be secured from the secretary:

- No. 1, 1906—Floral Decorations in Parks or Squares.
- No. 2, 1907—Pruning; Moving Trees; Oiled Roads; Winter Sports.
- No. 3, 1907—Water Gardens; The Herbaceous Garden; Bulbs; Playground Management; Cement Concrete Construction.
- No. 4, 1907—Construction of Roads, Drives and Paths; Evergreens for Parks; Fertilizers.
- No. 5, 1909—Lighting; Plantations; Weed Killing; Park Signs; Surfacing Playgrounds; Gardeners; Cinder Walks.
- No. 6, 1910—Street Trees; Policing.
- No. 7, 1911—Organization of a Park Commission; The Duties of a Park Superintendent; Park Music; Park Statistics.
- No. 8, 1912—Park Seats; Park Rules; Drinking Fountains; Garbage Collection; Parks East and West.
- No. 9, 1912—Lawn Mowers; Crosscutting on Lawns; Destruction of Lawn Weeds; Lake Weeds.
- No. 11, 1914—Insects Injurious to Shade and Ornamental Trees.
- No. 12, 1915—Concessions and Privileges.

These pamphlets are made up of comments on the subjects mentioned and other sundry subjects by members from all different points of the country and are interesting side lights on the questions discussed. Members at the time of publication were supplied, but new members who desire copies may secure such as they desire from the secretary without cost, simply remitting sufficient postage on the basis of two cents per pamphlet. The secretary has on hand a liberal supply of Nos. 5, 6, 7, 8 and 9 with a limited number of the others.

The secretary also has on hand a large supply of copies of the following convention proceedings which might be of service to members who have joined since: Minneapolis, 1908; Seattle, 1909; Harrisburg, 1910; Kansas City, 1911; Denver, 1913, and Newburgh, 1914.

These booklets contain many valuable papers and discussions, which are of real practical value. Members desiring copies of any or all of these can secure the same by simply remitting postage at two cents per copy.

## PERSONAL AND OTHERWISE.

Vice-president L. P. Jenson, of St. Louis, has come forward with a suggestion that the officers will probably act upon. It is to the effect that a booklet be gotten out containing all of the papers and addresses that have been read or presented at the various conventions of the Association.

This would undoubtedly be a handy document for our members, much more convenient than looking up old convention reports, and if possible such a publication will be issued later in the year.

Wm. H. Dunn, formerly superintendent at Kansas City and a past president and active worker of the Association, is still connected with park work in the capacity of consulting landscape architect with offices at Kansas City.

Mr. Dunn is directing development work at St. Joseph, Mo., and has made plans for a number of the young cities of Florida, Oklahoma and Texas.

Members who are interested can write to Judd Wright, secretary, Paris, Texas, and secure a copy of "A City Plan for Paris, Texas," which is a sample of the class of work Mr. Dunn is doing. The many years of practical experience which Mr. Dunn had at Kansas City during the period when that city expended millions for improvements, has eminently fitted him for consultation work.

Wm. H. Manning, of Baltimore, sends his regrets at being unable to attend the San Francisco convention, the reason being that at the time he was in a hospital undergoing an operation for hernia, which has caused him much suffering during recent years. He has entirely recovered, however, and is now enjoying the best of health, which will be good news to the members who have known him in Association work for so many years.

Henry W. Busch, superintendent at Detroit, attained quite a reputation as a speech-maker on the homeward-bound trip of the San Francisco convention, and after his first effort was selected as the official spokesman of the party at the luncheons, etc., at different cities. Mr. Busch and his charming wife and daughter were very popular members of the convention party, and we all hope that he will continue to take an active interest in the Association.

Edwin B. DeGroot, of San Francisco, has been designated by the Playground Commission of that city as consulting and advisory superintendent in connection with the reorganization of that body, and in the future all of its active work will be under his direction. Mr. DeGroot will continue to act as director of physical education for the school board, but in his dual capacity will be the directing head of all playground and recreation work in San Francisco. A reorganization of playground workers is now taking place, and several playgrounds are to be treated in accordance with comprehensive plans by Mr. DeGroot. Under his direction the use of public school buildings as social centers is progressing rapidly, four such centers being in operation. San Francisco is to be congratulated upon having placed its playground work in the hands of America's foremost playground executive.

Ralph T. Stevens, one of our new members, who is Professor of Landscape Gardening at the University of California, has recently delivered a series of public lectures in Los Angeles, San Diego and other California cities, his subject being, "Civic Betterment Along Horticultural Lines."

The following members of our Association were speakers at the recent annual convention of the New England Park Institute, held at Lowell: Fred C. Green, of Providence; James B. Shea and William E. Fisher, of Boston; George H. Hollister, George A. Parker and R. L. Parker, of Hartford; W. W. Colton, of West Newton; Henry Frost, of Haverhill; Isaac Kelly, of Lawrence; A. V. Parker and Harold J. Neale, of Worcester.

The "stay at homes" who have been reading Mrs. McEwen's most interesting articles on the trip of the San Francisco convention party, are unanimous in their comment that they made the mistake of their lives in passing up this trip. It was really a wonderful trip in every respect, and those who were fortunate enough to make it now have an entirely different idea of the West and its people. We are all indebted to Mrs. McEwen for the most delightful series of articles describing this great trans-continental trip.

## OUR COVER ILLUSTRATION.

The illustration appearing on our cover page is a reproduction of a photograph, taken when the thermometer was 15 degrees below zero, and shortly after a severe snow storm, of the greenhouse erected by the Pierson U-Bar Company for Mr. B. C. Howard, Sherbrooke, P. Q., Canada.

The greenhouse is 125 feet long and 22 feet wide, and is divided into three compartments, in which are grown roses, general plants and grapes. It is connected by a passage house to the gardener's cottage.

## REVIEW OF PARK REPORTS.

## Vancouver for the Year 1914.

*Vancouver, B. C.*—Vancouver's 1914 park report indicates that its park expenditures, for all purposes, from the date of the inception of the system to the present, has been \$1,812,223.20, and a funded balance of \$410,631.71 still available. 1914 expenditures were \$139,887.33.

Work accomplished during the year is recited in detail of which the following is of general interest: 2,500 cubic yards of rock were utilized in the construction of another groyne upon English Bay Beach, the property comprising a southerly extension of the shore of Stanley Park and containing one of Vancouver's two bathing facilities. Another groyne was constructed of timber for a length of 172 feet on the same beach.

Groynes, utilizing the action of the elements and the sea, are built to transform a gravelly beach into a pleasant bathing area agreeable to the use of bathers with bare feet, by causing sand to wash over the groynes and become deposited over the gravel surface of the beach.

Upon the Flanders shore in Europe from whence the idea was taken, they rely entirely upon the groynes to accomplish their purpose, but Vancouver had an opportunity to secure 150,000 yards of sand removed in the process of some nearby dredging operations under way and availed itself of it and had it deposited upon the shore, thereby materially hastening the time limit wherein the beach would become more satisfactory and serviceable.

The annual gross expenditure upon the property was \$5,407.80. Upon Kitsilane Beach, a continuation of the English Bay Beach interrupted by an indulation formed by False Creek, a similar treatment was started, but lack of sand fill prevented its execution. \$9,899.76 was expended upon this property.

Development of a new Zoo site is under way at Stanley Park and the installation of a water system composed of six and eight inch pipes, has progressed to the extent of almost a mile. A novel idea, the laying of water pipe to protect a thousand acre forest, though the water will be used in part for drinking purposes, comfort station and requirements of administration yards, etc.

New Greenhouses at an estimated cost of \$6,440.00 were started. A very serious attack of insects has appeared in the forests, with trees two and three hundred feet high and the difficulty of combatting the pests by the present type of power machines and high tension hose, the trouble assumed alarming proportions and caused the Dominion and Provincial governments experts to be called into consultation. The report states that the

infected trees were dealt with in the manner required and approved by these specialists, without describing the manner or requirements.

This matter is so vital in Woodlands and of such general interest, it is hoped a subsequent report will recite the operation in the detail its importance demands.

131,339 persons made use of the bathing facilities during the season extending from June to September.

Work undertaken for the relief of the unemployed, a task confronting all of the coast cities annually, consumed \$4,000, engaging 100 men.

The interesting part is that the sale of cordwood and shingle bolts equalled the labor cost, an experience not duplicated by any of the other cities. Portland for instance, expending \$7,500 in this line of work with a probability of being enabled to recover not over half of it.

Other cities seem to have had Portland's experience.

E. F. M.

Note: Seattle tried the woodcutting plan during the holiday season, paid out \$793.75 to woodcutters, sold wood for \$826 and had 205 cords of wood over sales, for departmental use.

R. W. C.

## Calgary, for the Year, 1914.

With an appropriation of \$80,000 Calgary is continuing its park development.

Located far north, where the winter's cold specially favors ice formation, it is noted that ice skating, curling on the ice and like sports are very popular.

Seventeen hundred trees, 4,000 shrubs and 3,000 perennials and annuals were planted. It would be interesting to know what sort of hardy materials were used in that bleak, wind-swept prairie region, where conifers, poplars, birch and willows form the predominating portion of the native woods.

Of 40 miles in the city, 7½ miles of "boulevard" (street parkings) were constructed at a cost of 45 cents per lineal foot. Would that dimensions in widths, areas and depths had been given, how deep topsoil was emplaced and how many trees were planted.

In Canada, this street tree work is usually done by the municipality and assessed on the abutting property. Parkings are graded, topsoiled, drained, water pipes laid, trees planted, grass or shrubbery provided, plantations watered, cut, pruned, weeded, sprayed and generally cared for.

No wonder that the Canadian cities have so pleasing appearance in contrast to so many of our own, where weeds are allowed to grow on parkings and lots, and a general neglect and lack of interest is so manifest.

## THEODORE WIRTH HONORED

"TO meet the demand for neighborhood parks and playgrounds is the great part of the work of the park commission of Minneapolis; we have now nearly all the land required," was the summary of the park situation delivered by Theodore Wirth, superintendent of parks, at a dinner given in his honor by 200 citizens of Minneapolis recently at the Minneapolis Club. The occasion was to mark the tenth anniversary of assuming his position in January, 1906.

Mr. Wirth's achievements as park superintendent in bringing the city of Minneapolis to the foremost place in the world in the beauty and art of its park system, were detailed in the addresses. Following the toasts a silver service was presented to Mr. Wirth.

In reviewing the work of Mr. Wirth one of the speakers said: "In Theodore Wirth's education as a horticulturist and landscape gardener within the view of the mountains of his native Switzerland, he was unconsciously fitted for his work in developing the latent beauties of cities of America. When he came to Minneapolis from Hartford 10 years ago, our parks extended over 1,800 acres and the annual expenditure for maintenance was \$141,000; now the system covers 3,800 acres and has a current appropriation of \$520,000. The cost of the system is \$7,500,000, compared with \$3,500,000."

Illness prevented the presence of Charles M. Loring, who was to have spoken. Mr. Loring was styled the father of the Minneapolis park system. In a letter conveying his regrets at not being able to attend he wrote: "Mr. Wirth has builded the superstructure on the foundation laid by William M. Berry, our first superintendent," the letter stated. "His accomplishments here have merited well this indorsement of the leader of his profession. He has put our outdoor attractions in the front rank of cities."

That \$200,000 a year for ten years be expended to finish the improvement of parks was recommended in the communication.

In his response, Mr. Wirth showered praise on the founders of the park system and on his fellow workers, and detailed the history of the park system.

"Three main features of our parks appealing to us," Mr. Wirth said, "are the strong support of the citizens in the unbuilding of the recreation grounds, the harmonious spirit of our executive boards, and the completeness of the plan and its execution. Our parks are not detached, but connected in a chain of drives, lakes, gardens and groves. That is largely because few changes have been made in the personnel of the board of commissioners and the officers, and because of the absence of politics in the work.

"We will need but little more land, and our main work is to provide for play spaces. We must be willing to pay as we go, by assessments, for we can get little more by bond issues."

## NATIVE PLANTS FOR ORNAMENTAL PLANTING.

(Continued from page 18.)

colors at the same time. The degree of moisture, the soil condition and nature of the season tend to modify this.

The following quotation from "Garden and Forest," 1888, page 410, is interesting in this connection:

"Everyone has noticed, in the case of the sugar maple, that on some individuals the leaves are golden, while on others a portion are scarlet, or that sometimes the leaves of a single branch turn scarlet while the remainder of the tree is still green. Individuals of the scarlet maple differ even more than the sugar maples in this respect. On some the leaves are pale yellow, on others they are green with scarlet margins; others are brilliantly scarlet. In western Massachusetts there is one tree of this species, now known from one end of this commonwealth to the other, whose leaves turn from green, first to deep, dark purple, and then to the most brilliant scarlet. The leaves upon some trees of the white ash turn to a deep, bronzy purple, while in others they turn pale yellow. If the leaves of a particular branch of a maple tree assume a particular color one year, they will continue to do so year after year as long as the branch exists. If the leaves of a certain oak are more brilliant than those of any of its associates, they will continue to be so year after year. Planters, therefore, can well select and perpetuate those individuals as the purple beech and pyramidal oak have been propagated. The nurseryman who will propagate, by grafting, maples or oaks or elms, selected with reference to autumnal tints of their foliage, will open the way to more effective plantations than have yet been made in this country, and will reap the reward of his intelligence and enterprise. The field, so far as we know, is entirely a new one."

The following are a few of the native plants which might be planted for color effect in autumn:

Brownish foliage—White ash, wild red cherry, white oak and red oak.

Yellow and orange foliage—Sugar maple, black maple, juneberry, paper birch, hazel, witch hazel, beech, tamarack, poplar and bitter-sweet.

Scarlet, crimson and red foliage—Red maple, mountain maple, sour-gum, sweet-gum, scarlet oak, sassafras, sumachs, dewberry, blackberry and Virginia creeper.

Not only are our native plants valuable for their effect of flowers and foliage, but many of them add beauty of color to our plantations by their fruit, which in some cases are very abundant and bright, and many of the more persistent and bright colored ones are particularly valuable when we are selecting planting material for winter color. Among those who retain their berries in winter might be mentioned: Winterberry (*Ilex decidua*), bitter-sweet (*Celastrus scandens*), species of *ouonymus*, snowberry, Indian currant and roses.

Other plants valuable for the ornamental effect of their fruit are the flowering dogwood, native thorns, cherries, honeysuckles, sassafras, mountain ash, the common and the red-berried elder, sumachs and species of *virburnum*. Some plants have particularly bright colored bark which makes them valuable planting material for winter effect. Among these might be mentioned the red maple, twigs red; striped maple, bark brown or dull green striped white; white and paper birch, bark white; species of dogwood with red and green twigs; sycamore, bark whitish; blackberry, twigs brownish-red; box elder, twigs bright green, and various species of willows with yellow, bright green and brown twigs.

Plants with numerous small twigs are very effective in winter when covered with ice or snow, the Indian current,

spiraeas, gooseberries and blackberries are examples among the shrubs, and the birches, elms, hackberries and willows among the trees. For the relief of winter monotony in ornamental plantations our native coniferous and evergreen plants are of course invaluable, and wonderful effects may be produced by a proper selection of these materials. But they are not only useful for winter effects in our plantations, but for many other purposes and other seasons as well. For shelter plantations, for the planting out of unsightly objects and for contrast with each other and with deciduous material, these plants are of great value. We have a large number of native evergreen plants, growing over a wide territory. They vary considerably in form and size and in the color of their leaves. Among the most valuable for this section (Missouri) are: The pines, the spruces, the arborvitae, the cedars and the hemlock among the conifers, and the evergreen hollies and barberry among the broad-leaf evergreens. In the east and north, where the climatic conditions are less severe, a much larger number of species may be utilized.

I have now, in a very disconnected and very superficial way, called your attention to some of the many uses to which our native plants lend themselves in ornamental planting, but have by no means exhausted the subject.

All gardeners, and many persons not proficient in the art of gardening, are more or less familiar with exotic plants, but have but little knowledge of the effects that may be produced and the uses made of our native plants in ornamental planting. This, in most cases is very injurious to the cause now before us, hence the wholesale destruction of native plants all over this country. Let us first clean out the underbrush, in the slogan, so we can see what must be done in ornamental planting, whereas, in numerous cases, the very existence of the native growth should mean preservation, not destruction.

## DETERMINATION

To respect my work, my associates and myself; to be honest and fair with them, as I expect them to be honest and fair with me; to be a man whose word carries weight; to be a booster and not a knocker; a pusher, not a kicker; a motor, not a clog; to base my expectations of reward on the solid foundation of service rendered; to be willing to pay the price of success and honor; to look upon my work as an opportunity to be greeted with joy and made the most of, and not a painful drudgery to be reluctantly endured.

To remember that success lies within myself, my own brain, my own ambition, my own courage and determination; to turn hard experience into capital for future struggles; to interest my heart and soul in the achievement of results; to be patiently receptive of just criticism and to profit by its teachings; to treat equals and superiors with respect and subordinates with kindly encouragement; to make a study of my business duties; to know my work from the ground up; to mix brains with my efforts; to use system and method in all I undertake; to find time to do everything needful by never letting time find me or my subordinates doing nothing; to hoard days as a miser does dollars; to make every hour bring me dividends in specific results accomplished; to steer clear of dissipation; to guard my health of body and peace of mind as my most precious stock in trade.

Finally, to take a good grip on the joy of life; to play the game like a gentleman; to fight nothing so hard as my own weakness and to endeavor to grow in business capacity and as a man, with the passage of every day of time.—  
From Harrison Emerson's Personal Efficiency.

### WILKES-BARRE'S (PA.) PARK DEVELOPMENT.\*

I HAVE observed with much pleasure and satisfaction that the general public is practically unanimous in their praise and support of the parks, playgrounds and park extensions, and many heretofore opposed to parks have since come out as the strongest advocates in their favor.

The old Park Commission, with Major I. A. Stearns as president, together with the present city commissioners, the Chamber of Commerce, through President A. C. Campbell, with officers and committees, and last but not least our daily papers, are all alive to the great opportunities of the City of Wilkes-Barre's parks, playgrounds and tree work, all knowing that with comparatively small effort and outlay we can create one of the finest park systems in the country.

We are at the threshold of a campaign for civic improvements. The department with the general public are not only anxious and eager, but very enthusiastic for park extensions, and there are exceptionally fine park sites in every section of the city, both within and without its boundary lines.

A movement should be started among property holders that are owners of unsightly lots in the city to remove old fences and board shanties, of which we have so many on valuable corner lots and in conspicuous sections of the city. These lots should be plowed up and put in grass seed, if nothing else. On these lots the obnoxious weeds have been a great source of complaint, spreading hay fever and other diseases, especially during the months of August, September and October.

It is to be hoped that a larger and more commensurate appropriation will be made for street and park tree planting. We have but \$1,000 per annum for this purpose, hardly sufficient to repair storm damages. The sick trees will not cure themselves, so it is necessary in order to provide spraying, cleaning, removing and planting to have not less than \$2,000 per year.

It may be interesting to note that the new greenhouse contains many specimen show plants, with thousands of others which will be used for planting beds and borders. Our palmhouse collection, and our trees and shrubs of the nursery have attracted many visitors to the North River Common. We also note that many botanically-inclined citizens and visitors alike have asked for information pertaining to trees and plants.

The shade tree nursery contains many thousands of valuable specimens of trees, shrubs and plants. These have cost the city practically nothing. During the past few years only \$625 have been expended for trees and shrubs; the rest has been donated. The total value of our stock of plants and trees on hand is approximately \$8,500.

For neighborhood parks in different sections of the city our future aims should be to acquire a sufficient area for each to make them a combined park and playground, embracing all necessary facilities for comfort, convenience and enjoyment, such as a field house with spacious sheltering porches, lockers and shower baths, pergolas, sand bins, wading pool and tennis courts. If space permits it, a baseball ground, running track and an out-door iron frame gymnasia apparatus should be included. Such a park would be in harmony with the latest modern ideas for recreation and welfare work.

The City of Wilkes-Barre fortunately began its work for parks in time to establish improvements

within the city, rather than being forced to begin outside; therefore large areas that might otherwise have been used for indifferent purposes have been saved for beautiful residential sections and parks. Therefore, our citizens owe a debt of gratitude to the donors of park lands and park commissioners, who, through wise foresight, have made a park system possible.

In conclusion I would state that the work of beautifying home grounds should receive more attention than it does. Some years ago I wrote a series of articles for prominent newspapers, when I was told by florists and landscape gardeners that I was giving away the secrets of a business, but I have invariably replied that there should be no secrets in attaining the beautiful and, to paraphrase my old friend Admiral Schley's memorable epigram: "There is beauty enough for us all." To foster the good and true and the beautiful is every person's duty, and I have been only too glad to offer suggestions to the readers of my articles, through which we may make suburban homes and farmsteads lovely, and even improve the small yard of the city homes.

For the artistic planting of home grounds, shrubs and perennials are indispensable. Equally indispensable is it that care should be taken to arrange them as to size and general effect; for instance, irregular borders for screening objectionable features should be planted with low-growing kinds in the foreground, medium size in the centre, and the taller ones in the rear, with color effect and blooming season thoughtfully considered.

The first cost is the only cost in planting shrubbery. This is worth remembering. The shrubs increase in size and beauty each year, and it is a delight to observe the development as they do grow and bloom.

Being a lover of nature, I must say that my perceptions and feelings are somewhat jarred when I look upon opportunities that people could take advantage of to beautify their homes, and will not attempt to do anything besides grass seeding.

Those who have the best chances to make their homes beautiful either will not do it, or they do not know how to do it; or, if they know how, keep putting off the performance from time to time and let valuable years slip away from them without embellishing their home grounds.

Extracts from an address before the Civic League of Wilkes-Barre, Pa., by C. L. Seybold, Superintendent of Parks of that city.

### WANTED—FOLK NAMES FOR FLOWERS

L. P. JENSEN, in a talk before the Park Superintendents in San Francisco, last August, advocated "folk names" for flowers, saying that "we must have more common names, more folk names for the multitude of flowering plants in our national parks. By a folk name I mean a name that has been given to the plant by the folk, by the people who have lived amongst the plants and know them from their point of view.

"Of course, the botanist has named all of the plants in the parks of which he has knowledge. He has for accuracy given them scientific names, but these very rarely make an appeal to the people at large. When once you have folk names, then the interest of travelers in the mountain flower fields will be very much greater. Take 'mountain misery,' for example, the name of a plant which is found in the Yosemite Park, and the Sequoi Park. That name at once gives the 'flavor of the soil'; so does Steer's Head, Buck Brush, Mahala Mats and Mustang Clover. There are a few such names, but many

more must be invented, either by us or by the people who live in the mountains, or live in the parks. All that is necessary for a good common name is that people feel that the name is happy and accept it. A telling name will stick, even if it cannot give a satisfying account of its origin.

"Some years since I was coming down out of the mountains on a trip. I had been studying what we botanists call *Calendrinia Cautescens* var. *Men ziesii*, and I met some children who had in their hands a bunch of the flowers. I stopped and asked them what they called the flowers. After some hesitation they said, 'Kisses.' I asked them why they called them 'Kisses,' and they either would not, or could not tell. But as I went on I heard the elder child say: 'That is the botany man, and he is always asking why.' But you cannot always tell why. Sometimes you just do things. Perhaps no one can tell why the name kisses was first applied to the plant. But the name caught on, as we say, and people use it.

"A mountaineer's name, like Mountain Misery, at once makes a strong appeal to the people. Common names indicate the way in which the plants have affected the people who live where the plants live, whether they are conscious of it or not.

"Of course, the beauty of our Alpine flowers is a great asset irrespective of the names, but the names help. Imagine the thoughts of a person traveling in the high mountain meadows and seeing for the first time mountain grass filled with Shooting Stars. I have seen as many as half a million Shooting Stars in one rather small Sierra meadow. Now, when that plant becomes known to our people, it will become as famous as the Edelweiss of the Swiss Alps."—*The Pacific Garden*.

#### STREET TREES FOR NEW YORK CITY.

PROFESSOR LAURIE D. COX, landscape engineer of the State College of Forestry at Syracuse, is bringing to a close an exhaustive study of the trees of New York City, and will shortly present a report to Cabot Ward, Commissioner of Parks. This report will include the first comprehensive census of the trees of Manhattan and Richmond and will be the basis for future activities by which Commissioner Ward hopes to increase greatly the number of trees in the city and prevent it from becoming treeless, a condition that rapidly approaches unless drastic measures are taken.

Professor Cox was employed through a fund given by John D. Rockefeller. When Mr. Ward became commissioner he found the city losing thousands of trees each year through lack of system as to planting the proper species of trees and their proper care after they were planted. He realized that to correct these evils would require more money than the Board of Estimate would give at once, so he decided to show what could be done with a small outlay and scientific and systematic work. There was no money to engage a forester, so the commissioner approached Mr. Rockefeller.

Commissioner Ward gave Professor Cox a squad of department men and for three months they have been accumulating the data on which the forester will base his report. The tree census will include the history of every tree in Manhattan and Richmond—the date of planting, conditions of soil, and environment and the life of the tree whose place it took. Professor Cox is also gathering data as to the kinds of trees suitable for various parts of the city. The depth of soil, the street traffic, the congestion and height of buildings, proximity of gas mains, pressure of vaults and con-

duits, and scant tree openings are some of the difficulties that exist in various zones.

Another feature of the report will be a map showing the location of the city's trees. This will be divided into zones according to conditions. Thus the downtown district where underground and traffic conditions make the growing of trees a practical impossibility would comprise one zone, while a district a little further removed in which the hardiest kind of tree might grow would constitute another.

In an article on the tree situation in New York, published in the current Bulletin of the New York State Forestry Association, Commissioner Ward discusses the problems that confront his department in stopping the denuding of the city of trees.

"It is my belief that as long as the property owner is alone relied upon to plant city trees," the article says, "New York City will never have a sufficient number of shade trees. In the whole of New York City, and particularly Manhattan, it has been the experience of this department that the property owner will not plant trees even on his own property when such property is leased to tenants. It naturally follows that tenants will not often plant trees on property belonging to another person.

"The landscape architect of the city has estimated that under the Manhattan conditions the average minimum cost of properly planting a tree in a paved sidewalk and providing a suitable cast-iron grating and wrought-iron guard would have to be \$50, in case a general planting effort were made here as in Brooklyn. At the present time very few people are willing to pay that amount, and I am hoping that, as the result of further studies by the landscape architect and other officials of this department whom I have directed to look into the matter, this estimate of average cost may be substantially reduced."—*Exchange*.

#### MOVING LARGE TREES IN WINTER.

MANY people are unwilling to wait for trees to grow to large size in these days of immediate results, and are willing to pay for them ready made, if of good height, habit and shape. There is as much diversity in trees as there is in white folks. The planter of small trees cannot tell how they will develop in later years, and if an avenue or parkway is to be planted, and look well in the time to come, uniformity is essential.

E. O. Orpet, in the *American Florist*, refers to a very fine park system in an eastern city, where all the elms used are of the English type, and it was always thought that trimming or pruning brought the uniformity always seen there. It was a revelation, therefore, some few years ago to find that for many years this city has bought all the trees, grafted annually by an English grower from one fine specimen tree. These were nursed along for years until needed in the park nursery, and then planted along newly created boulevards and streets. This is now being done in Illinois, perhaps for the first time, and the prominent planters buy the elms as fast as they can be grown. All are grafted on seeding elms, below the level of the ground, and in two years trees the size of a broom handle can be supplied, all warranted to grow alike in time to come, and be uniform in habit. It may be said in passing that to plant the English or Scotch types of elm in the middle west is a mistake; they grow for a few years, and when valuable specimens might be expected, decadence begins. There is no elm like the American variety, ready to hand, vigorous, hardy and having the added advantage of being at home.

When a tree attains the age of perhaps 20 years its contour can be easily seen and specimens can be selected that will match and make uniform lines in time to come. These can be moved in winter with surety of their living, and this is being done by many with a guarantee. It is often advised that the tree should be trenched round a year before, and good soil be placed around it to induce the formation of young fibrous roots. There could not be a greater fallacy and more losses will ensue from this treatment than when they are dug, frozen up sufficiently to hold the ball of soil, and then moved to the new location at once, putting good soil around about them, in a hole already made large enough to receive both. There is then only one operation, a major one, it is true, but not so severe a check as the digging up the second time, and the consequent injury to the young roots already made when these should be becoming established in the new soil of the new location.

As to the freezing, enough is sufficient. A maple can be easily killed, as we found to our sorrow one severe winter, when the frost went down through the ball of soil containing the tree. An elm, however, will stand more without injury, but does not enjoy it, so when a tree is frozen sufficiently to hold the soil at the roots, if it is not possible to move same at once, put plenty of snow over all, or lacking in this, as in some years, put on straw manure to hold it as it was until ready to move. All evergreens can be moved safely this way, choosing a day when the branches are not frozen, without loss of many roots. Only surface rooting trees can be moved, such as elm, maple, ash, or such as make to tap-roots. An oak is difficult unless nursery grown.

In digging trees for removal, it is only necessary to go to the depth of the roots, eighteen inches being usually enough. Then, when frozen enough, cover up to keep from more frost than is necessary, or it will be very hard to pull the tree over with blocks and tackle, and when pulled over, the surplus frozen soil will have to be cut off with axes before loading. This, as before said, will be fatal to a maple, and not good for an elm.

#### FREDERICK'S (MD.) EDUCATIONAL GARDEN.

THE influence for good that can be produced in a community through the introduction of the love for plants and flowers is exemplified by what has been accomplished in the little town of Frederick, Md., through the efforts of Frank C. Hargett, a garden enthusiast.

For a number of years Mr. Hargett cultivated his garden for the pleasure of all who cared to enjoy it, writes the *Baltimore Sun*, and at the annual opening visitors to Frederick and neighboring towns paid their respects to his amateur genius.

Two years ago among his visitors were government officials, who immediately realized that this one man was contributing substantially to the development of floriculture, without being on the national subsidy list. They promptly designated it as an educational garden, in line with the Government's work, and the affair was formally organized, with an executive committee composed of Mayor Fraley and Messrs. William F. Gude and George W. Hess, of Washington, and Richard Vincent, Jr., of White Marsh. Since then the Government has contributed both materials and expert advice until this year, on September 2, the little back yard with the big garden in it was opened with more formality than ever before, and now the city of

Frederick is planning to set aside a large area for a public park to contain the exhibit.

This year's opening was an event of importance for many reasons, chiefly because so much progress had been made in the initial intentions. The purpose of the garden has grown to be just what the name indicates, and in line with that program, high school and other children are invited and given botanical lectures, while the general public gets its inspiration, from visits, to beautify around the home place a bit. The net result will be, of course, an awakening of enthusiasm that will make many spots in Frederick beautiful. The educational garden plan, it is expected, will spread to other towns, and visitors to Frederick have said that Baltimore might well have such a garden in both of its leading parks, and perhaps one or two of the squares, with stated lecture periods.

One of the distinguished visitors at this year's opening in Frederick was Baron Chinda, the Japanese Ambassador, who said that Mr. Hargett was doing things that would teach Japan, the country of flowers. He was most enthusiastic over the unexpected showing in Frederick's back yard. The yard was, as it will be until winter forces the tropical plants into shelter, crowded and packed with innumerable varieties of plants and flowers. Lining the walk through the garden are donations of prominent individuals and a few institutions, all with their presentation cards attached. A magnificent palm from President Wilson and another from Governor Goldsborough are conspicuous among the exhibits.

Vice-President Thomas R. Marshall, Cardinal Gibbons, Viscount Chinda, Japanese Ambassador; Mayor Preston of Baltimore, Blair Lee, John Walter Smith, David J. Lewis, Mrs. Nellie Blessing Eyster, California; Mayor Mitchel of New York; Mayor Blankenburg of Philadelphia, Commissioner John E. Weier, New York; Marion Wright, Florida; John Maclaren, California; the *Baltimore Sun*, United States Department of Agriculture, United States Botanical Gardens, Maryland Agricultural College and New York Botanical Gardens, are among the other contributors.

Since the opening, dozens of contributors have been added, but on account of the relatively small space available it was necessary to decline contributions which in variety and quantity of plants would have filled several times the whole space now given to the garden. It is to accommodate the growth of the idea that Frederick will make an effort to set aside sufficient ground next year, and the town is thoroughly aroused to the possibilities of the project.

The opening of this beauty spot in Frederick was followed by an interest that has grown steadily since. Automobile parties from Baltimore, Washington, Philadelphia, Annapolis, New York, Wilmington, Reading, Pittsburgh and tourists from all parts of the country have seen the dream of Frank C. Hargett and marveled at the way in which he managed to pack every inch of his ground and still get in somehow or other to pull the weeds.

"Frederick's Educational Botanical Garden," said Mayor Fraley, who is a warm supporter of the project. "is one of the best things Frederick has ever done, in line with city beautifying and the education of the growing generation, and it is the natural outgrowth of Mr. Hargett's persistent work. He is a man with an idea, and that idea a splendid one. It was no surprise, nothing unexpected, that a man so wholly devoted to his purpose should win out in the end, and in Frederick we are proud of what he has accomplished, and will help him to do more."

# Department of Ornithology

Under the Direction of the Committees on Bird Preservation and Propagation.  
National Association of Gardeners, L. H. Jensen, St. Louis, Mo., Chairman.  
American Association of Park Superintendents, Hermann Merkel, New York, Chairman.

## STUDYING THE BIRDS IN WINTER.\*

WINTER makes bird study an easy matter. The perplexities of the autumn migration with the scores of species passing through from the north, the young birds in their peculiar attire, the old ones in the drabs and browns that some affect for winter wear in place of their vivid summer plumage, are gone on. The good old stand-bys, all-year friends, remain and are recognized without much difficulty. Moreover, the cold and snow tend to make them more friendly and familiar than in summer.

The chickadee may have refused our proffered nesting-box in May and taken his bride to the birches of the wood-margin and there fed and educated the family. But in December he is pretty sure to bring them to the garden, foraging among the sunflower and chicory planted there for him. The family will explore the trees for insect larvae and eggs and remembered store of suet hung there last winter. With them will, no doubt, appear the white-breasted nuthatches, curious acrobats of the bird world, the downy woodpeckers and the brown creepers. They seek similar food on the same trees, and often one may note the distinct and invariable characteristics of the different birds at the same time. The chickadees flit from twig to twig, head up or head down as the need occurs, careless of attitude. Not so the woodpeckers. They may be capricious of movement, but their perch is always in the most correct form, upright, head back, tail down. Most methodical of all is the prim little brown creeper. He alights at the foot of the tree, works primly upward and swings a swift parabola from near the top to the base of the next one.

And then comes along the nuthatch, and reverses the brown creeper's action. He alights near the top of the tree and "yank yanks" himself downward. The chickadee does not object to being upside down, but the nuthatch insists on it. If a limb is to be explored he goes to the tip of it and works toward the trunk. But when he finds a chestnut, then is the time he shows this characteristic most prominently. The nuthatch deserves his name. Hatch is early English for chop, and he knows how to chop nuts open. When the crop is good, chestnuts may be found on the ground beneath the trees all winter.

It is fun to watch a nuthatch at work on one of these. He will eye the ground from his upside-down perch on the tree trunk much as a squirrel does and run down in quite the same way to pick up the big brown nut in his slender bill. Then he goes back to the tree and finds a V-shaped corrugation in the bark which will hold the nut—his chopping-block. Then he proceeds to "hatch" it. You might not think that slender bill had much chopping edge, or the little gray-blue, black and white bird much chopping power, but there is no chestnut that can withstand the nuthatch. The nut may leap from the block a dozen times. He'll run down and get it again, placing it in the same groove, and in the end he'll split his way through the tough rind and get at the delicious meat within.

One winter day I watched one do this. It took him

half an hour to get at his luncheon. Then he feasted royally. And then he turned a joyous handspring to the topmost twig of the tall tree and went to bed. The nuthatch, like most hole-nesting birds, seeks a hole in a tree or a nesting-box for shelter through the long bitter winter nights. But this was merely an after-dinner nap and the bird took it in the most curious way. He hung himself head downward by one claw, fluffed out his feathers till he looked not at all like a bird and hung there for thirty minutes. So far as I could make out with the bird glass he was fast asleep. His curious attitude probably made for safety, for he looked far more like a brown-tail moth nest or a tangled fluff of plant-down than like a bird. By and by he waked up, tasted the remnant of his feast, turned up his nose at it, and went hand-springing off to another tree. The nuthatch is the goblin acrobat of the winter woods and his ways are a constant source of joy to the watcher.

The blue jay and crow are free-booters, none too well liked by the smaller birds and for good reason. The crow thrives in the midst of civilization, but long remembers man's enmity and keeps well out of gunshot in most times and places. But the jay—saucy rascal—comes to the house and jeers at us. He may build a nest on a bough near your window edge and repay your tolerance by eating the eggs of the song-sparrow in the nest in the shrubbery by the front door. The jay is a bold bird and ought to be kept in the depths of the wood where he belongs and where he has his uses. But in winter the small birds are safe and we are apt to admire his saucy ways and his handsome plumage and welcome him to the feeding-station. He will come to the window itself if you encourage him. In return you will do well to keep the suet well tied down or he will fly away with the whole lump.

You may not know the goldfinches when they come for the hemp and sunflower seeds which most people put out for them, at least not at first glimpse, for the goldfinch has lost much of his gold with the passing of summer. The black is still conspicuous on his cap, wings and tail, but only a little of the yellow glows through the drab and brown of his lesser feathers. He is the same sprightly chap, however, and twitters merrily as he feeds, showing the way to the siskins which often flock with his clan. The goldfinches love chicory seeds, and a garden plot full of these blue-eyed perennials will be golden with goldfinches as long as the seed lasts.

Yet, whatever the changes of plumage and habits are, our all-year birds are quite easily recognized and with them the amateur bird student soon becomes familiar. When the cold has come to stay and the real winter is upon us he who hunts with an opera-glass may yet find bird wonders waiting for him in field and wood, for the cold and diminishing food supply often send birds of the far north to us. The snowy owl and the white gyrfalcon may sweep on broad pinions over the snowy wastes, bringing a touch of arctic weirdness to the scene. The northern shrike may hang a meadow mouse in his improvised larder in the thorn hedge, for all these are occasional winter visitants.

More likely to be seen, however, and indeed more welcome, are the pine grosbeaks. Something of the aurora

(Continued on page 40.)

\*Winthrop Packard, secretary Massachusetts Audubon Society, in "Our Dumb Animals."

## THE FLOWERS OF JAPAN.

*(Continued from page 21.)*

trellises. There are numerous varieties and on one I measured racemes of flowers sixty-four and a half inches long, and they were not mere individual examples but there were thousands upon thousands of them equally long.

About wistaria time, too, the mountain paeonies, the iris and the azaleas make wonderful displays of color. Japanese maples with colored leaves of varied shape and form are well known in western lands, but only a few of the varieties thrive with us. Japanese gardeners who specialize in maples recognize over three hundred varieties, and Tokyo boasts its Maple Club; there everything from the tea-cups and the carved screens to the waiting-maids' dresses are marked with maple leaves.

## REPOTTING ASPIDISTRA.

*(Continued from page 14.)*

beautifully marked white and green leaves require more care and attention to grow them successfully. As much light as possible must be given them, as in dark corners the leaves are inclined to gradually revert to green, from which in the first instance they have been selected as sports. There is nothing better than a little lukewarm soft water and soft soap for sponging the leaves of Aspidistras. On warm, showery days, it is very beneficial to stand the plants outside for a few hours.—*Exchange.*

## GROWING VINCAS FROM SEED.

OF all summer flowering plants, vincas are perhaps the most desirable. They will thrive and produce a display of bloom all through a long, hot, dry summer when other flowering plants have ceased to flower at all. Despite these qualifications, vincas have one great shortcoming, in that they are difficult to raise from seed. Unless the greatest care is exercised when the seed has germinated they damp off wholesale.

To have plants of flowering size by bedding out time it is necessary to sow the seed as early as it can be procured. If it is to be had in December so much the better. Sow the seeds in flats of nice sandy soil taking care not to cover too deeply. Set the flats in a temperature of 60 to 65 degrees at night and cover with sheets of glass and newspapers, until the seed germinates. When this occurs remove the glass and paper and set the flats in a light position close up to the glass in a house where there is not too much moisture or you will lose most of them by damping off. Watering should be done by holding the flats in a tank and allowing the water to soak through. Never run the risk of watering over head with a can at this stage.

As soon as the seedlings are large enough to handle they should be pricked off into other flats, using a good compost. We have found that it greatly reduces the losses by damping to put a layer of sand on top of the flats before pricking the young plants into the soil.

Even when quite large, vincas will damp off at the point of contact between the stem and soil. A moderate degree of moisture and heat with extreme care in watering are, we believe, the essentials in raising vincas. They appear to grow rapidly in heat, but as this cannot be maintained for any length of time without moisture, the happy medium is what to aim at. Fungine we have found useful for controlling the damping off fungus.

## THE CULTIVATION OF GLOXINIAS

DURING the last ten years gloxinias have been wonderfully developed by various growers. Flowers now range from pure white, pink, and pale blue to deep red and purple. The newer French, spotted hybrids, though less robust in habit and with more delicate flowers, are a valuable addition to the older types. These are marked and spotted with colors varying from pink and mauve to dark blue, red, and even chocolate.

The cultivation of gloxinias is not so simple as that of calceolarias, but anyone with a warm greenhouse or even a hot bed at their disposal, by selecting good seed and following the hints given below should be able to produce a brilliant display of blooms within seven or eight months after sowing the seed. It is best to sow the seed in mid-winter in deep, well-drained pans filled with a mixture of rich soil and sand. The pans should be kept at a temperature of about 70 degrees F., and may be covered with glass until the seedlings appear. Great care should be taken to turn the glass night and morning as gloxinias are especially liable to "damp off" in too moist an atmosphere. As soon as the first leaves develop, the plants should be pricked off into shallow pans or pots, and when the seedlings are established they may be removed from the hot bed into a fairly moist atmosphere at 65—70 degrees F. When large enough to handle easily, the seedlings must again be transplanted into a soil as fibrous and porous as possible; peat, sand and leaf mold making a good combination. Careful watering is most important at this stage. If possible, the water should be slightly warmer than the air of the house, and moreover should never be applied unless really necessary. The atmosphere, however, should always be moist, and the leaves may be lightly sprayed night and morning.

In the final potting—this time into six or eight-inch pots—a good mixture of equal parts of peat, leaf mold, clay, and sand should be used, and the soil ought not to be colder than the house atmosphere. The plants should be kept at a temperature of from 65 degrees to 70 degrees F., never less than 60 degrees, and given all the light possible without exposure to the direct rays of the sun.

Further feeding is not necessary during the first season. Plants started in January or February should bloom in July or August. When the flowers appear, a little weak manure water may be of benefit, but its use can easily be carried too far. It is sometimes advisable during the blooming period to remove some of the center leaves which may otherwise cramp and smother the opening flowers.

After flowering, water should be gradually withheld, and as soon as the leaves have ripened, the plants should be stored at a temperature of about 45 degrees F. Only enough water should be given to prevent the tubers from withering. In February the tubers should be cleaned and placed in small pots filled with the soil mixture referred to above. Until active root growth begins but little water should be given, and as soon as the pots are filled with roots, it is necessary to transfer the plants into six-inch pots. Plants from last year's tubers should bloom in about five months, and the same tuber may be grown for several years.

To sum up: gloxinias require plenty of heat and moisture, protection from direct sunshine, a rich, open, light soil, and above all, unremitting and intelligent attention to watering and ventilation. To one who can give all these, the joy of growing them from seed to flower will be ample compensation for the time and labor expended.—*From Missouri Botanical Garden Bulletin.*



## NATIONAL ASSOCIATIONS

- National Association of Gardeners.**  
M. C. Ebel, secretary, Madison, N. J.
- Society of American Florists and Ornamental Horticulturists.**  
John Young, secretary, 54 West 28th st., N. Y.
- American Carnation Society.**  
A. F. J. Bauer, secretary, Indianapolis, Ind.
- American Dahlia Society.**  
Joseph J. Lane, secretary, 11 West 32d st., N. Y.
- American Gladiolus Society.**  
Henry Yonell, secretary, Syracuse, N. Y.
- American Peony Society.**  
A. B. Saunders, secretary, Clinton, N. Y.
- American Rose Society.**  
B. Hammond, secretary, Fishkill, N. Y.
- American Sweet Pea Society.**  
H. A. Bunyard, secretary, 40 West 28th st., N. Y.
- Chrysanthemum Society of America.**  
Charles W. Johnson, secretary, Morgan Park, Ill.
- Women's National Agricultural and Horticultural Association.**  
Miss Margaret Jackson, secretary, Englewood, N. J.

## LOCAL SOCIETIES

- Bernardsville Horticultural Society.**  
W. G. Carter, secretary, Bernardsville, N. J.  
First Monday every month, Horticultural Hall, 7:30 p. m., Bernardsville, N. J.
- Boston Gardeners' and Florists' Club.**  
William N. Craig, secretary, Brookline, Mass.  
Third Tuesday every month, Horticultural Hall, Boston, Mass., 8 p. m.
- Cleveland Florists' Club.**  
Frank A. Friedley, secretary, 95 Shaw avenue, East Cleveland, Ohio.  
Second Monday every month, Hollenden Hotel, Cleveland, Ohio.
- Cincinnati Florists' Society.**  
Alex. Ostendorp, secretary, Cincinnati, Ohio.  
Second Wednesday every month, Jabez Elliott Flower Market.
- Connecticut Horticultural Society.**  
Alfred Dixon, secretary, Wethersfield, Conn.  
Second and fourth Fridays every month, County Building, Hartford, Conn., 8 p. m.
- Detroit Florists' Club.**  
R. H. Wells, secretary, 827 Canfield avenue, Detroit, Mich.  
Third Monday every month, Bemb Floral Hall.
- Dobbs Ferry Gardeners' Association.**  
B. Harms, secretary, Dobbs Ferry, N. Y.  
Last Saturday every month.
- Dutchess County Horticultural Society.**  
Herbert G. Cottan, secretary, Wappinger Falls, N. Y.  
Second Wednesday every month except May and June, Poughkeepsie, N. Y.

- Elberon Horticultural Society.**  
George Masson, secretary, Oakhurst, N. J.  
First Monday every month, Fire Hall, Elberon, N. J., 8 p. m.
- Essex County Florists' Club.**  
John Crossley, secretary, 37 Belleville avenue, Newark, N. J.  
Third Thursday every month, Kreuger Auditorium.
- Florists' and Gardeners' Club of Holyoke and Northampton, Mass.**  
James Whiting, secretary, Amherst, Mass.  
Second Tuesday every month.
- Florists' and Gardeners' Club of Rhode Island.**  
William E. Chapell, secretary, 333 Branch avenue, Providence, R. I.  
Fourth Monday each month, Swartz Hall.
- Gardeners' and Florists' Club of Baltimore.**  
N. F. Flittin, secretary, Gwynn Falls Park, Sta. F, Baltimore, Md.  
Second and fourth Monday every month, Florist Exchange Hall.
- Gardeners and Florists of Ontario.**  
Geo. Douglas, secretary, 189 Merton street, Toronto, Canada.  
Third Tuesday every month, St. George's Hall.
- The Horticultural Society of New York.**  
Geo. V. Nash, secretary, Bronx Park, New York City.  
Monthly, irregular, May to October, New York Botanical Garden, Bronx Park, New York. November to April, American Museum of Natural History, 77th st. and Columbus ave., New York.
- Houston Florists' Club.**  
A. L. Perring, secretary, 4301 Fannin street, Houston, Texas.  
Meets first and third Monday, Chamber of Commerce Rooms.
- Lake Geneva Gardeners' and Foremen's Association.**  
Raymond Niles, secretary, Lake Geneva, Wis.  
First and third Tuesday every month, Oct. to April; first Tuesday every month, May to Sept., Horticultural Hall.
- Lenox Horticultural Society.**  
John Carman, secretary, Lenox, Mass.  
Second Wednesday every month.
- Los Angeles County Horticultural Society.**  
Hal. S. Kruekeberg, secretary, Los Angeles, Cal.  
First Tuesday every month.
- Massachusetts Horticultural Society.**  
William P. Rich, secretary, 300 Massachusetts avenue, Boston, Mass.
- Menlo Park Horticultural Society.**  
Percy Ellings, secretary, Menlo Park, Cal.  
Second Thursday each month.
- Minnesota State Florists' Association.**  
Gust. Malmquist, secretary, Fair Oaks, Minneapolis, Minn.  
Third Tuesday every month.
- Monmouth County Horticultural Society.**  
Harry Kettle, secretary, Fairhaven, N. J.  
Fourth Friday every month, Red Bank, N. J.
- Montreal Gardeners' and Florists' Club.**  
W. H. Horobin, secretary, 283 Marquette st.  
First Monday every month.

- Morris County Florists' and Gardeners' Society.**  
Edward J. Reagan, secretary, Morristown, N. J.  
Second Wednesday every month, except July and August, 8 p. m., Madison, N. J.
- Nassau County Horticultural Society.**  
Harry Jones, secretary, Glen Cove, N. Y.  
Second Wednesday every month, Pembroke Hall, 7 p. m.
- New Bedford Horticultural Society.**  
Jeremiah M. Taber, secretary, New Bedford, Mass.  
First Monday every month.
- New Jersey Floricultural Society.**  
Geo. W. Strange, secretary, 216 Main street, Orange, N. J.  
Third Monday every month, Jr. O. W. A. M. Hall., 8 p. m.
- New London Horticultural Society.**  
John Humphrey, secretary, New London, Conn.  
Second Thursday every month, Municipal Bldg.
- New Orleans Horticultural Society.**  
C. R. Panter, secretary, 2320 Calhoun street, New Orleans, La.  
Third Thursday every month, Association of Commerce Bldg.
- Newport Horticultural Society.**  
Fred P. Welber, secretary, Melville Station, R. I.  
Second and fourth Tuesday every month.
- New York Florist Club.**  
John Young, secretary, 54 W. 28th street, New York.  
Second Monday every month, Grand Opera House.
- North Shore Horticultural Society.**  
Leon W. Carter, secretary, Manchester, Mass.  
First and third Fridays every month.
- North Shore Horticultural Society.**  
E. Bollinger, secretary, Lake Forest, Ill.  
First Friday every month, City Hall.
- North Westchester County Horticultural and Agricultural Society.**  
Albert F. Simms, secretary, North View, Mt. Kisco, R. F. D., N. Y.  
Third Thursday every month, except June to August, at 8 p. m.
- Oyster Bay Horticultural Society.**  
A. R. Kennedy, secretary, Westbury, L. I.  
Fourth Wednesday every month, Oyster Bay, N. Y., 7:30 p. m.
- Pacific Coast Horticultural Society.**  
W. A. Hofinghoff, secretary, 432 Phelan Bldg., San Francisco, Cal.  
First Saturday every month, Redmen's Bldg.
- Pasadena Horticultural Society.**  
Geo. B. Kennedy, secretary, Pasadena, Cal.  
First and fourth Friday every month.
- Paterson Floricultural Society.**  
Richard Buys, secretary, 207 17th ave., Paterson, N. J.  
First Tuesday every month, Y. M. C. A. Bldg., 8 p. m.
- Pennsylvania Horticultural Society.**  
David Rust, secretary, Broad and Locust sts., Philadelphia, Pa.  
Third Tuesday every month.

**People's Park Cottage Gardeners' Association.**

John Ainscough, secretary, 4 Chestnut st., Paterson, N. J.

First and last Friday every month, Working Man's Institute, Paterson, N. J.

**Philadelphia Florists' Club.**

David Rust, secretary, Broad and Locust sts., Philadelphia, Pa.

First Tuesday every month, Horticultural Hall, 8 p. m.

**The Pittsburgh Florists' and Gardeners' Club.**

H. P. Joslin, secretary, Ben Avon, Pa.  
First Tuesday every month, Fort Pitt Hotel.

**Redlands (Cal.) Gardeners' Association.**

Jas. McLaren, secretary, Box 31 R. F. D. No. 2, Redlands, Cal.

**Rhode Island Horticultural Society.**

E. K. Thomas, secretary, Box 180, Kingston, R. I.

Third Wednesday every month, Public Library, Providence, R. I.

**Rochester Florists' Association.**

H. R. Stringer, secretary, 47 Stone street, Rochester, N. Y.

Second Monday every month, 95 Main street, East.

**Shelter Island Horticultural and Agricultural Society.**

First and third Thursdays every month.

**Southampton Horticultural Society.**

Julius W. King, secretary, Southampton, N. Y.

First Thursday every month, Oddfellows Hall.

**Tacoma Florists' Association.**

F. H. Atchison, secretary, South 50th and East F street, Tacoma, Wash.

Third Thursday, Maccabee Hall, 11th and C streets.

**Tarrytown Horticultural Society.**

E. W. Neubrand, secretary, Tarrytown, N. Y.

Last Tuesday every month, 7:30 p. m.

**Texas State Horticultural Society.**

G. H. Blackman, assistant secretary, College Station, Texas.

**Tuxedo Horticultural Society.**

Thomas Wilson, secretary, Tuxedo Park, N. Y.

First Wednesday every month.

**Washington, D. C., Florist Club.**

J. L. Mayberry, secretary, Washington, D. C.

First Monday every month.

**Westchester and Fairfield Horticultural Society.**

J. B. McArdle, secretary, Greenwich, Conn.  
Second Friday every month, Doran's Hall, Greenwich, 8 p. m.

**GARDEN CLUBS****International Garden Club.**

Mrs. Charles Frederick Hoffman, President, Club House, Bartow Mansion, Pelham Bay Park, New York City.

(Address all communications to Mrs. F. Hammett, Asst. Sec'y, Bartow Mansion.)

**The Garden Club of America.**

Mrs. J. Willis Martin, president, 1721 Locust street, Philadelphia, Pa.

**The Garden Club of Alma, Mich.**

Mrs. E. J. Lamb, secretary, 803 State street. Twice a month at members' residences.

**The Garden Club of Alleghany County, Pa.**

Mrs. F. H. Denny, president, Sewickley, Pa.

**Amateur Garden Club of Baltimore, Md.**

Miss Sarah S. Manly, secretary, The Walbert.

**The Garden Club of Ann Arbor, Mich.**

Miss Annie Condon, secretary, 920 University avenue.

**The Garden Club of Somerset Hills, N. J.**

Mrs. Geo. R. Mosle, secretary, Gladstone, N. J.

Second and fourth Thursdays, middle of April to November. August excepted.

**The Garden Club of Cleveland, Ohio.**

Mrs. Geo. Scoville, secretary, 1453 E. Boulevard.

**Garden Club of East Hampton, L. I.**

Mrs. F. K. Holister, secretary, East Hampton, N. Y.

**The Park Garden Club, of Flushing, N. Y.**

Mrs. John W. Paris, president, Flushing, N. Y.

Second and fourth Mondays, members' homes.

**The Garden Club of Greenwich, Conn.**

Mrs. Frederick Gotthold, secretary, Cos Cob, Conn.

At members' residences.

**The Garden Club of Harford County, Pa.**

Mrs. Martin E. Ridgley, secretary, Benson P. O., Md.

First and third Thursdays, April to December at members' residences.

**The Gardeners of Mont. and Dela. Counties, Pa.**

Miss Elizabeth D. Williams, secretary, Haverford, Pa.

At members' residences.

**The Weeders' Club, Pa.**

Miss Ellen Winsor, secretary, Haverford, Pa.

First and third Wednesday at members' residences.

**The Garden Club of Lake Forest, Ill.**

Mrs. Tiffany Blake, president, Lake Forest, Ill.

**The Larchmont Garden Club, N. Y.**

Mrs. Edgar Park, secretary, Larchmont, N. Y.  
First Thursdays.

**The Garden Club of Lawrence, L. I.**

Mrs. Thomas Lawrence, secretary, Lawrence, L. I.

**The Garden Club of Lenox, Mass.**

Mrs. Francis C. Barlow, secretary, 47 E. 64th street, New York.

First and third Mondays, June to October at Lenox.

**Lewiston and Auburn Gardeners' Union.**

Mrs. George A. Whitney, secretary, Auburn, Me.

**The Garden Club of Litchfield, Conn.**

Mrs. Henry S. Munroe, secretary, 501 W. 120th street, New York.

Second Friday, June to October at Litchfield.

**The Garden Club of Michigan.**

Miss Sarah W. Hendrie, secretary, Grosse Pointe Farms, Mich.

At members' homes. Two Spring and one Fall Shows.

**The Millbrook Garden Club, N. Y.**

Mrs. Keyes Winter, secretary, 125 E. 78th street, New York.

Meet at Millbrook, Dutchess County, N. Y.

**The Bedford Garden Club, N. Y.**

Mrs. Benjamin W. Morris, secretary, Mt. Kisco, N. Y.

**The Garden Club of New Canaan, Conn.**

Mrs. Francis H. Adriance, secretary, New Canaan, Conn.

Second Wednesday each month.

**The Newport Garden Association, R. I.**

Miss Dorothea G. Watts, secretary, Newport, R. I.

Annual Meeting, August. Others when called. Five monthly summer shows.

**The Newport Garden Club.**

Mrs. Chas. F. Hoffman, president, 620 Fifth avenue, New York.

**The Garden Club of New Rochelle, N. Y.**

Mrs. Lucius W. Hitchcock, corresponding secretary, Premma Point Park.

Members residences and Public Library. Shows monthly, May to November.

**The Garden Club of Norfolk, Conn.**

Philemon W. Johnson, secretary, Norfolk, Conn.

Second Wednesday each month at Public Library.

**North Country Garden Club of Long Island.**

Mrs. Edward Townsend, secretary, Oyster Bay, L. I.

**Garden Club of Philadelphia, Pa.**

Miss Ernestine A. Goodman, secretary, Chestnut Hill.

**The Garden Club.**

Mrs. Aubrey Pearre, Jr., secretary, Pikesville, Md.

**The Garden Club of Princeton, N. J.**

Mrs. Junius Spencer Morgan, secretary, Constitution Hill, Princeton, N. J.

**The Garden Club of Ridgefield, Conn.**

Mrs. Cass Gilbert, secretary, 42 E. 64th street, New York.

Twice monthly at Ridgefield. Also exhibitions.

**The Ridgewood Garden Club, N. J.**

E. T. Sowter, secretary, Ridgewood, N. J.

**Rumsen (N. J.) Garden Club.**

Miss Alice Kneeland, secretary, Rumson, N. J.

**The Hardy Garden Club of Ruxton, Md.**

Mrs. R. E. L. George, secretary, Ruxton, Md.

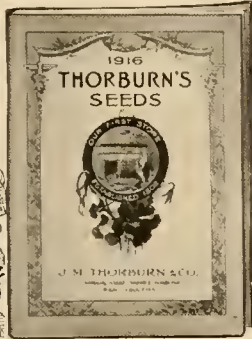
**The Garden Club of Rye, N. Y.**

Mrs. Samuel Fuller, secretary, Rye, N. Y.  
First Tuesdays, April to October. Also special meetings and Flower Shows.

**The Shedowa Garden Club, New York.**

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Mrs. Albert Boardman, president, 40 W. 33rd street, New York.  
Twice a month in summer at Southampton, L. I.

The Staten Island Garden Club, N. Y.  
Mrs. J. Harry Alexander, secretary, Rosebank, S. I.  
Twice a month. At members' homes. Winnetka, Ill.

The Garden Club of Trenton, N. J.  
Miss Anne MacIvaine, secretary, Trenton, N. J.  
Bi-monthly meetings at members' residences.

The Garden Club of Illinois.  
Mrs. William G. Hibbard, Jr., secretary, Winnetka, Ill.

The Garden Club of Orange and Dutchess County, New York.  
Mrs. Morris Rutherford, secretary, Warrick, Orange County, N. Y.

Warrenton Garden Club, Virginia.  
Mrs. C. Shirley Carter, secretary, Warrenton, Va.

Garden Club, Webster Groves, Mo.  
Caroline Chamberlin, sec'y., 106 Plant Ave.

**HORTICULTURAL EVENTS**

Fourth National Flower Show, under the auspices of the Society of American Florists and Ornamental Horticulturists, Philadelphia, Pa., March 25 to April 2, 1916.

International Flower Show. Grand Central Palace, New York, April 5-12, 1916.

**NOTICE.**

Please inform us of any change of officers or meeting dates of your society, so that we may keep our directory of societies and clubs accurate. Send us the notes of the proceedings of your meetings regularly. **EDITOR.**

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### SOUTHAMPTON HORTICULTURAL SOCIETY.

The Southampton Horticultural Society held its annual and general election on January 6 in the Village Hall, Southampton. There was a large attendance, and the president was in the chair.

The following officers were elected:

President—Mr. M. McLoughlin.

Vice-president—Mr. J. Malcolm.

Recording secretary—Mr. Wells.

Financial secretary—Mr. James Dickson.

Treasurer—Mr. John Johnson.

Press secretary—Mr. S. R. Candler.

It was voted to hold the annual banquet in Southampton during the last week of January, when it is hoped there will be a large attendance.

The next regular meeting will be held on January 20. All Horticulturists in Southampton on that date are welcomed.  
S. R. CANDLER, Press Sec.

### OYSTER BAY (N. Y.) HORTICULTURAL SOCIETY.

The regular monthly meeting of the Oyster Bay Horticultural Society was held recently in the truck house. There was a large attendance of members present and the exhibition tables were well filled. After the secretary's and treasurer's reports for the year were read ex-President James Duthrie took the chair and conducted the election of officers for 1916, which resulted in the following:

President—Alfred Walker.

Vice-president—John Sososiek.

Secretary—John T. Ingram.

Financial secretary—John Devine.

Treasurer—H. G. Vail.

Executive committee—Frank Gale, James Bell, Wm. Richie, Duncan Beaton, Henry Gibson, Fred Phillips, David Hepersall, Frank Kyle.

Exhibits for January 26: Carnations, 12 pink, 12 white, 12 any color.

JOHN T. INGRAM, Secretary.

### PATERSON FLORICULTURAL SOCIETY.

At the regular monthly meeting of the Paterson Floricultural Society it was decided that a booklet of names of best varieties of flowers be prepared by the following members for the benefit of our new members:

Chrysanthemums by Francis Milne, roses by Sebastian Hubschmitt, gladiolus by Richard Buys, dahlias, Francis Bredder, flowers in general by Robert Petrie.

Mr. Petrie won the monthly point prize with 75 points on carnations and 65 points on chrysanthemums.

The following officers were elected for 1916: President, Jos. M. Ackerman; vice-president, Francis Bredder; treasurer, Andrew Bardner; secretary, Richard Buys; financial secretary, Harold Schofield; assistant secretary, Charles Walker; trustees, Marion T. Probert, John Hall, Albert Franck.

Arbitration committee: S. Hubschmitt, F. Milne, Robert Petrie, George Atkinson, John Hardy.

Executive committee: F. Milne, S. Hubschmitt, A. H. Smith, Robert Petrie, Richard Buys, H. Schofield, C. Walker, Thomas Moore, Hugh Clark.

Auditing committee: William Blair, Albert Franck, William Pierce.

Essay committee: A. H. Smith, Richard Buys, J. S. Leslie.

Press committee: A. H. Smith, Charles Walker.

City beautiful committee: William Blair, John Hall, Albert Franck.

Rooms committee: H. Schofield, A. H. Smith, William Vanderliffe.

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**NEWPORT HORTICULTURAL SOCIETY.**

The election of officers of the Newport Horticultural Society took place on December 14, the following members being elected: President, John B. Upphart; first vice-president, James Bond; second vice-president, Frederic Carter; secretary, Fred P. Webber; financial secretary, William Gray; treasurer, Andrew K. McMahon; sergeant-at-arms, William F. Smith. The executive committee is composed of the above officers and Bruce Butterton, James Robertson, Andrew S. Moikle, William MacKay, Arthur W. Potter Jr., Daniel Hay, Andrew Dorward and Alexander McLellan. Auditing committee: Bruce Butterton, Herbert Bliss and Richard Gardner.

**TUXEDO HORTICULTURAL SOCIETY.**

The annual business meeting of the Tuxedo Horticultural Society was held in the Fireman's Club on Wednesday, January 5, a large attendance of members being present. President Fred Rake in the chair. The treasurer and secretary read their reports for the past year, which showed the society had a successful year. The election of officers for 1916 resulted as follows: President, Mr. C. Davidson; vice-president, Mr. P. Cassidy; treasurer, Mr. S. Hilmers; secretary, Mr. Thos. Wilson. The Executive Committee were Messrs. J. Davidson, J. Tansey, E. Barth, E. Wilson and D. McGregor. After the usual business was finished we adjourned to the bowling alleys and held our annual bowling match, which has been customary at this meeting, when a very enjoyable time was spent. After the match was finished we all sat down to a very enjoyable supper, which was partaken of heartily. Mr. McIntosh, being toastmaster, excelled himself with his funny stories. Several speeches and songs were in good keeping with our evening's enjoyment. Several members expressed the desire to have another bowling match in the near future, which speaks well for the way they enjoyed themselves.

THOS. WILSON, Secretary.

**TARRYTOWN (N. Y.) HORTICULTURAL SOCIETY.**

The annual dinner of the Tarrytown Horticultural Society was held on Tuesday evening, January 11, at the Florence Inn, Tarrytown, N. Y. The affair, which was the 17th anniversary of the annual dinner, was well attended and was a pronounced success in every respect. The dining room

was fittingly decorated and the menu and service were excellent. The speakers, of which there were quite a number, were men prominent in horticulture and in public life.

**THE VIRTUE OF IMPATIENCE.**

Go, sing the praise of patience if it suits your taste and voice, for patience is the virtue first in many people's choice. They laud the man who sits for hours serenely by the brook in patient waiting for a fish to nibble at his hook; but often is his waiting and his patience all in vain because the fish were lifted by a fellow with a seine.

Go, eulogize the farmer as he sits among

his crops and reverently waits for heaven's kind, refreshing drops; who prays in patience for the breeze cloud-freighted from the south, to come along when it may please and break the blasted drouth; but while he thus awaits for helpful moisture from his Maker, the man who irrigates produces twice as much per acre.

Go, boost the merit of the man whose goods are highest grade, whose quality of merchandise is building up his trade; who patiently awaits the slow approval of the throng, in confidence that patronage is sure to come along. *It seems to me impatience is immeasurably wiser; it's copiously proved by the successful advertiser.—Printers' Ink.*



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**M**ANY a visitor to England has returned with a mingled feeling of despair and envy, when remembering the charming floral profusion of the English Gardens.

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**B. G. PRATT CO.**  
50 Church St., New York City

## STUDYING THE BIRDS IN WINTER.

(Continued from page 33.)

has touched these sleek birds of the north and they slip along the snow suffused with tints of dawn. Sleek and demure as kittens they are and often without fear of man, almost allowing him to pick them up. Evening grosbeaks—chance visitors from the far northwest—may come, and siskins, redpolls, juncos and tree-sparrows are to be expected.

The best way to study these birds is to tramp the fields and find them. The hunting spirit is strong in us all and it is a far greater joy to stalk wild creatures when we may bag them with opera-glass and note-book, yet leave them wild and free as ever. The zest of exercise in the keen winter air is payment enough even if the bag is small. But, one may go still-hunting as well. It is a fine charity to put out constant supplies of food for the wintering birds and one may attract them to the door by doing it and observe and photograph them from the warmth and comfort of the house.

To feed the birds in winter is a simple matter. To feed them well is a fine art. Crumbs from the table, scraps of meat or suet from the larder, chaff from the haymow, all will serve, yet certain special foods are especially attractive. The chickadees love sunflower seed as well as suet and the nuthatches will hatch them on angled bark chopping-blocks as readily as they will chestnuts. The juncos and tree-sparrows love hemp-seed, and nut meats attract them all. When the snow is deep, "chicken grit" is eagerly sought. All birds must have gravel for their crop's sake, and the ice and snow give them scant opportunity to get it. These, with wheat, buckwheat, milo-maize and kaffir corn mixed in the right proportions make a very attractive food for the winter birds, and the pleasure of watching them eat it is well worth the expense and trouble of providing it.

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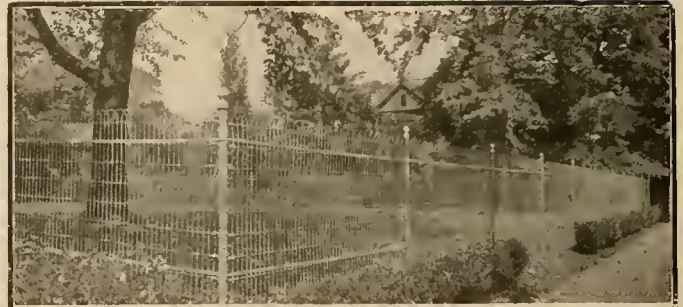
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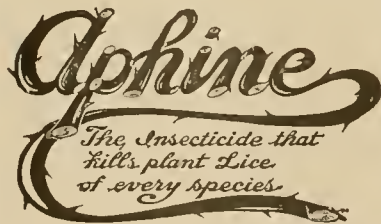
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from insect pests and the various fungi with which it is afflicted as it is to properly fertilize it.



a concentrated liquid spraying material, readily soluble in water, is used at various strengths, according to directions on cans.

Aphine is equally effective in the house and garden; free from disagreeable odors of most insecticides, and practical for professional and amateur growers.

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As a summer spray for hardy trees, shrubs and plants it is an effective remedy against green, black and white fly, red spider, thrips, woolly aphid, cottony maple scale, tulip scale, mealy bug, and all soft scale. Use one part Scaline to forty to fifty parts water.

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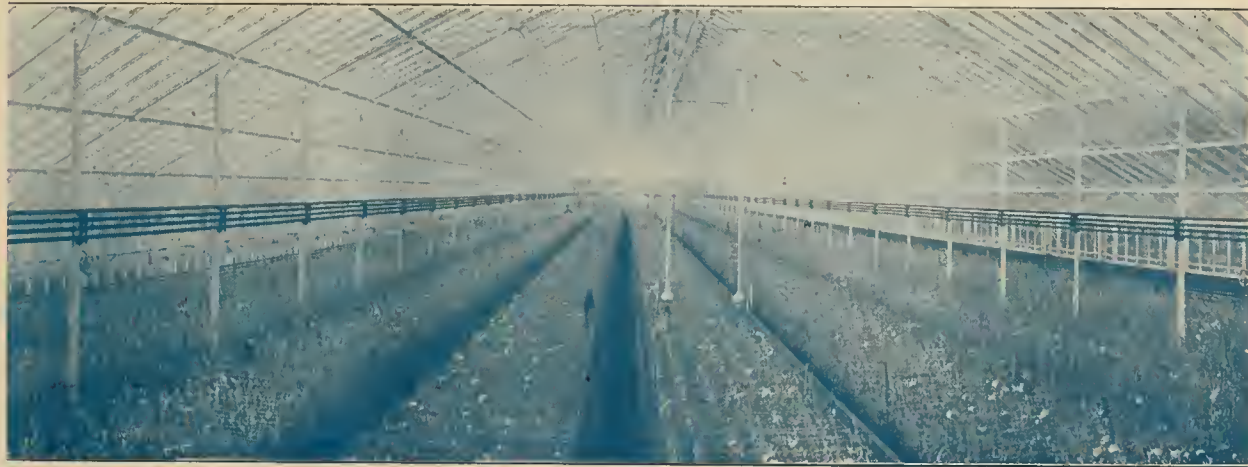
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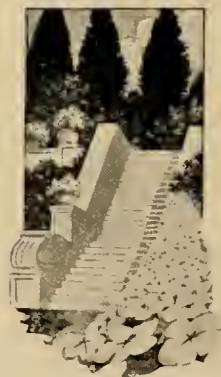
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THE AMERICAN ASSOCIATION OF PARK SUPERINTENDENTS.

Devoted to Park Development and Recreational Facilities.

Vol. XX.

FEBRUARY, 1916.

No. 2.

## *Things and Thoughts of the Garden*

By The Onlooker.

AT this time of year many of us find a difficulty in getting Sweet Pea seeds to germinate. As last year was wet and cool there ought not to be the same difficulty, yet there will assuredly be some hard-shelled seeds that will lie dormant unless the skins are chipped or filed prior to sowing. It has been found that to steep or immerse these seeds in pure sulphuric acid for a period not exceeding half an hour, allows them to germinate freely and regularly, and they grow away strongly. Try this with at least a few and mark the result. I would not take the most expensive varieties for the experiment, since this sort of test is new and may contain risks we have not so far experienced, but where tried all has been well.

\* \* \* \* \*

One thing in which improvement has been made is the Freesia. Fletcher's Improved Purity marks the high water mark so far attained in size, solidity, whiteness, and with it all fragrance has not been lost. There is not such distinctive scent as in the old *F. refracta alba*, but it is still the fragrant Freesia. In a year or two we may hope to see some of the new pink and yellow varieties on the market—I mean as cut flowers, as some of the Boston growers, I hear, have the idea of taking them up for that purpose. Yet as there have been a pink and a yellow Freesia in existence and known to cultivation for many years, it is remarkable that they have not taken a front place ere now.

\* \* \* \* \*

Those who grow the old Christmas Rose (*Helleborus niger*) have a treasure. A cold frame over the plants as they stand in the border is all they call for, and the Christmas Rose generously supplies its chaste white blooms in midwinter. Following it, toward the spring, are the Lent Lilies, varieties of *H. orientalis*, which comprise *atrorubens*, *punctatus* and *rubissimus*. They are not gaudy or very brilliant, and unless their flowers are at once thrown into water on being cut they close up and never open properly again. But if this precaution is taken you have one of the most wonderful and beautiful cut flower exhibits possible. Mr. Fardell, of Great Neck, L. I., has taken up the hybridizing of these. They also were favorites of such good old florists as Dr. Robert Hogg and Peter Barr, the former best remembered as a pomologist, and as author of "The Fruit Manual," the latter as the "Daffodil King." It may be said that the blooms of the hybrids are in purple, plum, pink, rose, greenish

primrose shades, and some are prettily spotted and speckled. They like a cool spot in the garden in just a little shade, deep soil, and are best transplanted soon after the flowering is over.

\* \* \* \* \*

The Fuchsias are too much neglected. They are exceedingly easy to grow and are grand plants. In a few places one sees them used for bedding and they do splendidly, while for the greenhouse there is nothing we can grow that looks any better. Red spider won't trouble them if you do your part. Now is the time to start taking cuttings or to start the old plants into new growth. First they should be pruned, and this may be done hard or light. Usually it is pretty hard. Then a repotting or at the least top-dressing may be given. A temperature of 50° will do to start the old plants, raising this when growth has begun to 55° or 60°. Keeping the plants free of greenfly is about all that demands attention, with watering and a little regulating of the growth. They do not require stopping or pinching. Cuttings of the young growth can be got when this is 2 inches to 3 inches long, taking pieces with a firm base if possible, although this is not essential. Strike these as you would your Chrysanthemums or Carnations, and indeed they can be treated almost exactly similarly to 'Mums. They will want pretty regular potting on and will flower in 5-inch or 6-inch pots in July, August and later. Among the best for pot work are the triphylla hybrids, and of the larger kinds the best are Earl of Beaconsfield, Mrs. Marshall, Rose of Castille, Ballet Girl, Phenomenal. Why not put out a few of the hardy Fuchsias, too? They are as easy to winter as *Hydrangea Japonica*, which gives very little trouble in many sections. In the latitude of New York we carry these over quite well. The species are *Riccartoni*—the hardiest, which will send up young shoots from the root stock every spring, especially if it is in a dryish place, for I have found it to fail in heavy wet soil in winter—*macrostemma* and *gracilis*. Each of these is a capital bedding plant and deserves to be grown largely for that purpose alone.

\* \* \* \* \*

What are the twelve best dwarf or medium growing hardy border flowers, taking into consideration length of flowering period, easy culture and brightness? Here is something that will raise a discussion surely! Anyway, here's my list: *Arnebia echioides*, *Chrysogonum*

virginianum, Dicentra eximia, Betonica grandiflora, Polemonium Richardsoni, Nepeta Mussoni (unwarrantedly neglected), Dianthus plumarius, Corydalis cheilanthifolia, Geum Heldreichi, Phlox amoena, Helenium pumila, and lastly, Enothera Youngi. Now for criticisms.

\* \* \* \* \*

Most of the greenhouses one sees are not adapted for the planting out in a permanent way of the plants in them. Even the big conservatories mostly have benches. This is not an unmixed blessing, although it allows the grower more readily to alter the aspect of things. For the sake of the plants, however, the planting out is perhaps best: albeit there are drawbacks. The watering is a difficulty, especially if unskilled or careless men are left in charge. But does this not also apply in the case of benches? It certainly does. With moderately vigorous plants, such as most of the palms and many ferns, also such flowering subjects as Brunfelsias, Lagerstroemias, the taller Begonias, particularly manicata, and others, planting out is all right. The Acacias likewise flourish, as do the more tender Rhododendrons, Strelitzia, Liliums, Eriostemons, the ever-flowering Impatiens Oliveri, and a goodly lot of climbing plants which can be employed on the pillars or walls. Those I have mentioned thus indiscriminately each and all do well in an intermediate temperature: the Rhododendrons alone might be excepted. And just as we move our shrubby plants about, so can the indoor plants be moved. There is much in favor of permanent setting out, especially in the large conservatories. It is a natural way of growing the plants.

\* \* \* \* \*

At this winter season of the year we appreciate the smaller cacti and succulents more than when there are objects to interest us in the open air. Beds of cacti are a common enough sight in summer, but the Old Man Cactus (*Pilocereus senilis*), the Rat's-tail Cactus (*Cereus flagelliformis*), the cone-shaped green and pinkish tinted *Haworthia*, the Mistletoe-like *Rhipsalis*, the geometrically proportioned *Mamillarias* and many another, are all welcome, and no good garden should be without at least a small assortment of the more remarkable of them since they represent such a distinctive type of world vegetation. Among the cacti, too, there are some of the best of our showy flowering plants, as for instance the *Epiphyllums*, *Phyllocactus*, and the gorgeous but fugacious *Cereus*, of which *grandiflora*, called Queen of the Night, and *C. triangularis* may be mentioned. *Epiphyllum Gaertneri* is very popular with florists, commonly called Christmas Cactus. Like ferns, cacti have their special devotees who spend endless days studying and admiring them. They are easy to cultivate but are not all cast iron. The more one knows about them and their ways the better they are liked, which is what is to be expected, and what happens in the case of most studies and hobbies. The amateur who is the proud possessor of a Night Flowering Cactus that is showing patent signs of coming into bloom is very much in the same state of mind as the poor woman who found the coin she had lost, as mentioned in the Scriptures, and who called her friends together to rejoice with her. What would the newspaper reporter do, too, without the Century Plant whose ineradicable tendency, according to him, to flower only once in a hundred years is so often brought to the notice of his readers? *Opuntias* furnish us with about the only truly hardy members of the family. The finest indoor

collection of these interesting plants in the world is, curiously enough, at Alexandra Park, in smoky, rainy Manchester, England. If there is a better, more complete, or more skilfully arranged collection anywhere, I would be very glad to hear of it. In this case a whole range of large and lofty modern houses is devoted to the plants, which are planted out in beds amid sandstone rocks and boulders, the climbing kinds being finely used for sprawling over these and for training to the pillars and rafters. No description would do justice to the planting and arrangement, the whole collection being a revelation as to the possibilities of these plants when put to the best use. It is no exaggeration to say that this cactus collection is artistic, while over a large part of the year there are plants in bloom. The collection was gathered from all sources during his lifetime by Charles Darrah, a Manchester merchant, and at his death presented to the city, which then built the present noble range of glass to shelter them. They are well worthy of a visit by anyone travelling in England.

\* \* \* \* \*

After having read the papers that were delivered at the Boston conference of our society in December, I am more convinced than ever that before we can accomplish much for the advancement of ourselves as gardeners we must devise a scheme whereby bona-fide gardeners, men who have been carefully and broadly trained, shall be protected from the interloper, the untrained fellow. I know quite well what the difficulties are and some of the arguments advanced against trying to regulate the supply of gardeners. It is said that many good men have entered the calling long after the age of apprenticeship, that intelligent laborers once in a while "go up," and that in the present state of gardening as a profession many employers would and could get along without the certificated professional. Before the present war broke out the Royal Horticultural Society in England had instituted an examination by which all who passed received a diploma, which was to be the sign of a well-educated, scientific and practical gardener. Demonstrations of the practical ability of the candidates was a special feature of the test for the diploma. At our own colleges here, the young men, of course, qualify on the theoretical side of the business and, as was pointed out at the conference, their practical training is better than it was and is improving.

\* \* \* \* \*

There is a disposition to belittle the college man, and certainly he does not always compare favorably with the honey-handed chap. All the same, we who had to get our theoretical knowledge without the assistance of a regular course are the very ones who envy him that part of his training. One of the most successful practical men I knew, now dead, recognizing his skill on the practical side, expressed his strong desire for a far better knowledge of "theory." He felt handicapped and believed that his success, great as it was, would have been more unqualified still had he had a deeper insight into the science of gardening. But the knowledge acquired in learning botany, chemistry, geology, entomology, surveying, physics and what-not, is surely good in itself. It gives us new eyes to see with; it opens up hidden things; it shows us the inner working of the plants, comprehension of soils and strata, etc., and surely that ought to be desirable. Whether it is an actual fact or not I cannot say, but I was told by one who worked under him,

(Continued on page 75)

# Planning the Home Garden

By William N. Craig, Massachusetts.

SOIL, location, area, environment, are a few things to consider when we discuss the home flower garden. I am addressing these remarks more particularly to those who belong to the ever increasing army of amateur horticulturists, many of whom have but limited facilities for flower growing, and who are not in a financial position to spend any considerable sum annually on their garden, but who at the same time are anxious to get as much pleasure as they can, over as large a season as possible, from it.

For the encouragement of small growers, I want to say that while New York and New England are popularly classed as boreal regions of ice and snow for one-fourth of the year, my experience for a quarter of a century has proved that in some favored years we can have flowers outdoors from January until December, and even under the most adverse climatic conditions, there are never more than two months when we are really without some outdoor flowers.

In January, on warm southern slopes we usually have some Snowdrops open; one month later, Winter Aconites, Crocus, and some Chionodoxas open their flowers. March gives us these, and Siberian Scillas, the early Tulip *Kauffmanniana*, the little *Narcissus minimus*. April yields a wealth of flowers, including early Tulips, many *Narcissi*, *Fritillarias*, early *Iris* such as *histrioides* and *cristata*, English Primroses, and quite a few perennials and shrubs. The late *Narcissi*, cottage and Darwin Tulips, German *Iris*, *Pyrethrum roseum*, Moutan Peonies, *Hemerocallis flava*, Lily-of-the-valley, dwarf Phloxes, and many other interesting herbaceous plants. Alpines, trees, and shrubs bloom in May. During the leafy month of June, the regal Japanese *Iris* follows the German, Spanish and English types—Columbines, Phloxes, Peonies, early Larkspurs, *Dictamnus* (gas plants), *Lupinus*, Canterbury Bells, *Lychnis*, *Lilium candidum*, and many other herbs, not to mention Azaleas, Rhododendrons, Roses, and a wealth of other trees and shrubs are with us. In July come the Larkspurs, Foxgloves, Hollyhocks, *Hemerocallis*, Phloxes, such *Liliums* as *Hansonii*, regale, *Sargentioe*, and *excelsum*, and many annuals. August charms us with *Gladioli*, *Monthreas*, *speciosum* and Henry, *Liliums*, Monkshoods, Sunflowers, *Beltonias*, and the early Asters, *Kniphofias*, and Japanese Anemones. During September, the Japanese Anemones fully assert themselves; the Michaelmas Daisies are in the heyday of their glory; Dahlias are at their best; so are the majority of annuals and tender bedding plants. October gives us late Sunflowers and Asters, Anemones, Pomponé Chrysanthemums, *Colchicums*, *Buddleias* still a mass of flowers, and a second crop of bloom on many deciduous shrubs. When November's surly blasts come to make fields and forests bare, we can still find Roses, Anemones, Chrysanthemums; in some years, Dahlias, Witch-hazels, and various annuals—last November we even had Fuchias, *Geraniums*, and *Salvias* flowering at Thanksgiving. You will say: "How about December?" On December 2 last, during a ramble, I found ten varieties of native flowers still blooming. We had quantities of *Viola cornuta*, also Primroses, Pansies, and some *Dianthus* in flower. I say, therefore, that we have much to be thankful for in the fact that, even in our cold latitudes, some flowers are possible in practically each month, and that if we consider berry-bearing shrubs which

every garden should contain, not only for beauty, but because they attract our best friends the birds to our gardens, we have a continuous panorama of beauty the year through.

All space about the home should not be devoted to flower or vegetable growing. A good lawn is an indispensable adjunct; but, too often, alas! all we see is lawn and no flowers. The importance of a well kept lawn can scarcely be overestimated; it is no easy matter to keep such in condition when we consider the droughts we have and the hordes of noxious weeds which infest our lawns. The numbers of weeds would be materially minimized if garden owners would stop the too common practise of spreading barnyard manure on their lawns in winter or early spring. This habit is a disgusting one; it is unsanitary and fills the lawns full of noxious weeds. Use chemical fertilizers, wood ashes, fine bone, or pulverized manures for this top dressing.

A flower garden is, or ought to be, a place devoted to the cultivation of trees, shrubs, and flowers of an ornamental nature, planted carefully, in order to give pleasure over a long season. It should always be of very convenient access; in fact, the true home garden should be a veritable part of the home itself, which many elaborate American gardens of today certainly are NOT. Suitable planting round the boundaries to afford all possible seclusion should be very carefully done. Plant with some definite object, and allow certain plants to develop, using others merely as temporary fillers.

With a good depth of loam to support lawns, flower borders, or shrubberies, we can reasonably look for satisfactory results, as during droughty periods the plants will suffer less than those in thinner soil, and their growth will be far more luxuriant. Well-rotted cow manure, when obtainable, is the best fertilizer; stable manure comes next in value. When these are not procurable, pulverized animal manures, humus, and well concentrated chemical fertilizers must be utilized.

One of the great faults on both large and small estates is overplanting. In many cases, the usual habit is to crowd as many trees, shrubs or plants as possible into a given space without much regard to their eventual development. Shrubs naturally growing 10 to 15 feet across will be found planted 24 inches apart each way, in order, we are told, to make an immediate effect! In such cases, unless the owner or whoever manages his place uses some judgment, a tangled mass of shrubbery will grow up where there should be a few well developed specimens, each showing their individuality.

In the way of flowering shrubs we have a rather painful repetition of variety in too many places. If a particular plant like *Hydrangea paniculata grandiflora* happens to be an easy doer, everyone feels they must needs plant it. Because one man plants a Blue Spruce, his neighbors think they should go and do likewise, oblivious of the fact that our native spruces with green foliage are just as beautiful; and so on through the list. We see the Japanese *Hydrangeas* everywhere, yet we have a variety equally beautiful, just as hardy, and flowering over a far longer season, in our ever-blooming *Hydrangea*. *Hydrangea arborescens grandiflora*, which flowers from June until October, and car-

ries immense circular beads of pure white flowers. We all admire the well known Mock Orange (*Philadelphus coronarius*), yet how few are growing the beautiful Lemoinei varieties, which bloom when very small, with single, semi-double or double flowers deliciously scented.

Take again the Lilac family, the most beautiful and valuable of the entire family of flowering shrubs. By planting even six or eight kinds, commencing with *Syringa oblata*, which blooms about the last of April, and including some of the many beautiful hybrids introduced by M. Lemoine of Nancy, France (the greatest hybridizer in the world and the one who has given us more fine shrubs, herbs and other plants than any other firm), and following with the Pekin, Reuten and villosa Lilacs, and lastly, the Japanese tree varieties, *S. Pekinensis* and *S. Japonica*, we can have fully two months of lilac flowers.

The Chinese Buddleias, more especially such forms as *B. variabilis magnifica* and *superba* flowering for several months, carrying racemes 6 to 18 inches long, of mauve or lavender flowers, deliciously scented, should be in every garden. Young plants from 3-inch pots will in good soil grow five or six feet high the first season. They are best cut down to the ground each spring, when they will break away with vigor. Then again we see practically everyone planting *Spiraea van Houttei*, a heavily overdone if handsome shrub. I consider *S. Arguta* far more beautiful and graceful; the new and tall-growing *S. Wilsoni* with pale pink flowers, and *S. Henryi* with pure white flowers are varieties I would commend to your notice.

*Lonicera Morrowi* and *L. Tatarica* are two beautiful bush honeysuckles. I would ask you, however, to plant *L. Maackii podocarpa* with pure white flowers, followed by glorious scarlet berries, carried very late in the season. *Azalea mollis* is well known, but anyone who has seen the brilliant *A. Keempferi* will want to plant it. Then again the *Exechorda grandiflora Wilsoni* is a great improvement over the type. In the way of smaller sized shrubs, *Escholzia Stauntoni* treated as an herbaceous plant, makes a fine border subject; its rosy purple flowers are carried on terminal erect racemes. *Hypericum Moserianum*, the large-flowered St. John's wort, has a splendid companion in the new *Hypericum patulum Heuryii*. The foregoing names are merely given as suggestions, and must not be considered as more than a very partial list of flowering shrubs.

Where space will permit, one or two flowering trees should be admitted, and given a chance to show their form and individuality. Suggestions are *Malus Schydackeri*, *Augustifolia Bechteli*, *floribunda* and *spectabilis*, *Cornus florida* and its pink form *rubra*, various *Magnolias*, *Cratoegus*, and the Judas tree, *Cercis Canadensis*.

It is well to remember that flowering shrubs, with few exceptions, should be pruned NOT in winter, but directly after flowering.

Herbaceous, annual and bulbous flowers must always form the salient feature in any home garden, but ere mentioning them, roses should have a few words. They cannot well be omitted from any well considered garden. On large estates, special rose gardens are possible, but in the average home garden a bed or border may be allotted to them. By planting say a dozen varieties, we can secure flowers from June until November. In the way of hybrid perpetuals, a few of the really desirable ones which are perpetual bloomers are: Mrs. John Laing, Mrs. R. G. Sharman Crawford, Frau Karl Druschki, Ulrich Brunner, Prince

Camille de Rohan, and Alfred Colomb. This section is hardier than the hybrid teas, and at pruning time must be headed back severely. Hybrid teas are more tender than the hybrid perpetuals, and need light pruning. A useful half-dozen consists of Mme. Caroline Testout, Gruss au Teplitz, Sunburst, Viscountess Folkestone, Königin Carola, Dorothy Page Roberts and Mme. Leon Pain.

In the way of polyantha roses we have some useful sorts, such as Mrs. Cutbush, Catherine Zeinet, Orleans, Clotilde, Seupert, Hermosa, and Mme. Cecile Brunner, all good bedders and fairly persistent bloomers. Rambler roses for piazza, pillar or arch cannot be omitted. The pioneer of this family, Crimson Rambler, is not desirable—the flowers fade a bad color and foliage becomes unsightly after the blooming season. Very good climbers are Dorothy Perkins, Lady Gay, Farquhar, Excelsa, Tausendschön, American Pillar, Alberic Barbier, Hiawatha and the good old buff-colored Gloire de Dijon.

Referring to hardy herbaceous perennials, don't use too many varieties, but select those which will give a lengthy flowering season. Remove seeds from plants when flowers have faded; in some cases this will cause additional flowers to appear, but it will always benefit the plants. Many varieties are very easily raised from seed in a cold frame, which every garden should possess. In this, Pansies, Violas, Double Daisies, Forget-me-nots, Canterbury Bells, and other early flowering plants of questionable hardiness can be wintered. Let these plants freeze stiff, then fill over them with perfectly dry leaves, and place on the sashes. Such plants will winter perfectly.

The four best families of hardy perennials are Phloxes, which including the dwarf *Subulata* type, flower from April until October, unquestionably the most valuable hardy perennials we have: Iris, commencing with the early bulbous sorts, flower from early April until July; Larkspurs, from June 20 until October, by cutting down the first crop of flowers when faded and by utilizing the seedlings; Peonies give us but little more than a month of bloom; they have the advantage of carrying handsome foliage, however, right through the season, and *Liliums*, *faltonias* or *Gladioli* dotted amongst them all will give flowers in late summer. With the Larkspurs plant the Madonna Lily, *Lilium candidum*; the immaculate flowers of the lilies and the glorious blue shades of the Larkspurs make a most exquisite combination.

The following I would select as a dozen really first-class perennials, probably there are others equally good, but these are hardy, free-flowering, and give a long season of bloom in the aggregate. *Dictamnus fraxinella*, *Anemone Japonica alba*, *Lupinus polyphyllus*, *Phlox Miss Lingard*, *Delphinium belladonna*, *Peony Festive maxima*, *Aquilegia chrysantha*, *Aster Perry's Pink*, *Iris pallida Dalmatica*, *Geum coccineum* Mrs. Bradshaw, *Viola cornuta atro-purpurea*, and *Chrysanthemum maximum*.

As a dozen for cutting purposes, I would plant *Lily-of-the-valley*, *Campanulas Gypsophila paniculata fl. pleno*, *Aquilegias*, *Phloxes*, *Larkspurs*, *Asters*, *Peonies*, *Iris*, *Euphorbia corellata*, *Hemerocallis*, *Chrysanthemums*, *Monkshoods* and *Anemones*.

For those wanting to try a dozen really good perennials, of more recent introduction, I would suggest: *Gypsophila paniculata fl. pleno*; *Chrysanthemum Autumn Glory*; *Heuchera Nancy Perry*; *Achillea ptarmica*, *Perry's White*; *Geum coccineum* Mrs. Bradshaw; *Delphinium Persimmon*; *Phlox Elizabeth Camp-*  
(Continued on page 76)



# The Rose Garden of Europe

ONE summer's evening a party of three—two friends and myself—were seated in the courtyard of an orphanage in Sofia. At this juncture a carriage drove into the courtyard and pulled up before the entrance to the orphanage. To our surprise it came from the Royal Palace. A messenger alighted and in perfect English told us how King Ferdinand, having heard of the arrival of three plant collectors in Sofia, would like to see us on the morrow. And so it came about that next day, after passing through some of the squalid streets of Sofia, we found ourselves in audience with the King at the Royal Palace. That he is a clever, interesting and cultured man, no

Never shall I forget the scene one early morning in June, when from a hilltop we looked across a wide and fertile valley filled with fragrant Roses. Bulgarian women, young and old—some of the younger ones wearing Roses in their hair—were busy gathering Roses and taking their full baskets to the distillery nearby, where, after a long and tedious process, attar of roses is prepared. The opened and half-opened buds are gathered when the early morning dew is on them. It is only on cloudy days that picking is continued after ten o'clock. Roses gathered when the sun is hot on them have a comparatively feeble odor, and yield much less attar. It is interesting to observe that the Rose grown is *Rosa damascena*, a variety not known in an uncultivated condition. The hedges of the plantations are usually defined by a white form of the Damask Rose, and the flowers are usually mixed indiscriminately with those of the red Rose when harvesting takes place. The flowers are picked with their sepals on; these are not separated, the whole flower being distilled. It takes about 100,000 Roses to yield an ounce of attar. The Rose bushes are planted close together, forming compact hedges about 6 feet in height, extending as far as the eye could see.

The fame of our small party of plant collectors, who had been so favorably received by King Ferdinand, preceded us, and on our arrival at Stara-Zagora we were met by the Bishop and other dignitaries of that town and driven off in phaetons drawn by ill-fed ponies. Cleanliness and godliness are not inseparably associated by the priests of Bulgaria, an article in the popular creed being indeed the sinfulness of washing and hair-cutting, conditions which detract somewhat from the heroic ideals with which



BULGARIAN GIRLS GATHERING ROSES NEAR SHIPKA.

one will gainsay. He showed great interest in our projected tour, and gave us valuable assistance. But he is so unlike his people. The country is poor, and signs of poverty are seen on all sides. The King lives in luxury in palatial buildings with all the pomp and extravagance of Court life.

We left the palace in the afternoon and proceeded on our way to the Rhodope Mountains. Darkness was setting in when we halted outside a peasant's hut about half way up Mount Vitosch. We approached the shepherd, who was clad in sheepskins and wore sandals and a bear-skin cap, and asked him if we might spend the night in his hut or in one of his cattle shelters. On learning that we were English and Irish he took us to his hut and made us welcome. Nothing could have been more crude and primitive than this dilapidated dwelling, and yet it was the typical home of the Bulgarian peasant. The walls were of mud plaster, and the thatched roof had a seive-like appearance.

We journeyed eastward to Stara Zagora, and thence to Kazanik.



Reproduced from *The Garden* (English).

GATHERING ROSES NEAR KAZANLIK, BULGARIA.

the bearded priests and monks of Bulgaria are invested in the popular mind. The Bulgarians appear to have little idea of road making, even in the towns, and our queer-looking procession of carriages rattled through the streets until we reached the Bishop's house. There were Roses everywhere as far as the eye could see, and the air was laden with the fragrance of the Damask Rose. The scene was almost equal to that at Kazanlik—the centre of the attar industry. A bevy of plum-eyed maidens, in picturesque costumes, left their baskets of Roses and gathered round my friends from Ireland. Like the older men and women, they were affable and good-natured, and at all times only too ready and eager to pose before the camera.

High up on the Shipka Pass a general view of the valley of Roses of Kazanlik is obtained, and in the foreground the Russian monastery at Shipka, with its gilded eupolas, stands out in bold relief. This magnificent building was erected by the Russians to commemorate the defeat of the Turks at Shipka Pass. The Bulgarians allowed the Russians to build this noble edifice, and then forbade the inhabitants to use it.

The flora of this district proved most interesting, and among the plants we came across were the Fishbone Thistle (*Cnicus Casabonae*), Honey Balm (*Melittis Melissophyllum*), *Aquilegia lutea*, *Geum coccineum*, *Geranium macrorrhizum*, *Saxifraga rotundifolia*, *Rhus Cotinus*, *Lilium Martagon*, *Pulmonaria rubra*, *Campanula velutina* and *Pinus Peuke* (the Macedonian Pine). At higher elevations we found *Dianthus microlepis* and its white variety, *Gentiana verna*, the violet-flowered *Primula deorum*, *Soldanella montana* and *S. pusilla*, *Junipers*, *Crocuses* and *Orchids* in variety. Annual Larkspurs and Love-in-a-Mist abound in the lowland fields. It was while crossing the Shipka Pass that we gazed upon one of the most glorious floral sights that we could ever hope to see. Under the partial shade of *Junipers* and other low-growing trees were masses of that lovely *Gesnerad*, *Haberlea rhodopensis*. Its flowers were so abundant that its foliage was almost hidden from view. My late and esteemed friend, C. F. Ball, of Glasnevin, delighted the company by discovering among rocky boulders a pure white form of this beautiful plant.—*Herbert Cowley, Editor The Garden (English)*.

#### THE NATURALIST IN HIS GARDEN.

TREES and bushes and plants are our fellow-beings, and the mindless fellows of the world teach us the wholesome value of verity.

We, who use the laws of nature more or less, always deform the natural evolution of things and easily depart from the absolute. Trees and shrubs show us the absolute in nature, the exact effect of causes evolved in natural law. The gardener has minded all he can, and made the environment as favorable as possible, but that something substantial, which he cannot touch, is what makes us fellows. To watch natural law cause and effect makes us natural lawmakers in civil fraternity.

The fellow who knows a fine tree at sight has a fine appreciation of good citizenship. The fellow who is not lonely in an orchard is a lover of his kind, and a community value. A certain health comes to a fellow for being a fitness in nature.

Every orchard and garden is a law office of nature, with procedures filed orderly for students in the word-

less records of trees and shrubs and plants evolved in a perfect use of law. It is a tonic to the tired, mental being to study wordless files put by mindless beings, and learn that to will is not worth much unless one knows well how to will. Often the fellow who is sure he knows needs the tonic most. To be well willed as creatures of nature is grander than some of us think. At first we cannot read the wordless files, and nobody is able to read all that are bared and open to time and weather. The smallest garden has the procedures of nature filed for centuries and possibly the smallest pot plant files them. Who can show that it does not? To grow a small pot-plant involves a use of natural law, upon record in every plant exhibit, and which nobody has been able to read in full. It is delightful to get out in the garden and study law, that has been absolutely successful, and aim at something truly big. Who shall say why a violet blooms? It is such a common thing we have forgotten that it is yet a mystery to us, and a darling proof of nature's perfect willing.

The garden calls to the chemist to quit his laboratory session for an hour; to the botanist to bring along his knowledge of chemistry; to the biologist to bring along his knowledge of physics; to the astronomer as a reference fellow; to the mathematician as an orderly witness to new procedures; to the psychologist as an estimator of conscious being related to more orderly beings; to the theologian, who needs to know garden witnesses to the fact, that nature is never at variance with God; to the physicist, who has studied only inorganic mass; to the naturalist, who wants to prove himself true and the scientific research of his age; to the scientist, who is anxious to record a new finding of natural law; to the evolutionist, who knows that evolution does not create, but merely furthers a continuance of the created. The Creator of all things is present in the garden, but in a verity we are yet too enfeebled for finding.

A little garden plot can prove up true or false all the things we have studied in life, but if there were no standing room left in a garden plot of standing sages, how little the congregation of them would know of why a violet blooms?—*Suburban California*.

#### PARK INSTITUTE OF NEW ENGLAND.

AN interesting meeting of this young organization was held at the Kaiserhof, New Haven, Conn., on Tuesday, January 26. Seventeen members were present. Following luncheon Mr. Gallagher, of Ohnsted Bros., Brookline, Mass., gave an instructive talk on Lines and Curves in Park Roads and Walks, illustrated with photographs and diagrams, showing the relation of roads and walks to the conformation of the ground and showing how ideals are effected by modern demands for seeing a long distance ahead on driveways.

Fred C. Green, superintendent of Parks of Providence, R. I., read some entertaining notes from records made jointly by himself and Theodore Wirth during the four-weeks' trip of the Park Superintendents to the Pacific Coast last summer.

After the meeting a visit was made on invitation of Superintendent Amrhyn to East Rock Park, where the nursery and zoo departments and the new service building and repair shops—said to be the finest in the United States—were inspected and Mr. Amrhyn's new residence admired.

# The Amateurs' Garden Plotting—and Realization

By Robert Welles Ritchie, New Jersey.

IT was the night of the blizzard that Genevieve gave first evidences of a strange mental disturbance.

The blizzard, you remember, was enthusiastically compared—in New Jersey, at least—with that grandfather of all meteorological marathons, the Blizzard of '88. The wind was racing down from Kittypussy Mountain, just in front of the house, at an eighty-mile rate, and the snow was driving like diamond dust under the front door and all the window sashes on the west facade of our villa. The drifts on our estate were, I swear it, 10 feet on the average; thermometer stood at 10 above.

One of the cellar windows blew in just then; but in deference to my wife's interest I turned over the big volume that lay open under her elbow and read the title: "Chateaux Gardens of Provence."

"I really didn't mean to have you catch me at this until I was primed, Cedric," my girl cooed winsomely. "I've had all these authorities"—she waved in all the clutter of books and magazines—"stowed away in my closet for a month and have been reading them when you were at the office. But tonight—why, it seemed just the ideal time to *revel* in dreams of what our little place will be, so I had to bring my treasures out. I am plotting, Cedric—plotting our gardens for the Spring!"

I did not pass comment on the timeliness of my partner's enthusiasm, but made a hasty inventory, instead, of her stock. There were: "The Gardening Art of England Under the Tudors," "Horticulture in Lombardy," "My Lilliputian Japanese Garden" and "Philosophy of the Formal Garden." Besides she had a bound volume of an English horticultural magazine and scattered numbers of at least four American publications on the gentle art of making things bloom. Genevieve's eyes danced as she followed my appraisal of her treasures.

"There's nothing like doing things right when you set out to do them," she said with a quiet air of assurance, "and I just knew that once you learned how your wife was planning to beautify The Crag you'd share her enthusiasm and put your shoulder to the wheel."

The Crag, I should explain parenthetically, is the name Genevieve chose for our villa and half acre out here at Kittypussy. Perhaps The Crag would be in more conformity with the truth, but Genevieve insisted that in naming country places the best people always stuck to the plural. I am constrained in the interests of strict truth to say that the The Crag even would be in a sense metaphorical. We have a rock behind the dining room which the Company failed to blast out—a very large rock, more spherical than craggy; but upon this rock Genevieve built her fancy and The Crag our place unalterably is.

But to get back to the storm—no, to Genevieve's garden culture:

As I pawed over her authorities she reminded me of our experiences in the Brooklyn apartment a year before when, fired by a sort of revolt against five-rooms-and-bath and all the prison atmosphere that commodity represents, we had undertaken an experiment in fire escape farming and had produced riotously wheat and citrons and early golden pumpkins in our window boxes. That had been the beginning of the great struggle for emancipation from brick and steel of which The Crag (and the playful blizzard) represented the triumphal achievement. Of course, in a vague way I had anticipated the beautifying of our half acre at Kittypussy, had allowed

my mind to ponder matters of climbing roses and Victoria Regina lilies; but during the winter months the black rebellion of my boiler and the anaemic tendencies of my plumbing had crowded all softer reflections into oblivion. Here was Genevieve on the job!

"What do you think of my preparation—my authorities?" she proudly asked when I had conned the titles of the last of them. The question was disconcerting.

"Well, my dear, I—ah—don't you think that Tudor English and modern Japanese would clash, you might say, on a modest half acre? A peristyle and a pagoda—"

"Cedric, I'm surprised!" Deep injury was in her tone. "Don't you appreciate that we will only take the *best* that each style has to offer? Anyway, how can one set about to lay out a country place until one has mastered the principles that all the great minds of other ages and other lands have formulated?"

"Of course, Cedric dear, it would be too much to ask you to go out now and get the exact measurement of that line from the corner of the dining room bay window to the southeastern boundary stone; but—"

"It would be *something* to ask," I interposed with just a touch of irony.

"But the very first thing tomorrow you must take the tape measure from my sewing basket and get that measurement for me. I cannot go on with this map until I have that line. You understand, the balance between the angles of the house and the ensemble of the grounds must be nicely adjusted. Now here, where the Crag stands—"

"A-hem!" I coughed deferentially and Genevieve ceased. "Perhaps, my dear, I can get you that line by triangulation over the hills and valleys of the snow if you don't happen to be using the household transit tomorrow; but otherwise—"

"Cedric!" This with severity. "You can be just too unreasonable when you want to. After all I have done during the past month in preparing myself to express the soul of beauty in our little place you—raise—foolish objections. It's just too dis—discouraging!"

Storm signals were set—squally weather with precipitation. I hastened to assure my wife that nothing short of one of Pharaoh's plagues would stop the progress of her tape measure on the morrow. She smiled through her tears, patted my cheek in token of restored confidence.

So with undoubted Winter battering our doors, the vision of a scientifically burgeoning Spring came to The Crag's owners that night. Alone with the furnace at two o'clock in the morning, I pondered the revelation the hours with my wife's inspired guides had given and I was glad. "Put your whole faith in Genevieve," the guardian spirit of my destiny murmured. "You may not understand it all; but Genevieve is a superior woman."

Just a single haunting fear persisted in my heart. When I came back to our room from the last trip to the furnace I dared to arouse Genevieve so that I might be reassured.

"My dear," I whispered, "is there any place in the liet-motif of our garden for a few unobtrusive cabbage plants? You know I have set my heart on—"

"Cabbages?" she echoed from the borderland of dreams—"Cabbages? Look in the tables under 'Coefficients of Utility.'"

I cannot begin to give the sympathetic reader the full

measure of the enthusiasm which gripped us during the ensuing days. The blizzard kept me from my office for three of them, all suburban traffic being by the ears. True to my promise, I measured the line from the corner of the dining room bay window to the southeastern boundary stone; the snow was only six feet deep in places and I had to guess where the boundary stone lay; but, at that, my report was measurably correct, I am sure. Genevieve set me to the reading of "Philosophy of the Formal Garden" with the Tudor landscaping as a side line, while she did the really important work of plotting our property down to the last inch of overtonal capacity. How the hours sped! In my mind's eye I saw The Crag as it would emerge triumphantly from the chrysalis of the snow, and compared this vision with the pitiful, yet heart-warming fire escape farming at the Hallorhan Arms. Yes, there where the gravelled drive led up to the garage (There wasn't a garage; but, naturally, when I purchased that made-over Blick from Ransom—) there along the drive would be a stately row of Lombardy poplars. And by the Crag, where our estate fell into a little swale, a lotus pond, of course, with fan-tailed Japanese goldfish and, mayhap, a tadpole disporting themselves under the shadow of the green pads. Then, between the Crag and the chevaux-de-frise of spikenard along the eastern boundary, why—a Tudor bower. Unquestionably a bower! Bowers are not common in Kitty pussy.

The wife was not so sure about the bower business. "The Gardening Art of England Under the Tudors" threw its weight of authority for the bower; but "Horticulture in Lombardy" and "Philosophy of the Formal Garden" were all for a pergola. Genevieve showed me a picture of a pergola in the Lombardy book—mighty fetching, with grape clusters hanging down from the roof and a lady in a Roman gown reaching up to pluck one of the luscious bunches. But, as I argued, Genevieve would not be likely to affect the Roman gown, and neither of us was partial to grapes, anyway. We compromised the matter. She yielded the Tudor bower while I bowed to her ban on the Japanese lotus pond. She said that, judging from our experience during the autumn rains, any fishpond we might project should naturally be laid in the cellar; we could raise a family of Mammoth Cave fish there any time.

"But I tell you what *would* be dreadfully artistic, Cedric," she supplemented. "A Japanese rest-house on the Crag—one of these cute little things of bamboo with a thatched roof. The view of the lake from the rest-house would be simply gorgeous! Sort of a teahouse of the Thousand Steps, such as the book says they have in Yokohama; only, of course, there wouldn't be a thousand steps up to this one. Three or four would do—just cut out of the rock."

"But, dear girl," I expostulated, "you wouldn't exactly call it a rest-house, would you? Nobody but your Uncle Dabney would actually need a rest after climbing four steps up a rock and you said just the other day his rheumatism was on the mend. Besides, the Company says they left the Crag standing because it's too hard to blast. Cutting even four steps—"

"Cedric, your prosaic lawyer's mind is perfectly *impossible* at times," my helpmate interrupted; but the rest-house idea went into the discard.

The Crag, however, remained a veritable Gibraltar of obstinacy in the path of our plotting. Genevieve pawed the tables of aesthetic logarithms in vain; no coefficient of rocks, or of rocky treatments, was there. To be sure, the Crag could reasonably come under the generic head, "Natural Obstructions," as set forth in chapter XVIII of the "Philosophy." The dictum there was,

"Remove all natural obstructions that cannot be bent to the uses of decoration"; the engineer of the Company assured me that if he removed (by extra heavy dynamite) our Crag a large section of the villa would be removed simultaneously. It was not until by happy chance I pounced upon "Le Traitement des Roches" in a second-hand bookstall on Ann street, New York, that our problem was solved. M. Bienville de Toquemont, who wrote this work in the latter half of the XVIII century, was a genius. He offered fifty-seven varieties of expedients in situations just like ours. The one we finally agreed to adopt was to build an extension of the villa around the rock—a sun parlor, through the floor of which the pinnacle of our name giver would project to form a natural background for a Winter garden of ferns and palms. When I approached the Company engineer to get an estimate on the cost of such an extension he, being a very quick-witted fellow, said that in future he would strive to build all his houses around a sun parlor rock. "The de Toquemont type villa will hit 'em between the eyes!" he declared with enthusiasm.

By the time the last snow was gone Genevieve and I had our half acre entirely plotted. She had worked out the variations of our landscaping *liet-motif* right down to the last blade of grass and the ultimate spear of asparagus.

The Van Saltynes, our neighbors who were to be hedged off by the chevaux-de-frise of spikenard, are quite the most aristocratic and wealthiest folk in Kitty pussy. They winter at Palm Beach or in Cairo while we humbler citizens fight drifts and pay coal bills. They have—or had, to be strictly truthful—the finest and most extensive gardens and lawns in the community; the Company added an extra thousand on the price of The Crag because of its proximity to this exclusive beauty, and I paid it without a murmur, appreciating the aesthetic and commercial value of the environs. In this Spring of our vaulting ambitions the Van Saltynes, not yet returned from the South, sent a French landscape poet out to direct their man-of-all-work in the revamping of the entire estate. Naturally Genevieve and I were burning with curiosity to see the imported artist at his work. Each night when I came up from the train my wife met me with a bulletin of the progress on our neighbor's grounds—"He's certainly putting in a Louis Quinze sunken garden there by the clothes poles," or, "I'm sure he is fixing a jungle garden about the fountain."

So it went for a week. On a Friday night, when I came home, Genevieve met me with little gurgles of excitement.

"Oh, Cedric! The Professor is a perfect darling. He saw me watching him today, came over and with the most delightful naivete gave me these wonderful bulbs of the Congo sleeping lily. Said there weren't a dozen plants in this country outside of the Smithsonian Institute and told me how to plant them."

The dear girl brought out from the pocket of her apron five wispy little white bulbs. Something about their appearance was vaguely reminiscent; I knew that somewhere I had encountered this part of a Congo sleeping lily. When she told me I must take them to the cellar and hang them on a string in a dark place I fulfilled the first clause of instructions. Went to the cellar with the precious bulbs, cut one in half with the hatchet and, *selah!* the mystery was solved. Garlic!

Saying not a word to my partner, I came home from the office the next day at noon and behind the curtain in my study secretly watched the actions of the Professor and the Van Saltyne's man-of-all-work. Exhilarated: that's the word to describe them. Exhilarated and full

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## A QUICKLY DEVELOPED ROCK GARDEN.

THE rock garden shown in the illustration, of Aldermaston Court, Berkshire, England, is only two years old, but gives the impression of having existed for a much longer period. It lies in a hollow, and at the bottom is a charming little pool, filled by a cascade which leaps and tumbles down the sides of the rockwork. The way to the bottom is down steps, in the crannies of which Alpines have established themselves; the stepping-stone looks as though it would last until the end of time, so solid and massive does it appear. Several plants have found the surface of this stone cool and agreeable, and have encroached upon it in considerable colonies. The more to seclude this charming spot, the rock garden is surrounded by a belt of flowering shrubs, including *Spiraea arguta*, *S. Bumalda*, *S. Thunbergii*, *Buddleia*

*Veitchii*, *Daphne mezereum* and *D. m. album*, and many other attractive species. One corner is planted entirely with Brooms, of which *Cytisus albus*, *C. Andrianus*, and *C. praecox* are the chief kinds. Down below, the rocks standing about the pool are planted with innumerable little water-loving plants. In the water itself *Nymphaeas* grow, such as *Nymphaea chromatella*, *N. albida*, *N. carnea*, and *N. rosea*; and skirting the pool, beautiful Ferns hide in the crevices, notably *Blechnum spicant*, *Polystichum* of many kinds, *Lastrea cristata*, the graceful *Osmunda gracilis*, and beautiful forms of *Scolopendrium*. By the water-side, their stems just standing in the marshy edge of the pond, *Gunnera scabra*, *Senecio chlororum*, and *Lythrum Salicaria* flourish; *Spiraeas* rise tall and graceful from the brink, and groups of stately *Iris*es mirror themselves in the water at their feet.—*From Gardeners' Chronicle (English)*.



Reproduced from *Gardeners' Chronicle (English)*.

ROCK GARDEN AT ALDERMASTON COURT, BERKSHIRE, ENGLAND, HOME OF C. E. KEYSER, M.A., J.P.

## DRY-WALL GARDENS.

A PART from an extensive rock garden nothing creates greater pleasure than a dry wall planted with rock plants, writes Thomas Smith in *The Garden*. The occupants simply revel in these conditions, losses are rare, expansion is healthy and prodigal, upkeep is neither great nor laborious, and the floral effect transcends efforts that in other directions are often more costly. Then, the actual work of creating such a garden is well within the scope of everyone who delights in laying out and arranging their own garden. The best constructive material is stone, although with a good stone for plant life should neither be too hard nor too soft, the latter especially being avoided, as it is sure to disintegrate under the action of frost. If the edges are fairly square, so much the better, as then the stone is easy to lay, and it enables copious ledges and joints to be arranged with ease and certainty. It is important to observe, in laying the stones, that the edge buried in the wall should be slightly lower than the exposed edge; in this way water striking the face will percolate behind to the roots. A

wall built on this system recedes sharply away from the ground level. The incline or "batter" in this case may be as much as 6 inches in every foot of height obtained. In an upright wall the set-back or "batter" need only be 2 inches to every foot of height.

The wall built on the ledge system commends itself most for arid countries. Whatever type is selected, the stones should be laid firmly, the joints be carefully filled with soil, and all vacant spaces behind filled up and made thoroughly firm as building proceeds. The soil used should be a good loam, with plenty of grit and a quantity of old crushed mortar rubble or chalk added, as practically all free-growing alpines will grow in this compost, the most notable exception I can call to mind at the moment being *Lithospermum prostratum*.

Planting should take place when building. In this way larger plants can be used, and it enables the roots to be carried well back into the soil behind. These should not be buddled up, but be spread out to their fullest capacity, so that a large body of soil is thus open for their activities.—*The Garden Magazine (English)*.

# Work for the Month of March

Conducted by Henry Gibson, New York.

**M**ARCH may well be termed a month of preparation rather than a period of actual gardening operations, at least so far as active outdoor operations are concerned. What can be done this month will depend a good deal on the weather, so be ready to take advantage of the first opportunity to start in. We are promised an early spring this year since the ground-hog failed to see his shadow when he emerged from winter quarters, hence if the season should be a forward one and the ground gets in workable condition, prepare the garden soil so that some of the more hardy seeds can be sown early next month.

Any changes in the gardens that were started last fall and not completed, should be proceeded with as soon as conditions permit. It is in the spring of the year that the value of fall planting and making changes is most significant to the gardener. With the planting off one's hands in the fall one is free to give more attention to other activities at this season.

## SWEET PEAS.

Sweet-peas may be sown outdoors just as soon as the ground can be made ready for them. The culture of these ever-popular flowers has been almost revolutionized during the past year or two, and judging from the results as seen at the sweet-pea show at Newport last July, the change is for the better. Some growers contend that fall sowing is conducive to the earliest flowers and best results, and others that early sowing in the spring as soon as the ground can be made ready gives equally good results.

Still others claim that early sowing in the greenhouse or hot-bed has something on either of the aforementioned methods. Despite the diversity of opinion, however, all are agreed that the seed should be sown early so that the plants have time to develop a vigorous root-system before the hot-weather overtakes us. In sections of the country where the open ground got into workable condition during the summer-like weather we experienced the last week in January many sweet-peas were planted.

## PRUNING.

The pruning of trees and flowering shrubs should be attended to as opportunity permits. Old shrubberies that have been neglected should have a rather severe pruning, and newly planted beds require to have about two-thirds of the wood removed so as to balance up the shock of removal.

This of course means cutting away a good deal of flowering wood, but one should not expect to have a great display of blooms from shrubs the first year after planting.

Established shrubs that flower in early spring will need little more than old dead wood cutting away. Such as bloom on the current seasons' growth may be cut hard back.

The warm weather that was experienced the latter part of January is not unlikely to be the cause of some damage to large trees that were newly planted, especially maples. During this spring-like period the sap would no doubt begin to flow early, as it has a tendency to do in maples, with the result that when the next spell of freezing comes the sap is frozen in the bark causing it to split. Covering the trunks with

marsh hay, straw or similar material will prevent this to a great extent.

While the work of pruning is in progress look carefully over each and every plant for San Jose scale. If any is found spraying should be resorted to to clear it out, as it is of little use trying to keep the adjoining fruit trees clear of this pest unless you clear it out of the shrubberies.

## THE VEGETABLE GARDEN.

If at all possible, plow or dig the vegetable garden this month and endeavor to get a little below the usual hard-pan, which has formed as a result of plowing or digging to the same old depth year after year, at the same time incorporate a liberal application of barnyard manure.

Most gardens on private estates are so cut up by ornamental plantings that it is impossible to use a horse to plow, hence hand digging has to be resorted to. Here again one finds the old trouble—too shallow digging.

The men who are entrusted with the actual digging do not appreciate the importance of deep cultivation, and need to be reminded of it once in a while.

In connection with this department, and especially where there is no greenhouse, a hot-bed is indispensable to have early vegetables. Get the manure ready and start this at once if you have not already done so.

The horse manure needs to be fresh, and if it does not contain much straw, add some leaves. Leaves are desirable in any case, as they prevent too rapid fermentation and cause the heat to last longer. Stack the material in a heap, under cover if possible, and turn every few days "inside out" until the rank heat and ammonia has passed off. As soon as it is ready put the material into the frame, 18 to 30 inches deep, pack down tight by tramping and place four to six inches of soil on top of the manure to sow the seeds in. Not infrequently the heat of the manure will run up to over a hundred after it is put in the frame, and a thermometer should be provided to register the actual degree of heat. Not until the temperature has settled to 90 degrees and shows signs of remaining below that point should seeds be sown.

Then there is the cold-frame to get ready, for once the plants are started in the hot-bed they will soon grow to overcrowding and will need to be transplanted to the cold-frame to harden off previous to setting out in the open ground next month.

Among the many seeds that may be sown in the hot-bed for early use may be mentioned cabbage, cauliflower, carrots, beets, beans (to mature where they are sown), egg-plant, lettuce, peppers, tomatoes, onions, seedlings or sets to provide an early supply for the house.

Rhubarb, chicory and seakale may still be forced. Outdoor rhubarb may be hastened by placing barrels over the crowns and placing hot manure around them. Seakale may be forced in the open ground by covering the rows with manure, or seakale pots may be used in the same manner as is adopted for forcing rhubarb.

## THE FRUIT GARDEN AND ORCHARD.

With the advent of March comes the last chance in this department to complete the winter or dormant

spraying. There are no exceptions to spraying, and not only should it be done thoroughly now but it will have to be supplemented several times during the summer if any good is to come of it. Dormant spraying is not a cure-all, but for the control of San Jose Scale and Oyster Shell Scale it is indispensable. Lime-sulphur solution concentrated to 33 degrees Beaume and diluted at the rate of one gallon of the solution to eight of water is quite safe to use when the trees are dormant. Scalecide diluted at the rate of one gallon to 15 of water is also very effective, is more expensive, but is much more pleasant to apply.

#### THE GREENHOUSES.

Among the many things that demand attention at this time under glass is the pricking off of the seedlings that were sown last month. The best way of handling these is to transplant them into flats where they can be planted two or three inches apart, according to the variety. Such kinds as do not relish having their roots disturbed too much may be handled in pots, and thus save many losses.

As the work of transplanting proceeds, more room will be needed in the greenhouse, in fact, temporarily overcrowding is bound to occur.

Shelves will need to be erected near the glass to accommodate the stock, and advantage may be taken of the many forms of fittings that are made by greenhouse builders to extend from post to post, and from other parts of the house to provide temporary shelves.

#### EASTER LILIES.

Lilies are much appreciated around Easter time, and those who have a batch under way should turn some attention to them during the next week or two. It usually takes about six weeks from the time the first buds show for the flower to mature, therefore one ought to have as many buds showing around March 12 as possible to have them come in without undue forcing. Of course, by the use of more heat they can be flowered in much less time; thousands are forced into bloom in less time every year, but far the best results are obtained by giving the plants plenty of time. When only a few plants are wanted at one time make a practice of putting a few each week or ten days into heat—a rose-house temperature suits lilies very well, but those that do not show their buds soon enough should be placed in a temperature of from 65 to 70 degrees at night.

There are few plants when being forced that appreciate syringing more than does a lily, yet on the other hand, none are so sensitive to an over-supply of water at the roots. On bright days syringing may be done two or three times. Liquid manure may be given with beneficial results until the buds are turning from green to white, when it should be discontinued.

#### CALANTHES.

These are very desirable flowering plants when well-grown, and as keepers when matured the flowers are hard to beat. If not already done the bulbs should be started into growth at once. Prepare flats with a layer of crocks over the bottom and over these a layer of sphagnum moss; then fill with sharp sand. The bulbs are then placed close together on this mixture and placed in a temperature 65 to 79 degrees at night. As soon as they have made root and top growth, they can be potted, one bulb to a five-inch pot, or three to a seven or eight-inch pan. The largest of the bulbs may need a six-inch pot to themselves. The pans or pots require to be filled at least one-third full of crocks. A growing medium made up of fibrous loam and dry, thoroughly decayed cow manure in equal parts, with

just a little peat and sand will grow them well. Pot firmly but not too deeply (the bulbs should be able to stand upright when potted), but they should not be potted any deeper than is necessary for this. In early growing season they require a moist house where a temperature of 65 degrees is maintained.

As they complete their growth, they will stand a cooler house to finish up the flower spikes. Calanthes are subject to thrips, and should be carefully gone over from time to time and sponged with a good insecticide to keep them clean.

#### MISCELLANEOUS.

Bulbs intended for Easter should be kept as cool as possible to retard growth, for the holiday is late this year, and instead of having to do so much forcing one will have to hold them back.

Cannas should be started into growth either in the sand or in moss in flats over the heating pipes.

Chrysanthemums may be propagated. Put the stock plants up to the light so they can develop into sturdy, short jointed stock.

Houses containing ferns, foliage plants and orchids need shading as the sun gains power.

#### TROPAEOLUM TRICOLORUM.

This is a very desirable and undoubtedly the prettiest of the tuberous rooted Tropaeolums that we have at the present time. It takes its name, no doubt, from the fact that its blossoms are colored orange, red and purple. The tubers may be planted in the greenhouse bench, a light, fibrous soil suiting them best. A frame or trellis should be provided for the delicate stem which cannot support itself. The showy flowers are produced in surprising abundance.

#### TOMATOES UNDER GLASS.

**T**OMATOES may be planted over a long season under glass. For a spring crop, the seed can be sown now, while for a summer crop, to precede the outdoor one, the sowing may be done as late as March. Suitable winter varieties are Comet, Lister's Prolific, Carter's Sunrise and Best of All. For later work, Comet, Chalk's Early Jewel and Bonny Best are good. If you prefer tomatoes of larger size, try Livingston's Stone. For winter and spring crops the smaller-fruited sorts are preferable.

A night temperature as near 60 degrees as possible should be given tomatoes. They must also have a dry atmosphere at all times. It is best to grow the plants to single stems, rubbing off all side growths or laterals as they appear. For a late spring or summer crop, the plants can go in rows eighteen to twenty inches apart, allowing the same space between the plants. Paths twenty-four to thirty inches wide should be left at intervals. The plants can be supported by cane stakes, but a better plan is to attach a piece of soft brown twine to each stem, fastening this to overhead wires running directly over the rows. As a rule it is best to pinch the plants after they have made five or six bunches of fruit. The weight of fruit per plant depends on the season and also on the kind of culture the plants get. It will vary from six to ten pounds per plant, sometimes more.

In winter the plants fruit best in a restricted root area, but after April they succeed better in solid beds and in ground that is well enriched. At this latter season, especially, they also need watering with liquid manure. A cold, drafty and clammy atmosphere will develop mildew. It will not appear if you keep your house warm and dry. You cannot expect to make a complete success of tomato growing the first season. Do your best and try again.—*Review.*

## HOTBEDS FOR EARLY VEGETABLES.

TO raise first-class early vegetable plants hotbeds are a necessity, and it is also well to have cold frames for later sowings and also for hardening off plants grown in pots. The best season to prepare a hotbed is the fall or early winter, before the ground freezes hard, though, of course, it can be taken in hand at any time. It must be ready, however, for your earliest spring sowings.

The best position for hotbeds and frames is one with a southern or southeastern exposure; whenever possible they should have protection from north and west winds and, at the same time, should be near an outhouse or shed where sowing in flats and potting may be carried on during bad weather. The water supply should also be convenient, as much water will be required when the days lengthen and the sunlight becomes strong during late March and April.

The hotbed frame may be made of concrete, brick or wood, and the depth of the pit will depend upon the location. In sections north of Philadelphia the soil should be taken out from two to two and a half feet; in warmer latitudes the depth may be less. The pit is filled with the heating material—fresh horse manure, leaves and straw, well mixed—toward the end of February.

Do not attempt to grow more plants than you have accommodation for, or than can be properly cared for from the seedling stage until hardened off ready for setting out in the open. It must be kept in mind that when seedlings are ready for "pricking out" or transplanting the operation must be carried through without delay, for at this stage the seedlings will quickly become thin and weak unless they are well thinned. Therefore, it is policy to make successional sowings rather than to do all of it at one operation.

The soil for the reception of the seed should be fairly light, but should contain sufficient nourishment to give the seedlings a good start. The following is an excellent mixture: Eight parts rich garden soil, two parts leaf mold, two parts sharp sand, and one part old, thoroughly rotted manure. After being passed through a small-meshed sieve and thoroughly mixed, spread this compost to the depth of four inches over the manure.

The sowing dates recommended are for the vicinity of Philadelphia; for other sections subtract or add a week, approximately, for each 100 miles south or north.

Do not sow until the heat has fallen to ninety degrees. After sowing, firm the soil thoroughly with a board to put the seed into close contact with the soil. This should never be omitted, as it is essential to insure a perfect stand.

When seedlings are first transplanted they must be immediately watered, using a watering can with a fine nozzle and shaded for a few days from bright sun. On all favorable occasions give a little ventilation, raising the sash from the sheltered side of the frame, so that no sharp winds may strike directly on the tender seedlings. To maintain the temperature at night cover the glass with heavy sacks, burlaps or straw, removing the cover as soon as the sun strikes the frame in the morning.

As the days become longer and warmer and the plants are growing freely and strongly, remove the sash entirely on all fine days, but replace an hour or so before the sun goes down, that heat may be generated in the frame to counteract any danger of night frosts.

**Cabbage.**—Sowings of the first and second early varieties should be made the first week in March. Sow thinly in shallow drills three inches apart, covering not more than a quarter to half an inch. When the seedlings have their first pair of true leaves transplant into rich light soil in a cold frame or a reserve portion of the hotbed. To make good stocky plants they should be set three inches apart each way. The first sowings should be ready for planting out about the middle of April.

**Cauliflower.**—As cauliflower will not head during the heat of summer do not sow until late May or Early June. Give the same treatment as cabbage, and use such sorts as Early Snowball and Dwarf Erfurt.

**Tomato.**—The first sowing should be made early in March, and the directions are the same as for cabbage. As there is always a demand for extra strong tomato plants this should be provided for by growing part of the crop in pots. Paper pots are now offered very cheaply and are just the things for this purpose. Do not pot directly from the seed bed, but use the transplanted seedlings, picking sturdy plants about four inches in height. The best early scarlet-fruited varieties are Spark's Earliana and Chalk's Early Jewel. June Pink, if pink-fruited sorts are desired, is also good. For the late or main crop Matchless and Stone—reds—and Globe—pink—are unsurpassed. Ponderosa—pink—is the largest variety in cultivation and is much esteemed by many amateurs.

**Pepper.**—These plants require rather more care than the preceding and are much slower in growth. Since they need more warmth a division should be made in the hotbeds with boards, as the peppers will not require so much air until late in the spring. This portion of the frame could also be utilized for egg-plants and some of the flowering plants. The night temperature should not go below sixty degrees.

**Celery.**—Sow in fine, rich soil in cold frames or in a sheltered bed in the open from the middle to the end of April or early May. The rows should be three inches apart and the seed covered not more than a quarter inch with fine soil. Transplant into beds or cold frames as soon as large enough to handle, setting the seedlings three inches apart each way. The finest varieties are Golden Self-Blanching and Giant Pascal.—*Geo. W. Kerr in Country Life.*

## MULCHING.

**B**EFORE you can intelligently accomplish work of any kind, we must understand the purpose for which it is done.

The general impression in regard to mulching is that it keeps the plants warm. This is misleading. When the ground will freeze solid one and one-half or two feet deep under the mulching, as it often does in severe weather, it is evident there is not overwhelming warmth in the mulch. In fact, a mulch of leaves or stable manure of sufficient bulk to produce heat by fermentation, as in a hot-bed, would be harmful to most plants.

Mulching serves three purposes: First, it prevents drying out of the roots and the lower portion of the plants it comes in contact with. During dry, frosty, windy weather, plants are very liable to suffer. We cannot give them water, as it would only freeze, but mulching prevents the drying out. Second, it helps to maintain an equable temperature at the roots of a plant, and prevents alternate freezing and thawing. Every one has noticed how the ground will thaw in bright weather in sunny positions, while it will remain frozen where the sun does not strike it.



Without going into the science of it, this alternate freezing and thawing will lift shallow-rooted plants, and those that are not properly established, right out of the ground with disastrous results.

A mulch put around such plants will prevent the thawings, so that when the ground once freezes it stays so until the frost leaves the ground in the spring.

A covering of snow acts in the same manner, and explains why some plants come through severe winters in the northern latitudes unharmed, while they suffer in milder climates.

The third value is a manurial rather than a protective one and depends rather on the kind of mulch used.

Half-decayed stable manure is the most commonly used. It contains much plant food which washes down to the roots.

In many cases it can be forked into the ground in the spring, and will be beneficial because it adds humus to the soil even though the plant foods have all leached out.

To sum up the requirements for proper mulching: Do not put it on too early; after the ground begins to freeze is best. Use mulch four to eight inches deep; light material, such as straw or leaves, may be used more liberally than heavier stuff.

Aim to cover the ground around the trees or smaller plants as far as the roots radiate. The distance will be known with newly planted stock. With established stock as far as the branches or tops reach, is a good rule.

When mulching the flower borders, do not cover those plants that have succulent or tender and evergreen tops too deeply, or it will hold too much moisture around them and they will decay, especially if it be a mild winter. Such plants as pinks, sweet williams, hardy candytuft, stone-crops, gaillardias larkspurs, pansies and young seedlings of all kinds just enough covering to keep off the sun and wind is sufficient.—*From National Nurseryman.*

### HERBACEOUS PHLOXES.

EVERYBODY who has grown the Phlox with any degree of success knows its insatiable appetite for moisture and rich food supplies. Hence it is that, in a season of continuous drought and great heat combined, the plants flag half their time when left to themselves, and at flowering time yield only small or poorly-colored flowers and panicles. On the other hand, in a wet season the Phlox is seen at its best. Happily for those who grow Phloxes largely, no one or two storms, however violent at the moment, could possibly ruin a season's display. A solitary flower panicle may contain a couple of hundred blossoms, and fresh blooms continue to expand daily for weeks on end.

To the gardener desirous of doing full justice to these plants the extremes of weather, to which attention is directed, should contain much of teaching value. Liquid manure, too, is of enormous service to them and is not easily overdone. In all probability the development of the plant, both as concerns its stature and the giant proportions of its flower-panicles, would, given this treatment on a liberal scale, surprise even those who think they realize its likes in this direction. In other respects, viz., generous soil treatment, they repay for doing well. A fact, insufficiently recognized perhaps, is the great mat of roots formed by healthy examples, roots ever at work, and in large degree close to the surface, which at once explains their ready response to feeding with liquid manure and early suffering in times of drought if neglected.

In no sense is the herbaceous Phlox fastidious, yet I have not the least hesitation in saying that it does best

in loams of moderate lightness, given the attention already indicated. In all light loams the roots ramify freely and healthily, and it is a good sign. In close, sticky and heavy clay soils they do not do so, and the result is seen in every growth and flower-truss.

While the Phlox, being a perpetual-rooting subject, may be planted over a very considerable period, I consider early autumn—say September—the best time for planting divided stock, and April and May for planting the freshly-rooted cuttings of early spring. Cuttings rooted in a dung-frame I have frequently transferred direct to the beds, with the best results. In dealing with older border plants single pieces will be found of most service to the planter. Phloxes should never be planted in clumps intact. Youthful single stems from the outside of the clump are much better, and three or more



From Sutton's.

FLOWERS OF THE HERBACEOUS PHLOX.

of these soon make a goodly clump. In planting, their surface-rooting character should be remembered, and the stems buried 2 inches deeper than before. This ensures the production of a maximum number of new root-fibres.

A question is often asked as to how long Phloxes may remain in one position without appreciable deterioration, but it can only be answered in a general way. With the best treatment, which would include a certain amount of thinning, they may be excellent to the fourth year, though some sorts may continue twice as long and still produce moderately good trusses of flowers. Much, however, depends upon the variety—all Phloxes are not constituted alike any more than are individuals—much also upon soil. In these matters the plants speak for themselves, and the intelligent gardener need have no better guide.—*E. H. Jenkins in Gardening Illustrated. (English.)*

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# Is "Landscape Gardening" a Misnomer?

By Arthur Smith, Pennsylvania

THE criticism of articles appearing in the GARDENER'S CHRONICLE and discussion upon points of practice connected with the management of country estates, being in my opinion far too conspicuous by their absence, I was glad to find in the December issue that my article upon Landscape Forestry had called forth a response; but upon reaching the critic's letter I came to the conclusion that he had, when he wrote it, only read the heading and not the article itself; otherwise he could not have fallen into the error of stating in effect that I had confused landscape forestry with landscape gardening.

I had always supposed the term forestry to be gen-

and other means thereby increase the attractiveness of the forest landscape as a whole, he is doing something he has no right to attempt and which could be better left to a landscape gardener. This appears to be a very inconsistent attitude for him to take, as he complains in one place about overlapping and yet he suggests the mixing of gardening with forestry.

As already pointed out, the work of a forester is to deal with forests. If a forester, in addition to looking upon trees from the point of view of their present or future value as lumber, so handles the forest under his charge as to lift the woods above the region of common



A MATURE FOREST LOGGED BY THE AMERICAN FORESTRY COMPANY, BY REMOVING THE MATURE AND SUPERFLUOUS TREES, ESPECIALLY THOSE THAT PREVENTED THE FULL DEVELOPMENT OF THE BETTER ONES. BEING PART OF A PLEASURE FOREST, THE NATURAL BEAUTY WAS CAREFULLY PRESERVED BY RETAINING THE RIGHT KIND OF UNDERGROWTH WHICH PRESERVES THE SOIL MOISTURE, BEAUTIFIES THE FOREST FLOOR, AND AFFORDS FOOD AND NATURAL SHELTER FOR FOREST LIFE.

erally used in connection with matters concerning the treatment of an ordinary wood-lot as well as those of a forest of ten thousand or more acres in extent; and that a man devoting his time to the study and planting of trees in forests and in various ways dealing with forestry matters was generally known as a forester. But according to my critic, if a forester should select the species of trees he plants in a forest with a view of combining them in such a way as to create a more beautiful forest; to so care for and treat any individual tree or trees in that forest as to cause them to attain the maximum amount of beauty they are capable of; to encourage the growth of native shrubs and other flowering plants and by these

place and improves the landscape, it appears to me that he is carrying out landscape forestry, *not* landscape gardening, hence my choice of the title.

It does not appear necessary to say anything more as regards the question of names and therefore in this connection my reply could end here. The critic, however, opens up other matters, one only of which I propose to deal with, namely the reflection which he casts upon the practical gardener by stating that, in attempting to do landscape work, the practical gardener has brought landscape gardening under suspicion.

While I have no desire to introduce personal matters, yet, in face of the critic's assertion that he has had eight

or ten years' experience in landscape gardening, it may be permissible for me to say that my first landscape work was carried out over twenty years ago. Since then my work has been almost entirely connected with new estates. Sometimes I have carried out the plans of others; in some of the instances where my own plans were accepted it was only after the estate owner had compared them with those submitted by professional landscape gardeners. As a side issue I am frequently asked to make plans which are accepted and paid for. Side by side with landscape work a considerable portion of my time has been given to forestry and during the thirteen years I have been in this country I have planted upwards of three-quarters of a million young trees. I know that these facts are of little interest to any one;

But every practical gardener does know something about the material which is used for creating artistic effects in gardens. He knows something of the characters of plants; their soil requirements; positions as regards sun or shade, wet or dry, in which they do best; the distance at which they should be spaced to allow them to reach their maximum perfection of form and beauty and so on.

It is quite the exception, however, to find a man calling himself a professional landscape gardener having this knowledge, which one must have in the most thorough sense before he can successfully design or carry out landscape work.

It is not the forester and practical gardener "attempting to do professional landscape gardening that has had



A MIXED STAND OF HARDWOODS AND EVERGREENS THINNED TO FAVOR YOUNG WHITE PINE UNDERGROWTH, FOR COMMERCIAL REASONS, BY THE AMERICAN FORESTRY COMPANY. AS THE PROPERTY WAS PART OF A CAMP, IT WAS DESIRABLE TO CONSIDER THE AESTHETIC SIDE ALSO. SUCH PICTURESQUE HARDWOOD ELEMENTS AS THE PAPER BIRCHES IN THE RIGHT FOREGROUND WERE THEREFORE CAREFULLY PRESERVED AND GIVEN HEALTHY GROWING CONDITIONS. THE FOREST SO TREATED IS A DELIGHTFUL RETREAT, AND ITS TREATMENT PROFITABLE AS WELL.

they are mentioned only for the purpose of giving my critic some information by way of supporting the contention that it is possible I may know something of what I am writing about.

As regards the practical gardener, I should be the last to assert that every individual claiming to belong to that craft is capable of producing an artistic garden landscape any more than every individual claiming to be a landscape gardener has any capabilities in that direction, although all members of the latter class claim infallibility, while as regards the former such claim is not asserted.

a tendency to place the latter work under suspicion," but if landscape gardening has been placed under suspicion it has been brought about by the fact that of recent years a large number of men have adopted this profession without possessing any of the fundamental knowledge requisite to carry it on, and among this latter class those who have made the worst botches are men whose only qualification (if it deserves the name) has been that they have taken a landscape course at some college.

Scores of instances have come into my limited experi-  
(Continued on page 74.)

THE  
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	EUG. V. GOEBEL, Grand Rapids, Mich.

Vol. XX.

February, 1916.

No. 2.

## FOURTH NATIONAL FLOWER SHOW.

THE committees in charge of the Fourth National Flower Show to be held in Convention Hall, Philadelphia, March 25 to April 2, report that the work in all departments is progressing favorably, and that the outlook for the success of "the greatest flower show ever held," as the Philadelphia press describes it, could not be brighter.

The trade is taking a keen interest and the growers, both commercial and private, it is expected, will be represented by a larger number than at any of the previous National Flower Shows. There will be special days and New York Day, March 28, should prove one of the eventful days of the show.

The Mayor of Philadelphia will designate the week of March 27 as National Flower Show Week. Several

conventions of horticultural bodies will be held during the week in which some of the women's horticultural organizations will participate.

The publicity committee is actively engaged exploiting the National Flower Show, not alone in Philadelphia, but in neighboring cities reaching from New York to Pittsburgh.

## NEW YORK SPRING FLOWER SHOW.

THE New York Spring Flower Show, which will occur in the Grand Central Palace, New York City, April 5 to 12, promises to eclipse any of the former shows. There will be several feature displays of a magnitude never before attempted at an indoor show which will arouse much public interest.

A large garden will be constructed under the auspices of the Red Cross Society, where a different program will be presented each day for the benefit of the war sufferers.

As at the former shows at the Grand Central Palace, the trade exhibits will play an important part. A number of firms, not heretofore represented at the shows, have taken space to exhibit this year.

The joint committee of the New York Horticultural Society and the New York Florists' Club meets regularly and the reports received by it give every assurance that the 1916 New York Spring Flower Show will be even more popular than that of a year ago, which was so well patronized by society that it was classed as one of New York's leading society events of the season.

OFFER TO AMERICAN GROWERS OF  
NEPHROLEPIS

AT the Brooklyn, N. Y., Botanical Garden there has been assembled a collection of between sixty and seventy varieties of *Nephrolepis*; over fifty of which are named, as shown in the lists given below. The catalogs of English growers offer about forty additional varieties which the Garden has ordered for delivery in the near future.

In addition to maintaining this collection for the purpose of scientific study, the Garden desires to make it of value to American growers of *Nephrolepis*, and makes, herewith, the following offer. Small plants or runners of any of the plants named will be furnished to growers interested in trying them out, as fast as a limited supply of stock plants will allow. Requests for information regarding any of the varieties listed below will be answered by the writer of this note as completely as available data will permit. Furthermore, the Garden is having reprinted the writer's article on *Nephrolepis* prepared for Bailey's *Cyclopaedia of American Horticulture*, and will be glad to send a copy of this reprint to any grower on request. This contains a general discussion of *Nephrolepis*, with descriptions of all the varieties about which information was obtainable at the time it was written.

In return growers are asked to send in any new forms which they may produce, and also any old forms, such for example, as Wittboldi, which has not yet been certainly obtainable in the United States, although listed in the English catalogs. In connection with the *Cyclopaedia* article, the writer will welcome and greatly appreciate notification of any mistakes or omissions, or other information pertinent to the subject.

List 1. Varieties of *N. exaltata* of authenticated identification (two or three exceptions noted), the stock plants having been obtained from their original sources:

(Continued on page 78)

# NATIONAL ASSOCIATION OF GARDENERS

WILLIAM N. CRAIG, President,  
Brookline, Mass.

OFFICIAL COMMUNICATIONS

M. C. EBEL, Secretary,  
Madison, N. J.

## JUDGES FOR THE ESSAY CONTEST.

Chairman William H. Waite of the Committee on Essays and Horticultural Instruction, has appointed William Downs, Brookline, Mass.; Edward Jenkins, Lenox, Mass.; Arthur Smith, Reading, Pa.; William H. Stewart, editor of *Horticulture*, Boston, Mass.; J. Harrison Dick, editor of *Florists' Exchange*, New York, to serve as judges in the Essay Contest for Ex-President Everett's prizes, the winners of which will be announced at the Fourth National Flower Show, to be held at Philadelphia, March 25 to April 2.

## PRESIDENT CRAIG OFFERS ESSAY PRIZES.

President William N. Craig offers twenty-five dollars as first prize, fifteen dollars as second prize and ten dollars as third prize for the best essays by assistant gardeners on any subject pertaining to any branch of horticulture, and not to exceed twenty-five hundred words. The contest will close November 1, and the winners will be announced at the annual convention of the association in December. The Essay Committee will issue the rules regulating the contest in the next number of the CHRONICLE.

## DEMAND FOR ASSISTANT GARDENERS.

There is an unusual demand for assistant gardeners at this time, and many inquiries have been received for able assistants. The Service Bureau will be glad to hear from any members seeking first class assistant positions, and who are fully qualified to fulfill same.

## GARDENERS' DAY AT NATIONAL SHOW.

It has been decided to make Tuesday, March 28, the day at which the members will assemble at the Fourth National Flower Show in Philadelphia. Keep this date in mind. Full particulars will be published in the March CHRONICLE.

## NEW MEMBERS.

The following names have been added to our membership roll during the past month: James Goodfellow, Woods Hole, Mass.; William D. Coutts, Nantucket, Mass.; John Madden, Cohasset, Mass.; Angus MacMillan, Beverly Cove, Mass.; John Morris, South Natick, Mass.; Andrew Masson, North Easton, Mass.; Thomas H. Webber, Marion, Mass.; Frank L. Sladell, Cohasset, Mass.; Gordon S. Macmillan, Lenox, Mass.; Alexander G. Bryce, Falmouth, Mass.; George Bain, Woods Hole, Mass.; Oscar Hakanson, Beverly Farms, Mass.; Frank H. Butler, Lenox, Mass.; Carl Alberte, Auburndale, Mass.; George F. Clive, Marblehead, Mass.; William Till, Magnolia, Mass.; Andrew F. Laugon, Hamilton, Mass.; Andrew E. Johnson, Gloucester, Mass.; Frank H. Allison, Auburndale, Mass.; James Campbell, So. Lancaster, Mass.; Eli Kenyon, Woods Hole, Mass.; H. H. Bartsch, Waverley, Mass.; Richard Calvert, Chestnut Hill, Mass.; James Riddell, Swampscott, Mass.; William Cockfield, Beverley Farms, Mass.; Charles Roberts, Swampscott, Mass.; James Wood, Topsfield, Mass.; Emil Anderson, Clifton, Mass.; Alfred E. T. Rogers, Prides Crossing, Mass.; Andrew R. Cosh, South Hamilton, Mass.; Daniel Hallissy, Beverly, Mass.; Alfred Reoch, Amherst, Mass.; Milles B. Cowey, Manchester-by-the-Sea, Mass.; Frank Cataldo, Ipswich, Mass.; Orin P. Thompson, Hamilton, Mass.; H. Ernest Downer, Northampton, Mass.; Frank J. Darrah, Falmouth, Mass.; Robert Laurie, Dedham, Mass.; Alfred E. Parsons, Manchester, Mass.; Robert F. Cross, Osterville, Mass.; Edward Parker, North Easton, Mass.; Robert Dunn, East Marion, Mass.; Thomas Wilcox, Worcester, Mass.; James Warr, Marblehead Neck, Mass.; William Hopper, Rochester, N. Y.; Charles W. Earton, Trenton, N. J.; John McCoy, Larchmont, N. Y.; G. Brown, Gilbertsville, N. Y.; Edwin Beckett, Purchase, N. Y.; Walter Robinson, Mamaroneck, N. Y.; James McLellan, Beacon, N. Y.; William Christie, Albany, N. Y.; Charles Davidson, Tuxedo Park, N. Y.; Thomas E. Driscoll, John M. Griffin, Bernard Dillinger, Patrick H. Collins, Albin Ketterer, John F. McCarthy, Jeremiah Reidy, New York City; Otto J. Cundy, Silver Lake Park, S. I.; William A. Edwards, Fergus Atkinson, Oswald Schultz, Joseph Pryor, Newport, R. I.; George Cooper, Bristol, Pa.; Arthur E. Bonsey, Sewickley, Pa.; Percy S. Snow, Philadelphia, Pa.; James Murphy, Sewickley, Pa.; Harry Moore, Pomfret Centre, Conn.; Arthur Chandler, New London, Conn.; Ernest H. Jones, Pomfret Centre, Conn.; R. P. Brydon, South Euclid, Ohio; Arthur Brown, South Euclid, Ohio; Henry Tolman, Walworth, Wis.; David Smith, Madison, Wis.;

T. W. Breen, San Leandro, Cal.; Henry Dobrick, Wilmington, Del.; Edward O. Orpet, Lake Forest, Ill.; James Hanley, Vermejo Park, New Mexico; Thomas Rolly, Middleburg, Va.

## AMONG THE GARDENERS

William H. Griffiths, formerly foreman of the F. D. Countiss' Estate, Alta Vista Farm, Lake Geneva, Wis., is now superintendent to E. D. Speck, "Fairholme," Grosse Pointe Shores, Detroit, Mich.

\* \* \*

William McKimmon, late gardener to Miss Louise Vhlein, of Milwaukee, Wis., has succeeded W. H. Griffiths as foreman at Alta Vista Farm, Lake Geneva, Wis.

\* \* \*

Alexander Reid, formerly at the Harvard Botanic Gardens, Cambridge, Mass., has been appointed superintendent on J. J. Albright's estate, Buffalo, N. Y., and assumed his new duties February 1.

\* \* \*

Murdo Mackay was recently appointed head gardener on the Frederic Ayer estate, Prides Crossing, Mass.

\* \* \*

The many friends of Richard Brett, formerly of Windholme Farm, Islip, N. Y., who retired a year ago owing to ill health and moved to New Jersey, will regret to hear of his continuous illness. Mr. Brett's present address is 362 Main street, Orange, N. J.

\* \* \*

Daniel Hay, superintendent for Mrs. E. French Vanderbilt, Newport, R. I., has been seriously ill for the past month, but is now convalescing.

\* \* \*

W. N. Craig lectured on "Vegetable Growing in New England" at the New Hampshire State Agricultural College, Durham, N. H., on February 4.

\* \* \*

Charles Sander, superintendent to Prof. C. S. Sargent, Brookline, Mass., has a magnificent display of hybrid *Clivias*, which fill one roomy house.

\* \* \*

W. B. Bourne, of San Francisco, recently purchased a tract of 709 acres west of Hillsborough, where he is building a residence, and is converting the property into a game and forest preserve, making extensive improvements in the way of planting, etc.

\* \* \*

Henry Eaton has secured an appointment as head gardener to R. M. Saltonstall, Chestnut Hill, Mass.

\* \* \*

The large collection of orchids, which formed one of the most beautiful and attractive features of the Philippine Islands building at the Panama-Pacific Exposition in San Francisco, has been purchased by Herbert Fleishacker, who will move them to his home at Atherton, a short distance south of this city. To take care of the orchids he has secured the services of W. E. Eglington, who looked after them during the Exposition period. Mr. Fleishacker is having a fine greenhouse built for their accommodation, and will put in the heating plant from the Exposition. It is understood that he expects to build up one of the finest private collections of orchids in the State.

Gardeners in the San Francisco district, and, in fact, all over California, have had much to contend with in the last month, which has brought the worst storms in many years, with a great deal of cold weather. Trees have been blown over and mutilated everywhere; more or less damage has been done to greenhouses, and a great deal of extra heating has been necessary; while much outside stock that was not perfectly hardy, but usually goes through the winter without trouble here, has been badly frosted. The Sacramento district has been visited with snow twice since Christmas, and all the higher hills around San Francisco Bay were snow-covered January 28. Many estates have suffered very material damage from flood and washout, and the soil has been so wet as to make outside work almost impossible for practically the entire month.

# Department of Orthnithology

Under the Direction of the Committees on Bird Preservation and Propagation.  
National Association of Gardeners, L. H. Jensen, St. Louis, Mo., Chairman.  
American Association of Park Superintendents, Hermann Merkel, New York, Chairman.

## FRUIT-BEARING PLANTS FOR THE BIRDS AND ORNAMENTATION.

L. P. Jensen, Missouri.

AT this time of the year when our minds are engaged in the planning for the approaching spring planting, some attention should be given to arranging our plantations, that they will be an attraction to our native useful birds.

Fortunately the planting of plants in groups and masses is becoming more general; this gives the birds a splendid opportunity for shelter and nesting. The planting of various species of conifers is particularly to be recommended, to those who wish to attract a large number of birds; but I wish particularly to call your attention to those plants which are valued, in ornamental planting, for their abundance of brightly colored fruits.

These plants have not as yet received the attention, which they deserve, not only as subjects for ornamental planting, but also for their value of attracting and retaining a large number of useful birds, who are eager to take advantage of this supply of food, particularly at times when other food materials are scarce.

In places where an abundance of fruit of such plants are available, little damage will be done to the fruits of the gardens and orchards, by the birds. Such plants should, for this reason be planted to protect our domesticated fruits.

The following list of fruit-bearing plants is by no means exhaustive, but it includes some of the most valuable for the purpose of attracting the birds, as well as the best for ornamental effect. As it is essential that attention should be given to a succession of fruit throughout the year, the approximate time of the persistence of the fruit is given in the list, viz., July-Oct. indicates that fruit may generally be found from July to October, etc. The color mentioned, in all cases refers to the fruit.

### TREES AND SHRUBS.

- Amelanchier canadensis (Juneberry), and other species, brownish-black; September-March.  
Berberis thunbergii (Thunberg's barberry), scarlet; September-March.  
Berberis vulgaris (Common barberry), scarlet; September-February.  
Celtis occidentalis (Hackberry), dark brown; all year.  
Crataegus (Hawthorns), all species, red and scarlet; October-March.  
Cornus species (Dogwood), red, black and white fruit; July-December.  
Daphne mezereum (Wild pepper), orange-red; June-August.  
Diospyrus virginiana (Persimmon), reddish-yellow; October-March.  
Eleagnus angustifolia (Oleaster), yellow, silvery dotted; September-March.  
Ilex (Holly), all species, both evergreen and deciduous, red; October-May.  
Juniperus (Cedar), all species, blue, all year.  
Ligustrum (Privet), all species, black; August-March.  
Liquidambar styraciflua (Sweet gum), reddish-green; Fall.  
Lonicera (Honeysuckle), all species, bush and climbing, red, yellow and orange; July-January.  
Menispermum canadense (Moonseed), bluish black; June-October.  
Morus rubra and alba (Mulberries), reddish black; June-July.  
Myrica caroliniensis (Bayberry), grayish white; July-May.  
Nyssa sylvatica (Sour gum), black; August-November.  
Prunus pennsylvanica (Wild red cherry), scarlet; June-October.  
Prunus serotina (Wild black cherry), black; July-October.

- Prunus maritima (Beach plum), dark purple; August-March.  
Pyrus americana (American mountain ash), orange red; August-March.  
Pyrus aucuparia (European mountain ash), orange red; August-March.  
Pyrus florabunda (Flowering crab-apple), orange red; September-April.  
Rhamnus cathartica (Buckthorn), black; August-April.  
Rhus, species of; red, brown and crimson; all year.  
Rosa rugosa (Roses), and native species, red, scarlet, orange; May-March.  
Ribes (Gooseberries and currants), native species; red and black; June-September.  
Rubus (Blackberries, dewberries and raspberries), native species; red and black; June-September.  
Sambucus canadense (Common elder), black; July-September.  
Sambucus racemosa (Red-berried elder), red; June-August.  
Sassafras officinale (Sassafras), blue; August-October.  
Shepherdia argentea, silvery white; June-September.  
Symphoricarpos vulgaris (Indian currant), red; September-April.  
Symphoricarpos racemosa (Snowberry), white; September-April.  
Vaccinium, species, blue and red; August-February.  
Viburnum (High-bush cranberry, wayfarers tree, Haws, etc.), all species; black, red, crimson and blue; July-March.

### CLIMBERS.

- Ampelopsis quinquefolia and tricuspidata (Virginia creepers), blue; September-March.  
Celastrus scandens, orange; September-May.  
Smilax rotundifolia (Green briar), black; August-May.  
Vitis (Grapes), native species; bluish-black; August-May.  
Among the large number of herbs suitable for planting for the value of their fruit for bird food might be mentioned:  
Arisaema triphylla (Jack in the pulpit), scarlet; Summer.  
Actaea rubra, red; Summer.  
Actaea alba (White baneberry), white; Summer.  
Belamcandra chinensis (Blackberry lily), glossy black; July-April.  
Calla palustris (Marsh calla), red; Summer.  
Convallaria majalis (Lily of the valley), scarlet; Summer.  
Fragaria americana (Wild strawberry), red; June-August.  
Phytolacca decandra, purple-black, August-March.  
Smilacina racemosa (Wild spikenard), scarlet; Summer.

## HOUSTON'S (TEXAS) BIRD CAMPAIGN.

THE *Houston Chronicle* has inaugurated a campaign to arouse the interest of boys towards preserving the birds in the vicinity of Houston. Each day under the caption "Houston to Become the Song Bird City" it presents a practical article on bird protection, and in connection therewith offers prizes to the boy who would build the best bird house—the boy who would draw the best plans and specifications for a bird house—and to the boy who would write the best essay on the birds of Houston.

In one of its articles the *Chronicle* in urging the cooperation of the boys said:—

Time and again hunters have been admonished that not only is it a crime against society to kill songbirds which fill the air with music, but it is a positive financial injury to farmers. Every bird killed by gun or slingshot means more insect pests.

The boys of Houston are enlisting in a movement that means hours of pleasure, that teaches economy and that stands for justice and humanitarianism. No pleasure is so great, so sublime, as to hear the birds as they flutter about the windows and in the trees.

Boys are true sportsmen, as a rule, and true sportsmen do not kill birds that are beneficial. Slaughtering of birds by airgun and slingshot is being replaced by the building of bird houses that will save the birds.

# AMERICAN ASSOCIATION OF PARK SUPERINTENDENTS

OFFICIAL COMMUNICATIONS.

EMIL T. MISCHE, President, Portland, Ore.

R. W. COTTERILL, Sec.-Treas., Seattle, Washington.

## ASSOCIATION NOTES.

Richard Iwerson, formerly superintendent at Calgary, Canada, and more recently as landscape engineer at the Washington State Reformatory, has been appointed park superintendent at Everett, Washington, a thriving young city of 30,000 population on Puget Sound, near Seattle. As Mr. Iwerson is both an engineer and designer, as well as having had years of experience in park work, he should make a good all around park executive for a city like Everett.

City Forester John Boddy, of Cleveland, has been experimenting with the development of a single, hardy violet that will combine the fragrance of the German and English violets with the hardiness of our native grown varieties. Mr. Boddy proposes if he succeeds to plant the low lying sections of the Cleveland park system with beds of this new violet, and if they are successful they will then be given out to the nation.

H. G. Clark, who for many years has served as engineer for Keney Park in Hartford, is now division engineer on the staff of the city engineer of Hartford.

Fred C. Green, of Providence, has been able to say "I told you so" to the boys of the Brown University football team, who recently journeyed to the Pacific coast and met defeat at the hands of the Washington State College team. Fred made the trip to the coast last fall, and went home fully convinced that the West can hold its own, or even show the way to the conservative East, in more ways than one.

Through the courtesy of the division of landscape extension of the University of Illinois, our members will receive their recent booklet, "The Prairie Spirit in Landscape Gardening," a handsome publication with one hundred fine illustrations, and replete with good ideas and suggestions. This is a most valuable document, and our association has been honored by its full membership being supplied gratuitously, a courtesy which will be appreciated by all.

The executive committee will this month probably dispose of the question of the exact date of our New Orleans convention, as many members have been making inquiries in order that they may make their vacation plans. Any suggestions from members as to a preference of date during September or October will be appreciated, and should be forwarded to the secretary at once to be submitted to the committee. An announcement will probably be made in the March number.

## PERSONAL AND OTHERWISE.

The 1914 annual report of the Kansas City board of park commissioners, just issued, contains a special article by Assistant Executive Officer Ralph Penedit, one of our members, on "The Construction and Maintenance of Boulevard Pavements." As Kansas City has the most extensive boulevard system of any American cities, and as the article includes very complete construction and maintenance details, with specifications for various types of pavements, based on fifteen years of practical experience, it is a very valuable article worthy of more than passing notice; in fact a valuable reference.

Park Superintendent Clarence L. Broek, of Houston, Tex., made a hit with the mayor and other city officials during the holiday season by supplying their offices with blooming plants from the department green houses. A little stunt like this is worthy of emulation as it is bound to have a tendency to promote good feeling toward the park department by the powers that be, and as the display is in a public office, it can hardly be criticised.

Fred C. Alber, superintendent at Cleveland, has incorporated in his annual report recently issued some valuable practical information regarding the operation of a variety of park service for which Cleveland is noted, such as municipal bathing beaches, dance halls, refreshment stands, bath-houses, etc. Cleveland has had wonderful success with these features, many of them on a three-cent fee basis, and all have shown a neat profit, as well as affording efficient service at nominal cost.

Warren H. Manning, landscape designer, has moved his execu-

tive offices and draughting rooms from Boston to North Billerica, Mass. He will, however, still continue a Boston office for consultation purposes. Mr. Manning recently delivered an address on "Park Administration" before the New York convention of the American Society of Landscape Architects.

George H. Hollister, superintendent of Keney Park in Hartford, Conn., has been honored by election as president of the Connecticut Horticultural Society. Mr. Hollister is also the moving spirit in the New England Park Institute, as well as an active member of our association.

California State Forester G. M. Homans is arranging to have prepared and published for free distribution an extensive bulletin dealing with ornamental trees suitable for planting in California, a book that will fill a long-felt want. A tentative outline for the work has been approved, and it will be largely the work of A. W. Dodge, Deputy Forester. It will deal with both native and foreign trees known to do well here, and will take up the various parts of the State separately, owing to the great variation in conditions.

The city of Sacramento, Cal., is doing a great deal of tree planting along the residence streets, the planting campaign being very energetically promoted by the *Bee*, the leading daily paper of that city. Park Director W. E. Briggs has lately been instructed to buy a lot of tulip and Oriental plane trees for street planting.

California State Gardener Wm. Vortriede, through an arrangement made with the Capitol superintendent, is laying out the grounds for high schools all over the State. He has recently been at Delano, Kern County, getting data on which to plan the arrangement and planting of a 20-acre high school ground. Mr. Vortriede says there is a strong tendency among the directors of high schools in California to provide larger grounds, which makes attractive garden work possible.

## PLAYGROUND ROLLER SKATING.

Vice-president L. P. Jenson, of St. Louis, submits the following for consideration of the members:

"Among outdoor recreations for children, none seem to be more popular in St. Louis than roller skating, and I have often wondered by this healthy outdoor activity has not been taken care of by the designers of playgrounds.

"Roller skating is principally practiced either in commercial skating rinks; or, as far as city children are concerned, on sidewalks or streets which have a smooth asphaltic surface. As these streets generally have considerable traffic, particularly of rapidly moving motor vehicles, it goes without saying that whenever such a street is extensively used for roller skating, the invariable result is danger of injury to the children and obstruction to traffic. The children might of course be forcibly ejected from the street by the officers of the law, which is sometimes, but not always, done, but it does seem to me that this healthful recreation should receive the attention of playground designers everywhere, and particularly in those sections of the country where weather conditions permit of little or no skating on ice."

Here is something which Cleveland has perhaps overlooked, a chance for a municipal roller skating rink; or, better, yet, a municipal ice skating rink at three cents per.

## "THE PRAIRIE SPIRIT IN LANDSCAPE GARDENING."

"The Prairie Spirit in Landscape Gardening," by Wilhelm Miller, aims to show "what the people of Illinois have done and can do toward designing and planting public and private grounds for efficiency and beauty."

The first eleven chapters are devoted to various phases of the prairie style of landscape gardening, which aims to fit the peculiar scenery, climate, soil, labor and other conditions of the prairies, instead of copying literally the manners and materials of other regions.

The prairie style is defined as "an American mode of design based upon the practical needs of the middle western people and characterized by preservation of typical Western scenery, by restoration of local color, and by repetition of the horizontal line of land or sky, which is the strongest feature of prairie scenery." This repetition is accomplished by means of "stratified

plants," which have strong horizontal branches or flower clusters, like certain hawthorns or thorn apples.

To applying the principle of restoration several chapters are devoted. "A Free Restoration of Ancient Illinois" shows a series of landscapes under glass, suggesting the beauty of vanished and disappearing types of scenery. "Restoring the Romantic Types of Illinois Scenery" names eight types different from the prairie (lake bluffs, ravines, river banks, ponds, rocks, dunes, woods and roadsides), and gives examples of actual restorations in Illinois. "Can the Prairie Be Restored?" discusses prairie parks, miniature prairies, prairie gardens, prairie borders, wild and cultivated prairie, the broad and the long views, and methods of restoration. "Restoration Applied to Farmstead and City Lot" shows what can be done when little money and space are available.

To applying the principle of repetition Chapter VII is devoted. This explains how the prairie spirit has been brought into the daily lives of rich and poor in city, suburbs and country in all parts of the prairie state.

The reader will naturally ask whether the prairie style is only for the prairie. Chapter VIII replies that it has already been adapted to all other kinds of scenery found in Illinois.

A chapter on literature is the last of the series devoted to the prairie style of landscape gardening.

"The Showiest Plants in the World" deals with the old problem of good and bad taste in a new spirit. The author assumes that the motives are honorable and the plants attractive, and that the whole question of good taste is simply one of self-restraint and fitness. Guided by these principles the reader may readily decide what constitutes good or bad taste in the use of bedding plants, annual flowers, variegated foliage, everblooming flowers, "quick growers," spectacular forms, weeping trees, cut-leaved plants, double flowers and formal plants. The evolution of taste is described.

The beauty of the illustrations may tempt some inexperienced persons to fancy that "landscape gardening is only for parks and rich folks." On the contrary, so far as self-expression goes, landscape gardening offers as great an opportunity to every living soul as music does, or any other fine art. Special care has been taken in every chapter to show how people with little money or space may apply the principles of landscape gardening. A single prairie rose bush beside the door may be all that some one can afford, and that is enough to suggest the prairie spirit.

Over fifty of the pictures indicate small or moderate means; only ten indicate private wealth. About thirty involve public expenditure, but many of these pictures show trees or shrubs that can be grown as well by the poor man as the rich. Thirty-three species of plants native to Illinois are pictured.

While "The Prairie Spirit" was prepared primarily for the people of Illinois, its principles are applicable throughout the Middle West. Indeed, conservation and restoration are applicable everywhere.

## CONVENTION OF THE AMERICAN ACADEMY OF ARBORISTS.

THE first annual convention of the American Academy of Arborists was held in the City Hall, Newark, N. J., recently. The business session was opened by President Frank L. Driver, of the Newark Shade Tree Commission. The address of welcome was by Spaulding Fraser, City Counselor, who represented the Mayor of Newark, who was unable to attend on account of illness.

Herman W. Merkel, President of the Academy, responded with a few words on the object of the Academy.

Papers were read on "The Ministry of Trees," by Secretary Carl Banwert of the Newark Shade Tree Commission; "The Tree Faker" by Herman W. Merkel, Chief Forester of New York Zoological Park; "Arboriculture as a Profession," by J. J. Levison, M. F., of Brooklyn Park Department; "Fungus Problems of Interest to Arborists," by R. Brook Maxwell, Forester of Baltimore, Md.

At noon, the members were entertained at lunch by President Augustus V. Hamburg, of the Newark Board of Trade, following which a tour of inspection was made of the arboricultural work in the city of Newark. In the evening the visitors became the guests of the Newark Shade Tree Commission at a banquet over which President Frank L. Driver presided.

Herman W. Merkel was re-elected president and J. J. Levison secretary for the coming year.

## IS "LANDSCAPE FORESTRY" A MISNOMER?

(Continued from page 69.)

ence of the most horrible examples of how not to do landscape gardening, which no practical gardener would be capable of perpetrating. It is impossible by means of words to convey much idea of what these were like, but the following points in a few cases will carry something to the imagination.

One of these novices was called in to make a plan for a small place of about five acres. After completion it was found that the plan could not by any ingenuity be made to fit the ground and, among other incongruities, it contained a rustic bridge. The designer had, however, neglected to specify where the water to flow under it was to come from as there was never any water, still or running, where the bridge was planned to be erected, the only water on the estate being that derived from a well three hundred feet deep and the nearest stream was three miles away.

In a city where the appointment is political and therefore the holder need have no qualifications, the park superintendent asked to have a landscape gardener appointed as his assistant and the job was given to a young man just out of college. One of the first attempts of the latter was to destroy a good lawn by cutting a large bed in the middle of it and "bedding out" in March some three hundred Easter Lilies in full bloom from a greenhouse. Three days were more than sufficient to bring them in a condition for the dump; Astilbes were put in their place which required a less time for their destruction.

As this lawn was partially surrounded by naturally arranged shrubbery the discord thereby created may be imagined and it caused a deal of amusement in the city at the time, even among those who did not claim to have much knowledge of gardening, and many desired to know if that was the style of landscape gardening taught at college. This same man committed the vandalism of destroying some of the late Frederick Law Olmsted's classic work because it interfered with the view of the pedestal of a statue!

More recently the landscape work upon two new estates was given into the hands of a young college man. His plans proved him to be absolutely unacquainted with the merest elementary principles of art in the garden and that he had no knowledge whatever of horticulture. His planting plans called for huge thickets of shrubs all spaced exactly eighteen inches apart; beds of rhododendrons were in positions where they received all the sun at all seasons and herbaceous perennials were quite unprovided for; perhaps he had never heard of them.

These are only a few out of numerous examples which could be given and I venture to assert that no practical gardener could have possibly performed worse work than that I have seen in various parts of the country as the result of the employment of professional landscape gardeners.

College education may have some value, even if nothing more than that set forth by a prominent public man a few years ago, who stated that every one who could should go to college if only to find out the uselessness of college education in the practical work of life.

Every man should consider himself bound to acquire something or somehow the scientific principles of the profession he proposes to adopt; but the fullest knowledge of these principles alone will not carry him very far and, as a late instructor in horticulture myself, I well know the limitations of class room work without the opportunity to gain practical experience.



## TREE SURGERY A PATENTED DEVICE.

RESPONDING to a request for information regarding proceedings begun by the Davey Tree Expert Co., an officer of that company has replied as follows:

"You are correctly informed—we have instituted proceedings against a number of firms, operating more or less extensively throughout the East, for infringement of patent rights. In order that you may see the justice of such action, it will be necessary to give you a brief history of this profession.

"A number of year ago, Mr. John Davey, after years of study along agricultural and horticultural lines on both sides of the Atlantic, specialized in the care of trees and finally, published a book known as 'The Tree Doctor'. This book, even though quite crude as judged by present standards, contained many truths of vital importance and accomplished a number of things. As the book became more widely circulated, a great movement for the better care of trees, gained impetus and, at the same time, there arose a demand for trained men to do the things which Mr. Davey had pointed out as necessary for the well-being of their trees.

"In order to solidify the organization, Mr. Davey sought protection under the U. S. Patent Laws and, about the same time, incorporated "The Davey Tree Expert Company". The U. S. Government found that we had invented new and useful methods and granted us patents on most of the valuable mechanical processes used in the practice of Tree Surgery.

"By this time, the movement had become so popular, that there was being expended between one and two million dollars annually. Many marvelous 'cure-alls' and 'elixirs of life' were devised by 'butchers and bakers and candle-stick makers' so that they too, might 'get in on' this money which was being lavished on trees. A great many fakes were exposed by the newspapers and magazines but many, who should have been exposed, seemed to thrive.

"About the year 1912, the movement had reached its height—it was a very simple matter to secure business. People, apparently, were anxious to spend their money to have their trees preserved and were willing victims of almost any fellow who came along posing as a 'tree doctor'. The re-action finally came—the buying public began to realize that a very large percentage of the money they had spent, was wasted and, what is still more serious, their trees were in worse condition than they were prior to the treatment.

"In the meantime, it had been conclusively demonstrated that where the work had been done with the exacting care which a reliable surgeon exercises; where the wood had been disinfected; where the 'water-shed' groove had been used just inside the edge of the cavity to exclude moisture; where the cavity had been thoroughly reinforced with steel braces and where the sectional process of filling had been employed, the work was in perfect condition and the fillings were healing over beautifully—in fact, many have, long since, healed completely over.

"Any reliable tree man will tell you that there are certain processes of carving a cavity which are absolutely right and must be adhered to; that there are certain mechanical braces which are indispensable; also that the cement must be put in in sections to allow for the sway of the tree;—these processes and devices of which he will tell you, are patented.

"Within the last two or three years, most tree men who had previously avoided infringements of our patent rights, have come to realize that it is impossible to do

Tree Surgery without infringing in one or more respects. We did not object to slight infringements because every good job that is done, boosts the business as a whole. However, they became so emboldened and were so flagrant in their violations, that it became necessary to bring suit.

"Unfortunately, when the Government grants a patent, it does not say at the same time, 'I will protect you from infringement.' We propose to protect the public, and, at the same time, to reap the reward of years of labor, the investment of a large amount of capital in experimental works and the faithful adherence to an ideal which is 'Quality First' work always.

"We have established the validity of our patents in the Federal Courts on several occasions and expect to protect ourselves in the future just as any inventor would."

## THINGS AND THOUGHTS OF THE GARDEN

(Continued from page 56.)

that a noted hybridist who had carried out many crosses and raised some fine commercial varieties of *Amaryllis*, did not know anything of the physiological processes that result from fertilization, and further, had names of his own for the stamen, pistil and ovary. And a foreman under whom the present writer worked at one period would scarcely have been guilty of sprinkling both soot and lime together in a moist wood frame and closing it tightly after putting his newly potted *Cinerarias* in it, had he known or thought of the pungent ammonia that would immediately be thrown off. What actually happened was that the edges of the leaves of the plants were badly scorched. It will be said that his common-sense should have told him, or that his practical experience was at fault. Perhaps. But what is common sense? On what is practical experience based? Is it not on what has been discovered?—discovered by us or for us? And if this is true, and it is, then what is science? We all know the definition of science—"exact knowledge." That's what we're after, even the most rabid of the merely "practical" school of our fellow-craftsmen. The danger is all right! it is the *little* knowledge that's the dangerous thing.

\* \* \* \* \*

It is their belief that sufficient knowledge is beyond their acquiring that keeps many, perhaps most, of our men from beginning the attempt. Let it be as easy for us to get this knowledge then as possible. This is where the National Association of Gardeners can step in. It is already making a start, and with the present men at the head and others that will follow them, fuller opportunities will surely be afforded. One looks ahead to the time when a circulating library will be part of the scheme of things. Men have lived, learned, died, and left us the result of their findings in books. We can save ourselves going over the same ground by reading these books, and we can continue, where they left off. That is how our Laws have come down to us. At least their writings can give us suggestions. By getting away as far as possible from the merely empirical stage of garden craft we will find it easier to solve the problem I first spoke of, namely, setting up a barrier against the interloper. We believe that quality tells, that merit, like truth, "will out," that intelligent owners of estates appreciate and will pay for able, efficient supervision of their gardens, and it is therefore up to us to become equipped. If we don't believe it then the sooner we close the offices of the association the better.

## PLANNING THE HOME GARDEN.

(Continued from page 58.)

bell; Aster Feltham Blue; Aconitum Wilson; Anchusa Italica opal; Clematis recta flore pleno; and the almost ever-blooming *Viola cornuta atro-purpurea*.

Added to the strictly herbaceous perennials should be some varieties usually treated as biennials, including Canterbury Bells, Daisies, Forget-me-nots, Pansies, Foxgloves, Rockets, and Hollyhocks, although the last named is sometimes perennial. For purely edging purposes, the ferns of *Viola cornuta*, the hardy Pinks, Armerias, *Campanula carpatica*, and dwarf Phloxes like *subulata* and *divaricata* are splendid.

Borders of irregular outline backed by shrubs make ideal locations for perennials and bulbs, and if in planting the different patches are carefully dovetailed, gaps will not be conspicuous, and will be easily filled by using summer bulbs or annuals or sowing the latter. Some scented plants like Heliotrope, Lemon Verbena and scented Geraniums should always be included. The bulbs which should be planted in October or early November may be set in patches or hands along the edges. Don't keep all near the front. Let the Darwin and cottage Tulips, Narcissi, Spanish and English Iris, Montbretias, etc., be dotted in little clumps all over the border.

In using Narcissi, it is well to remember that the big Trumpet Daffodils are in many cases less hardy than the short trumpet section. Of the large ones, Emperor, Empress, and Glory of Leiden are a reliable trio. Practically all of the short trumpets in the Leedsii, *Burbridgei incomparabilis*, and *poeticus* sections will improve from year to year, while the newer poetaz varieties are quite hardy. Although I would not condemn the planting of early Tulips, they are far more fleeting than the late section. The latter are better if left undisturbed from year to year under the same conditions the early Tulips rapidly deteriorate. Spanish Iris is sometimes classed as tender, but I have never seen it injured on well drained land. I have had bulbs unmulched exposed to 25 degrees below zero without injury, and I have in mind clumps which have been flowering for eight years undisturbed.

The smaller and earlier flowering bulbs such as Crocus, Snowdrops, Scillas, Chionodras, etc., can be used near the front of the border, or if perchance there is a location where early mowing is not done, grass is the ideal place for them. Bulbs, however, are a big subject and can merely be mentioned here.

A few words on Liliiums, the most regal of all hardy bulbs—*Lilium candidum* arrives in early September and cannot be planted too soon after arrival. Cover the bulbs four inches deep. A few other really reliable lilies are *Henryi*, *speciosum* in variety, *Hansonii*, *tigrinum*, and the glorious new Chinese varieties, *Myriophyllum (regalo)*, and *Sargentiae*. These latter are still high-priced, but in a few years will be as cheap as *speciosum*. I have seen acres of *Myriophyllum* flowering on a hillside not six miles from the Boston State House, and I consider this the queen of all hardy liliiums. Bulbs of varieties named should be planted in fall as soon as received, and covered nine to twelve inches deep; some sharp sand can be placed below and above them. No fresh manure must come in contact with them. Use the manure as a mulch during spring and summer, instead. Where *Gladioli* are used, plant them six inches deep; this will keep the stalks erect without staking.

Annuals form the leading feature in many gardens

and deservedly so. In fact, good gardens may be had where nothing else is used. Varieties for cutting should, if possible, be given a little plot or square to themselves. Sweet Peas are the most useful and popular of all annuals. If possible a trench should be prepared for them in the fall. Sweet Pea culture boiled down may be summarized as follows: Manure liberally, spade deeply, sow early, support promptly, mulch carefully, water freely and pick persistently. Also sow thinly or thin severely. Cover the seeds 2 1-2 inches at sowing time; leave the tops of the trench somewhat hollowed; never hill up the seedlings as often advised in seed catalogues. This pernicious advice invariably breeds stem rot and has done more to discourage Sweet Pea culture than anything else. Remember that Sweet Peas, if given the necessary space to develop are bushy habited, and are better left four inches apart in the rows, rather than four plants to the square inch as we too often see.

Asters follow Sweet Peas in popularity, and by making three sowings, two in the frame and one outdoors, a long season of them may be had. Some other annuals splendid for cutting are: Stocks, *Salpiglossis*, Lupins, Larkspurs, Candytuft, Scabiosa, Penstemons, *Hunnomania* (Mexican Poppy), Mignonette, *Nasturtium* (on moderately poor soil), Snapdragons, *Centaureas*, Cosmos and Shirley Poppies.

Geraniums, Cannas, Fuchsias, Ageratums, Begonias and other plants have a place in the garden, but I have already named more varieties than the average home garden can contain. It is not wise to plant too many varieties and to crowd the plants. Whatever you do try to do well. Plant as informally as possible; this style of planting is far the most pleasing and satisfying. Ascertain the heights and habits of plants before setting them out; this will obviate added work later. Try to blend color harmoniously. Keep the strong colors at the sides or extreme ends of the garden. In filling entire beds with annuals, perennials or roses, remember that one solid color is in better taste than a conglomerate mixture.

When watering, do it thoroughly or not at all; constant dribblings are more harmful than helpful. As winter sets in, mulch beds and borders of bulbs and perennials with leaves, strong manure or some other suitable material. Scatter a little old manure over this to hold it in position, and don't be in too great a hurry to remove this when the first warm days come in late winter.

Encourage the birds by not only planting berried shrubs for them, but provide a bird bath, nesting house and feed in winter. Birds are man's best friends; without them, horticulture and agriculture would be impossible. The more we can encourage them to visit our gardens, the fewer pests will afflict our plants.

Make careful note of desirable plants at exhibitions or when visiting flower gardens and nurseries. Get into the habit of buying and planting more shrubs and perennials in fall rather than spring; they do vastly better in nearly all cases and this relieves the spring strain. Don't be discouraged because you fail one season with a plant you admire; try again under different conditions the following season. Anyone who loves the garden can see beauty in it at all seasons. Nature's boundless workshop is never idle, and even when the eye sees snow and ice in supremacy, we know that very soon signs of activity will appear where the melting snows allow the warming rays of the sun to kiss mother earth.

## FRAGRANT ROSES FOR THE GARDEN.

MANY people value fragrance as the chief qualification in the selection of varieties of roses suitable for outdoor growing, especially if they are intended to be used as cut flowers, and it is fortunate that many of the choicest hybrid Teas combine entrancing beauty with delicious perfume.

In seeking such roses for his garden the novice must often rely on the descriptions in the catalogues, but unfortunately, some of these descriptions are not strictly accurate, and especially in the matter of giving information as to the relative amount of fragrance they possess, writes H. G. Reading in *The Modern Gladiolus Grower*. My own experience, he says, in testing quite a good many varieties prompts the above statement. In fact, four of the most deliciously scented roses that I have in my garden are described in all the catalogues I have ever seen quite minutely as to their other qualities and habits, but not a word that they are fragrant in the least degree. The novice might thus overlook the most desirable ones to be obtained. Other roses that are woefully weak in fragrance are sometimes given credit for being "highly perfumed." This misstatement doubtless results from the habit of copying word for word from the original prospectus of the introducer, who generally claims every desirable qualification for his latest creation. Not only do the catalogues pay little attention to fragrance in roses, but in many of our best works on roses and rose culture this quality is slighted or entirely ignored.

A list of delightfully fragrant roses that would embrace a good variety of colors would necessarily begin with *Killarney*. I mention that sterling variety first because it probably stands first and foremost as the world's best rose to date. It certainly is the most popular. Then might follow *Madame Jules Grolez*, usually described as bright china rose in color, even more fragrant than *Killarney*, and as free and constant a bloomer, whose charming buds always come perfect, making it an ideal rose for the boutonniere: *Chateau de Clos Vougeot*, rich crimson, shaded black, probably the darkest colored hybrid tea rose yet produced, having fine, stiff stems for cutting and the true old fashioned rose fragrance highly intensified. In white, *Entente Cordiale*. (*Pernet-Ducher*), is most heavily scented, almost as strongly as a tuberose, but the rose is not quite as hardy as *Kaiserin Augusta Victoria*, a reliable old favorite, less fragrant but quite similar in form and color, both having a somewhat yellowish or creamy shading. If a fragrant yellow rose is wanted, *Madam Ravary* will produce almost continuously on well established plants, large flowers of moderate fulness, with good stems for cutting.

*Mad. Caroline Testout* is a bright satiny rose colored variety that embraces fragrance in addition to its other sterling qualities. It is exceptionally hardy and very popular, having all the desired qualifications, with no faults, unless large and thorny pricklers might be objected to.

*Mary, Countess of Ilchester*, is a comparatively new rose of English origin which is making good here. It is hardy, and as profuse and continuous a bloomer as *Killarney*. The flowers are of a lively, brilliant carmine in color, somewhat flat in shape, but very showy; and in a bed of mixed varieties this rose will stand out conspicuously. Its fragrance is not strong, but of true rose quality.

If additional hybrid teas are desired, *Betty*, *Pharisaer*, and *La Detroit* could also be included, as each is endowed to a large degree with pleasing fragrance.

A list of fragrant roses would be incomplete without

mention of *La France*, an old rose with wonderful fragrance that is pleasing and distinct from that of any other variety. Unfortunately, it does not succeed with every person, as its blooms do not always open perfectly, especially in wet weather; and they often come balled, refusing to open at all. It is also considered a rather short lived rose. To those who wish to try it I would offer this advice. Give it moderately poor soil and not much attention as compared to that demanded by other choice varieties. It is one of the very few roses that does not appreciate coddling and high and rich cultivation.

Another rose that I have not placed near the top of my list, is *Duchess de Brabant*, although its fragrance would entitle it to a position there. But it has little else to recommend it, and being a true tea rose, it is not hardy enough for outside growing in the northern sections.

*Gruss an Teplitz*, a vigorous growing variety bearing clusters of large double dark crimson fragrant flowers in the greatest profusion continuously from early June until frost, is preeminently the rose for garden decoration, and should be planted liberally for that purpose. Its weak stems, however, make it valueless for cutting.

All the varieties I have enumerated above are not quite as hardy as the Hybrid Remontants or so-called June roses, and in the extreme north would require winter protection, such as being hilled up with earth for 8 or 10 inches, after the ground is first frozen in November.

There are not so many fragrant roses in the misnamed Hybrid Perpetual class, which is declining somewhat in public favor because of the short season of bloom that characterizes most of its varieties, yet there are a number of old favorites that are still popular and much called for because of being exceptions in their habit of bloom, or for their other good qualities. About all red roses are endowed liberally with true rose fragrance, and the big red roses of this class are especially in demand, chiefly for their size and color. Some of the very oldest of these have not as yet been surpassed, and such valuable red roses as *Fisher Holmes*, *Senator Vaisee*, *Marshall P. Wilder* and *General Jacqueminot* will not soon become entirely discarded. Likewise, the popular old rose, *Paul Neyron*, has earned its claim to immortality on account of the enormous size and usual perfection of the huge, fragrant pink blooms which come more or less continuously throughout the summer on stems as long as those which characterize *American Beauty*, a fragrant rose I omit because I am considering exclusively outdoor roses for the garden, and this variety is generally worthless for that purpose, requiring considerable skill to bring it to perfection under glass. If you have a so-called *American Beauty* in your garden that bears good roses, the chances are that you owe a debt of gratitude to some accommodating dealer, more considerate than honest, who furnished some other—superior—variety.

For an all-round, dependable rose for the home grounds or garden, probably no one surpasses or even compares with *Mrs. John Laing*, a fragrant pink rose of easiest culture. Coming perfectly on long, thornless stems, adorned clear up to the bloom with ideal, mossy foliage, each flower is a bouquet in itself, and as it is a true everbloomer, a rarity in its class, and always reliable, it may well be termed "everybody's rose."

What a lamentable pity that the most beautiful rose the world has thus far produced is absolutely lacking in fragrance! *Frau Karl Druschki*, that gorgeous and immaculate emblem of purity, white as the driven snow, as free and continuous of bloom as a tea rose, lacks only that one qualification to cause its name like Abou-ben-Adhem's, to "lead all the rest."

## OFFER TO GROWERS OF NEPHROLEPIS.

(Continued from page 70)

*N. exaltata* (from Porto Rico), *bostoniensis* (Becker), *Piersoni*, *Piersoni* "improved", *elegantissima*, *elegantissima* "improved", *elegantissima compacta*, *superbissima*, *muscosa*, *viridissima*, "dwarf Boston"; *Barrowsi*, *Whitmani*, *Whitmani compacta*, *magnifica*, *gracillima* (?); *Amerpobli*; *Clarki*; *Smithi*; *Craigii*; *robusta*, *Wanamakeri*; *Scotti*; *Wagneri*; *falcata*; *Anna Foster* (?). *Wm. K. Harris*, *M. P. Mills*, *Roosevelti*, *Teddy Jr.*, *Scholzeli* (typical two-pinnate), *Scholzeli* (3-pinnate, erect lvd.), *Scholzeli* (3-pinnate, spreading); *Giatrasi*, New York; *todeoides* (?). *Splendida*, *Goodii*, *Verona*.

List 2. Varieties of other special than *N. exaltata*; identification not yet verified:

*N. cordifolia*, *tuberosa*, *tuberosa plumosa*, *pectinata*, *Duffii*, *rivularis*, new species (?), *biserrata* (*davallioides*?), *biserrata furcans*, *hirsutula*, *hirsutula tripinnatifida*, *floccigera*, *acuminata*, *philippinensis*, *superba* (or *Westonii*).

It should be noted that of the varieties named in List 2, only *tuberosa plumosa*, *tuberosa*, and *biserrata* (*davallioides*) *furcans*, have so far been found to be in American trade. Most of the others are varieties requiring stove treatment, and of trade value only to specimen collectors.

Besides these, other forms to the number of ten or fifteen are being grown at the Garden. Some of them are possibly of no commercial value, but others are of value and are likely to be introduced eventually. The latter have been sent to the Garden with the understanding that they will not be allowed to go out, and the writer will be glad to receive new varieties from any dealer on a similar understanding, and if requested, to give an opinion as to their values based on a comparison with other forms.

R. C. BENEDICT,  
Brooklyn Botanic Garden.

## OUR COVER ILLUSTRATION.

OUR front cover presents the reproduction of a photograph showing a bed of *Fresias*, growing just outside the limits of San Francisco, California, and in full flower during the month of February.

## AN AMATEURS' GARDEN PLOTTING.

(Continued from page 62)

of nerve they were, both in their planting and in their frequent marches to the cellar. When I saw the man-of-all-work instructing the Professor in a new step of the turkey trot, just within the cellar doors, suspicion born of the garlic episode became stern conviction. That night when both had departed, arm in arm, for the village, I took my electric flash lantern and went over to the Van Saltyne's estate to inspect their work.

First damnatory evidence, the broken lock on the wine cellar door; second, the mournful corpses of no less than twenty quarts of Chateau Margaux, cognac and heavy Bordeaux scattered over the cellar floor. Then out to the newly planted gardens I went and each little seed packet propped on a stick above fresh turned earth came under the eye of my searchlight. Ah, sad and vicious confusion! Salsify and endive were germinating in the hanging porch baskets. Whitehead cauliflower was advertised to be 'neath the surface of the window boxes about the proud front of the Van Saltyne mansion. The first green tentacles of Bermuda onions were pushing through the soil of the pansy bed; nasturtiums were planted in hills where corn had been last year and tiger lilies sported their photograph over the bed that had so recently nurtured the lowly tomato.

"Really, Cedric, it's terribly too bad for the Van Saltynes," Genevieve gave her opinion when I had told her the result of my night prowling. "but then, our place will appear all the more beautiful by contrast."

My wife always looks on the bright side of everything.

I hardly know how to set down the details of the near-tragedy that fell upon The Craggs a few days after the revelation of the Professor's gardening. Perhaps the simplest and quickest way will be the best.

I went to town, of a blithe morning, promising to get in touch with a German landscape artist—French had been barred—and to order him to work on our place immediately. Genevieve said she was going to go over the aesthetically logarithmic map of the grounds for a last inspection; she was sure it was right, but she wanted to be "just absolutely." With a final injunction not to get too tangled up with those coefficients and equations, I sped for the train. Near noon my office telephone buzzed. The voice of Dr. Barkum, the Kittypussy physician, summoned me to my home—"Nothing serious; but you'd feel better to be with her."

It was Barkum himself who met me at the door of The Craggs two hours later.

"Buck up, man!" he reassured. "The wife's all right. Just a little attack of hysteria due to brain fag, I should say. She's been calling for you. Says she can't tell anyone but you what all the trouble's about."

Up the stairs in a bound and into Genevieve's bedroom. There lay my girl, whitely beautiful, her great eyes yearning. In an instant her head was buried in the angle of my coat sleeve and she was sobbing brokenly.

"Oh, Cedric! Cedric! It's all gone! Our—our—oh—oh—hoh!"

"What, precious? What's gone?"

"Our dream—of—of—The Craggs b—beautiful!"

"My dear!"

She lifted starlike eyes to mine and hurried on breathlessly:

"Cedric, after you had gone this morning—I—I went over the map again—just to be s—sure and—and—oh, it is too terrible!"

"Go on, little girl," I said grimly. "And what?"

"Why—why, I found I'd made a mistake. I'd drawn the whole map without counting—counting the house, Cedric! I'd plotted a solid half acre of garden b—beautiful right—right over the house!"

For a minute I sat stunned, Genevieve's fingers twining in agony through mine. Then calmly I spoke:

"We'll move the house, then, dearest. I'll buy two more lots and we'll put the house over there—then go ahead with the garden beautiful. Won't disturb your plans the littlest smitch."

"No—no, Cedric!" This with a little moan. "I'm through—p—planning. It's all gone—behind us. All we want now is—a—little grass and—and—" Her voice died in her throat.

Silence for a full minute. Then I bent my head close to hers and whispered:

"And a couple little old verbenas, dearie."

"Yes—yes." Ah, what peace was in her eyes now; how like a tired child's her smile! "And maybe a pear tree to sit under twenty years from now."

"One thing more," I put in jauntily, "Whitehead cauliflower in the window boxes—like the Van Saltynes."

"Yes, Cedric, and—a Congo sleeping lily—in the—the—sleeping bag."

## NATIONAL ASSOCIATIONS

- National Association of Gardeners.**  
M. C. Ebel, secretary, Madison, N. J.
- Society of American Florists and Ornamental Horticulturists.**  
John Young, secretary, 54 West 28th st., N. Y.
- American Carnation Society.**  
A. F. J. Bauer, secretary, Indianapolis, Ind.
- American Dahlia Society.**  
Joseph J. Lane, secretary, 11 West 32d st., N. Y.
- American Gladiolus Society.**  
Henry Yonell, secretary, Syracuse, N. Y.
- American Peony Society.**  
A. B. Saunders, secretary, Clinton, N. Y.
- American Rose Society.**  
B. Hammond, secretary, Fishkill, N. Y.
- American Sweet Pea Society.**  
H. A. Bunyard, secretary, 40 West 28th st., N. Y.
- Chrysanthemum Society of America.**  
Charles W. Johnson, secretary, Morgan Park, Ill.
- Women's National Agricultural and Horticultural Association.**  
Miss Margaret Jackson, secretary, Englewood, N. J.

## LOCAL SOCIETIES

- Bernardsville Horticultural Society.**  
W. G. Carter, secretary, Bernardsville, N. J.  
First Monday every month, Horticultural Hall, 7:30 p. m., Bernardsville, N. J.
- Boston Gardeners' and Florists' Club.**  
William N. Craig, secretary, Brookline, Mass.  
Third Tuesday every month, Horticultural Hall, Boston, Mass., 8 p. m.
- Cleveland Florists' Club.**  
Frank A. Friedley, secretary, 95 Shaw avenue, East Cleveland, Ohio.  
Second Monday every month, Hollenden Hotel, Cleveland, Ohio.
- Cincinnati Florists' Society.**  
Alex. Ostendorp, secretary, Cincinnati, Ohio.  
Second Wednesday every month, Jabez Elliott Flower Market.
- Connecticut Horticultural Society.**  
Alfred Dixon, secretary, Wethersfield, Conn.  
Second and fourth Fridays every month, County Building, Hartford, Conn., 8 p. m.
- Detroit Florists' Club.**  
R. H. Wells, secretary, 827 Canfield avenue, Detroit, Mich.  
Third Monday every month, Bomb Floral Hall.
- Dobbs Ferry Gardeners' Association.**  
B. Harms, secretary, Dobbs Ferry, N. Y.  
Last Saturday every month.
- Dutchess County Horticultural Society.**  
Herbert G. Coffan, secretary, Wappinger Falls, N. Y.  
Second Wednesday every month except May and June, Poughkeepsie, N. Y.

- Elberon Horticultural Society.**  
George Masson, secretary, Oakhurst, N. J.  
First Monday every month, Fire Hall, Elberon, N. J., 8 p. m.
- Essex County Florists' Club.**  
John Crossley, secretary, 37 Belleville avenue, Newark, N. J.  
Third Thursday every month, Kreuger Auditorium.
- Florists' and Gardeners' Club of Holyoke and Northampton, Mass.**  
James Whiting, secretary, Amherst, Mass.  
First Tuesday every month.
- Florists' and Gardeners' Club of Rhode Island.**  
William E. Chapell, secretary, 333 Branch avenue, Providence, R. I.  
Fourth Monday each month, Swartz Hall.
- Gardeners' and Florists' Club of Baltimore.**  
N. F. Flittin, secretary, Gwynn Falls Park, Sta. F, Baltimore, Md.  
Second and fourth Monday every month, Florist Exchange Hall.
- Gardeners and Florists of Ontario.**  
Geo. Douglas, secretary, 189 Merton street, Toronto, Canada.  
Third Tuesday every month, St. George's Hall.
- The Horticultural Society of New York.**  
Geo. V. Nash, secretary, Bronx Park, New York City.  
Monthly, irregular, May to October, New York Botanical Garden, Bronx Park, New York. November to April, American Museum of Natural History, 77th st. and Columbus ave., New York.
- Houston Florists' Club.**  
A. L. Perring, secretary, 4301 Fannin street, Houston, Texas.  
Meets first and third Monday, Chamber of Commerce Rooms.
- Lake Geneva Gardeners' and Foremen's Association.**  
Raymond Niles, secretary, Lake Geneva, Wis.  
First and third Tuesday every month, Oct. to April; first Tuesday every month, May to Sept., Horticultural Hall.
- Lenox Horticultural Society.**  
John Carman, secretary, Lenox, Mass.  
Second Wednesday every month.
- Los Angeles County Horticultural Society.**  
Hal. S. Kruekeberg, secretary, Los Angeles, Cal.  
First Tuesday every month.
- Massachusetts Horticultural Society.**  
William P. Rich, secretary, 300 Massachusetts avenue, Boston, Mass.
- Menlo Park Horticultural Society.**  
Percy Ellings, secretary, Menlo Park, Cal.  
Second Thursday each month.
- Minnesota State Florists' Association.**  
Gust. Malmquist, secretary, Fair Oaks, Minneapolis, Minn.  
Third Tuesday every month.
- Monmouth County Horticultural Society.**  
Harry Kettle, secretary, Fairhaven, N. J.  
Fourth Friday every month, Red Bank, N. J.
- Montreal Gardeners' and Florists' Club.**  
W. H. Horobin, secretary, 283 Marquette st.  
First Monday every month.

- Morris County Florists' and Gardeners' Society.**  
Edward J. Reagan, secretary, Morristown, N. J.  
Second Wednesday every month, except July and August, 8 p. m., Madison, N. J.
- Nassau County Horticultural Society.**  
Harry Jones, secretary, Glen Cove, N. Y.  
Second Wednesday every month, Pembroke Hall, 7 p. m.
- New Bedford Horticultural Society.**  
Jeremiah M. Taber, secretary, New Bedford, Mass.  
First Monday every month.
- New Haven County Horticultural Society.**  
W. C. McIntosh, secretary, 925 Howard avenue, New Haven, Conn.
- New Jersey Floricultural Society.**  
Geo. W. Strange, secretary, 216 Main street, Orange, N. J.  
Third Monday every month, Jr. O. W. A. M. Hall., 8 p. m.
- New London Horticultural Society.**  
John Humphrey, secretary, New London, Conn.  
Second Thursday every month, Municipal Bldg.
- New Orleans Horticultural Society.**  
C. R. Panter, secretary, 2320 Calhoun street, New Orleans, La.  
Third Thursday every month, Association of Commerce Bldg.
- Newport Horticultural Society.**  
Fred P. Webber, secretary, Melville Station, R. I.  
Second and fourth Tuesday every month.
- New York Florist Club.**  
John Young, secretary, 54 W. 28th street, New York.  
Second Monday every month, Grand Opera House.
- North Shore Horticultural Society.**  
Leon W. Carter, secretary, Manchester, Mass.  
First and third Fridays every month.
- North Shore Horticultural Society.**  
E. Bollinger, secretary, Lake Forest, Ill.  
First Friday every month, City Hall.
- North Westchester County Horticultural and Agricultural Society.**  
Albert F. Simms, secretary, North View, Mt. Kisco, R. F. D., N. Y.  
Third Thursday every month, except June to August, at 8 p. m.
- Oyster Bay Horticultural Society.**  
A. R. Kennedy, secretary, Westbury, L. I.  
Fourth Wednesday every month, Oyster Bay, N. Y., 7:30 p. m.
- Pacific Coast Horticultural Society.**  
W. A. Hofinghoff, secretary, 432 Phelan Bldg., San Francisco, Cal.  
First Saturday every month, Redmen's Bldg.
- Pasadena Horticultural Society.**  
Geo. B. Kennedy, secretary, Pasadena, Cal.  
First and fourth Friday every month.
- Paterson Floricultural Society.**  
Richard Buys, secretary, 207 17th ave., Paterson, N. J.  
First Tuesday every month, Y. M. C. A. Bldg., 8 p. m.

**Pennsylvania Horticultural Society.**  
David Rust, secretary, Broad and Locust  
sts., Philadelphia, Pa.  
Third Tuesday every month.

**People's Park Cottage Gardeners' Association.**  
John Ainscough, secretary, 4 Chestnut st.,  
Paterson, N. J.  
First and last Friday every month, Work-  
ing Man's Institute, Paterson, N. J.

**Philadelphia Florists' Club.**  
David Rust, secretary, Broad and Locust  
sts., Philadelphia, Pa.  
First Tuesday every month, Horticultural  
Hall, 8 p. m.

**The Pittsburgh Florists' and Gardeners' Club.**  
H. P. Joslin, secretary, Ben Avon, Pa.  
First Tuesday every month, Fort Pitt  
Hotel.

**Reading, Pa., Florists' Association.**  
Fulman Lauch, Secretary, 123 South 5th  
street, Reading, Pa.  
First Thursday each month.

**Redlands (Cal.) Gardeners' Association.**  
Jas. McLaren, secretary, Box 31 R. F. D.  
No. 2, Redlands, Cal.

**Rhode Island Horticultural Society.**  
E. K. Thomas, secretary, Box 180, Kingston,  
R. I.  
Third Wednesday every month, Public  
Library, Providence, R. I.

**Rochester Florists' Association.**  
H. R. Stringer, secretary, 47 Stone street,  
Rochester, N. Y.  
Second Monday every month, 95 Main  
street, East.

**Shelter Island Horticultural and Agricultural Society.**  
First and third Thursdays every month.

**Southampton Horticultural Society.**  
Julius W. King, secretary, Southampton,  
N. Y.  
First Thursday every month, Oddfellows  
Hall.

**Tacoma Florists' Association.**  
F. H. Atchison, secretary, South 50th and  
East F street, Tacoma, Wash.  
Third Thursday, Maccabee Hall, 11th and  
C streets.

**Tarrytown Horticultural Society.**  
E. W. Neubrand, secretary, Tarrytown,  
N. Y.  
Third Wednesday each month except July  
and August. Annual meeting last Thurs-  
day in December.

**Texas State Horticultural Society.**  
G. H. Blackman, assistant secretary, College  
Station, Texas.

**Tuxedo Horticultural Society.**  
Thomas Wilson, secretary, Tuxedo Park,  
N. Y.  
First Wednesday every month.

**Washington, D. C., Florist Club.**  
J. L. Mayberry, secretary, Washington,  
D. C.  
First Monday every month.

**Westchester and Fairfield Horticultural Society.**  
J. B. McArdle, secretary, Greenwich, Conn.  
Second Friday every month, Doran's Hall,  
Greenwich, 8 p. m.

## GARDEN CLUBS

**International Garden Club.**  
Mrs. Charles Frederick Hoffman, President.  
Club House, Bartow Mansion, Pelham Bay  
Park, New York City.  
(Address all communications to Mrs. F  
Hammett, Asst. Sec'y, Bartow Mansion.)

**The Garden Club of America.**  
Mrs. J. Willis Martin, president, 1721 Locust  
street, Philadelphia, Pa.

**The Garden Club of Alma, Mich.**  
Mrs. E. J. Lamb, secretary, 803 State street.  
Twice a month at members' residences.

**The Garden Club of Alleghany County, Pa.**  
Mrs. F. H. Denny, president, Sewickley, Pa.

**Amateur Garden Club of Baltimore, Md.**  
Miss Sarah S. Manly, secretary, The  
Walbert.

**The Garden Club of Ann Arbor, Mich.**  
Miss Annie Condon, secretary, 920 Uni-  
versity avenue.

**The Garden Club of Somerset Hills, N. J.**  
Mrs. Geo. R. Mosle, secretary, Gladstone,  
N. J.  
Second and fourth Thursdays, middle of  
April to November. August excepted.

**The Garden Club of Cleveland, Ohio.**  
Mrs. Geo. Scoville, secretary, 1453 E.  
Boulevard.

**Garden Club of East Hampton, L. I.**  
Mrs. F. K. Holister, secretary, East Hamp-  
ton, N. Y.

**The Park Garden Club, of Flushing, N. Y.**  
Mrs. John W. Paris, president,  
Flushing, N. Y.  
Second and fourth Mondays, members'  
homes.

**The Garden Club of Greenwich, Conn.**  
Mrs. Frederick Gotthold, secretary, Cos Cob,  
Conn.  
At members' residences.

**The Garden Club of Harford County, Md.**  
Mrs. Martin E. Ridgley, secretary, Benson  
P. O., Md.  
First and third Thursdays, April to  
December at members' residences.

**The Gardeners of Mont. and Dela. Counties, Pa.**  
Miss Elizabeth D. Williams, secretary,  
Haverford, Pa.  
At members' residences.

**The Weeders' Club, Pa.**  
Miss Ellen Winsor, secretary, Haverford,  
Pa.  
First and third Wednesday at members'  
residences.

**The Garden Club of Lake Forest, Ill.**  
Mrs. Tiffany Blake, president, Lake Forest,  
Ill.

**The Larchmont Garden Club, N. Y.**  
Mrs. Edgar Park, secretary, Larchmont, N. Y.  
First Thursdays.

**The Garden Club of Lawrence, L. I.**  
Mrs. Thomas Lawrence, secretary, Law-  
rence, L. I.

**The Garden Club of Lenox, Mass.**  
Mrs. Francis C. Barlow, secretary, 47 E.  
64th street, New York.  
First and third Mondays, June to Octo-  
ber at Lenox.

**Lewiston and Auburn Gardeners' Union.**  
Mrs. George A. Whitney, secretary, Auburn,  
Me.

**The Garden Club of Litchfield, Conn.**  
Mrs. Henry S. Munroe, secretary, 501 W.  
120th street, New York.  
Second Friday, June to October at Litch-  
field.

**The Garden Club of Michigan.**  
Miss Sarah W. Hendrie, secretary, Grosse  
Pointe Farms, Mich.  
At members' homes. Two Spring and one  
Fall Shows.

**The Millbrook Garden Club, N. Y.**  
Mrs. Keyes Winter, secretary, 125 E. 78th  
street, New York.  
Meet at Millbrook, Dutchess County, N. Y.

**The Bedford Garden Club, N. Y.**  
Mrs. Benjamin W. Morris, secretary, Mt.  
Kisco, N. Y.

**The Garden Club of New Canaan, Conn.**  
Mrs. Francis H. Adriance, secretary, New  
Canaan, Conn.  
Second Wednesday each month.

**The Newport Garden Association, R. I.**  
Miss Dorothea G. Watts, secretary, New-  
port, R. I.  
Annual Meeting, August. Others when  
called. Five monthly summer shows.

**The Newport Garden Club.**  
Mrs. Chas. F. Hoffman, president, 620 Fifth  
avenue, New York.

**The Garden Club of New Rochelle, N. Y.**  
Mrs. Lucius W. Hitchcock, corresponding  
secretary, Premma Point Park.  
Members residences and Public Library.  
Shows monthly, May to November.

**The Garden Club of Norfolk, Conn.**  
Philemon W. Johnson, secretary, Norfolk,  
Conn.  
Second Wednesday each month at Public  
Library.

**North Country Garden Club of Long Island.**  
Mrs. Edward Townsend, secretary, Oyster  
Bay, L. I.

**Garden Club of Philadelphia, Pa.**  
Miss Ernestine A. Goodman, secretary,  
Chestnut Hill.

**The Garden Club.**  
Mrs. Aubrey Pearre, Jr., secretary, Pikes-  
ville, Md.

**The Garden Club of Princeton, N. J.**  
Mrs. Junius Spencer Morgan, secretary,  
Constitution Hill, Princeton, N. J.

**The Garden Club of Ridgefield, Conn.**  
Mrs. Cass Gilbert, secretary, 42 E. 64th  
street, New York.  
Twice monthly at Ridgefield. Also ex-  
hibitions.

**The Ridgewood Garden Club, N. J.**  
E. T. Sowter, secretary, Ridgewood, N. J.

**Rumson (N. J.) Garden Club.**  
Miss Alice Kneeland, secretary, Rumson,  
N. J.

**The Hardy Garden Club of Ruxton, Md.**  
Mrs. R. E. L. George, secretary, Ruxton, Md.

**The Garden Club of Rye, N. Y.**  
Mrs. Samuel Fuller, secretary, Rye, N. Y.  
First Tuesdays, April to October. Also  
special meetings and Flower Shows.

The Shedowa Garden Club, New York.  
Miss Mary Young, secretary, Garden City,  
N. Y.

Second Wednesday each month at mem-  
bers' residences. Vegetable and flower  
shows, June and September. Correspondence  
with other clubs invited.

Mrs. C. H. Stout, secretary, Short Hills, N. J.  
Monthly at Short Hills Club House dur-  
ing January and February.

The Southampton Garden Club, New York.  
Mrs. Albert Boardman, president, 40 W.  
33rd street, New York.  
Twice a month in summer at Southamp-  
ton, L. I.

The Staten Island Garden Club, N. Y.  
Mrs. J. Harry Alexander, secretary, Rose-  
bank, S. I.  
Twice a month. At members' homes,  
Winnetka, Ill.

The Garden Club of Trenton, N. J.  
Miss Anne MacIlvaine, secretary, Trenton,  
N. J.  
Bi-monthly meetings at members' resi-  
dences.

The Garden Club of Illinois.  
Mrs. William G. Hibbard, Jr., secretary,  
Winnetka, Ill.

The Garden Club of Orange and Dutchess  
County, New York.  
Mrs. Morris Rutherford, secretary, Warrick,  
Orange County, N. Y.

Warrenton Garden Club, Virginia.  
Mrs. C. Shirley Carter, secretary, Warren-  
ton, Va.

Garden Club, Webster Groves, Mo.  
Caroline Chamberlin, sec'y., 106 Plant Ave.

## HORTICULTURAL EVENTS

Fourth National Flower Show, under the  
auspices of the Society of American Flor-  
ists and Ornamental Horticulturists, Phila-  
delphia, Pa., March 25 to April 2, 1916.

International Flower Show, Grand Cen-  
tral Palace, New York, April 5-12, 1916.

American Sweet Pea Society Show, Bar  
Harbor, Me. June.

Newport, R. I., Mid-summer Show, New-  
port Horticultural Society and Newport  
Garden Club, Newport, August 11-13, 1916.

## SECRETARY'S CHANGES.

The first of each year witnesses  
many changes in the office of secre-  
tary in local horticultural societies  
and garden clubs. We record these  
changes as notice is received. If  
your society or club is not properly  
registered in our directory, with cor-  
rect name of secretary, meeting  
place or date of meeting, please in-  
form Gardeners Chronicle, Madison,  
N. J. Send us reports of the pro-  
ceedings of your meetings for pub-  
lication.

## DINNER OF THE NASSAU CO. (N. Y.) HORTICULTURAL SOCIETY.

The members and friends of the Nassau  
Co. Horticultural Society to the number of  
seventy-five gathered at the Oriental Hotel,  
Glen Cove, on Tuesday evening, January 25  
to celebrate the society's tenth annual din-  
ner. The tables were beautifully decorated  
with plants of Gloire de Lorraine begonias,  
Primula malacoides, freesias, narcissus, etc.  
Because of illness our president, James Mc-  
Donald was unable to be present, and Vice-  
president Joseph Adler presided. Mr. Adler  
made an address of welcome to the guests  
and members and bade each one do his share  
toward disposing of the dinner which was to  
be served. His bidding was strictly carried  
out as the menu was a most excellent one.

When the cigars were reached Mr. Adler  
introduced Mr. Charles Totty as toastmaster  
of the evening, and a most efficient one he  
proved to be. His numerous anecdotes and  
verses which he favored us with throughout  
the evening were enjoyed by everyone. The  
first speaker called on by Mr. Totty was  
James Cocks, supervisor of Nassau County,  
who ably responded to the toast "Our  
Country." John L. Johnstone spoke for the  
Nassau County Horticultural Society, and  
said that among other things which we as  
a society are proud of is the fact that one  
of our members, John W. Everett, has had  
the honor of being president of the National  
Association of Gardeners.

The toast "The Trade Press" was elo-  
quently taken care of by Wm. Stewart  
editor of *Horticulture*, while J. Austin  
Shaw, in his own inimitable manner, fairly  
outdid himself in the response he made to  
"The Ladies." The seed trade was spoken  
for by J. A. Deamund, George Burnett, Wm.  
J. Collins and W. A. Sperling. William  
Duckham responded for the Morris County  
Horticultural Society, and in the course of  
his remarks urged the support of our mem-  
bers at the coming Spring Show in New  
York. Thomas Lee spoke for the Tarry-  
town Horticultural Society, and James  
Duthie for the Oyster Bay Society. Other  
speakers were County Attorney Charles Mc-  
Carthy, Frank Bowne, Lester Ortiz, Dr.  
Joseph Connolly and John Davis. Between  
the speeches vocal selections were rendered  
by Wm. J. Collins.

A pleasant feature of the evening was the  
presentation of a pair of gold cuff buttons  
to Ernest Westlake as a mark of apprecia-  
tion by the members of his efficient services  
as president of our society for the past year.

After an evening replete with fun and  
goodfellowship which was thoroughly en-  
joyed by all present the diners dispersed  
about 11:30.

JAMES McCARTHY,  
Corresponding Secretary.

## MORRIS COUNTY (N. J.) SOCIETY DINNER.

In the dining room at Piper's Hotel, pret-  
tily decorated with flowers, the Morris  
County Gardeners' and Florists Society  
celebrated the attainment of its twenty-  
first birthday on January 21.

On every table was a profusion of potted  
and cut flowers, a wealth of beautiful testi-  
monials as to the results of the work of  
various members of the organization. Cov-  
ers were laid for about one hundred and  
fifty.

All through the dinner the men were en-  
tertained by excellent cabaret talent. Frank  
H. Traendly, of New York, was toastmas-  
ter. Among those present were many of  
the shining lights of the profession.

As the first speaker of the evening, F. G.  
Allsbrook, of Madison, responded to the  
toast "Our Country."

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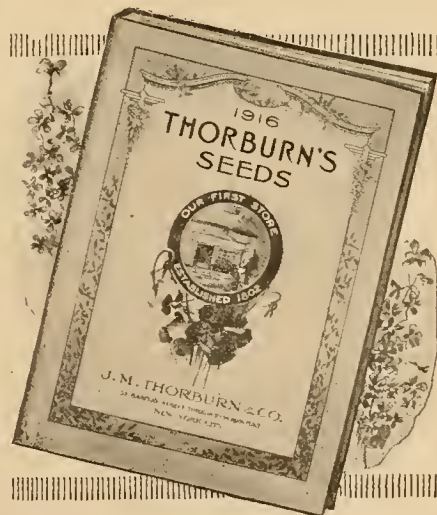
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The next speaker introduced was William H. Duckham, one of the four charter members of the organization present.

Walter F. Sheridan, of New York, an ex-president of the New York Florists' Club, was next called upon.

E. Strange, of the New Jersey Horticultural Association, expressed his pleasure of the privilege of attendance, and spoke of the general interest shown in the society.

E. Bonner, of Red Bank Horticultural Society, when called upon to tell what was doing along the coast, reported "all alive there."

J. Austin Shaw gave a delightful little poem on "Harry and Duckie and Tottie," referring to Messrs. Herrington, Duckham and Totty, the committee which had charge of the celebration.

W. J. Stewart, of Boston, Mass., the "dean" of the Horticultural Press, declared that the only way he could show the extent of his appreciation was to show that he came from Boston to the "wilds of New Jersey" for that purpose alone.

W. G. Carter, of Bernardsville, extended congratulations in behalf of the Horticultural Society of that place.

Introduced as the man who had done much for the commercial end of the business, Charles H. Totty, of Madison, gave a brief, humorous address.

Arthur Herrington, of Madison, the first president of the society, said that it had never been necessary to give any man a second term in the presidency, nor had there ever been two candidates.

Edw. Reagan was called upon and paid a great tribute to Mr. Duckham, as treasurer.

The final response to a toast was given by Martin C. Ebel, of Madison, in behalf of the National Association of Gardeners.

#### THE WESTCHESTER AND FAIRFIELD HORTICULTURAL SOCIETY.

The members of the Westchester and Fairfield Horticultural Society began the new year in their new home. The meetings of the future will be held in the Isaac Hubbard Hall, Greenwich, Ct. There was a fine attendance at the regular monthly meeting, held Friday evening, January 14. The principal features were the installation of officers and competition for Mr. Grierson's prize for the most meritorious exhibit. The prize was carried off by Mr. Thos. Ryan, who exhibited a vase of carnations, "Pink Sensation," of exceptional size. The thanks of the society were tendered to Wm. Graham for a fine display consisting of carnations "Princess Dagmar," violets, Princess of Wales and cauliflower "Snowball." P. W. Popp received a vote of thanks for narcissus Grand Soleil d'Or. James Stuart was highly commended for a fine vase of Euphorbia Jacquinæflora, Mr. Stuart having previously received the highest honor for a similar display.

The officers for the ensuing year are as follows: President, W. J. Sealey; vice-president, Owen A. Hunwick; secretary, J. B. McArdle; treasurer, Robert Williamson; corresponding secretary, P. W. Popp. Executive Committee: Wm. Whitton, Oscar Addor, Anton Peterson, Thomas Ryan, John T. Burns. Four new members were elected and several proposals were received for consideration. It is very gratifying to note the ever increasing membership of our society, the enthusiastic attendance of members at the monthly meetings and the high standard of quality that always marks all of our exhibitions.

We take this opportunity of extending our hearty thanks to all those who financially, or in other ways have enabled the W. & F. Society to make such a grand re-

ord in the past, and we also hope to merit the same good will and consideration in the future.

Resolutions of sympathy were ordered to be conveyed to the bereaved family of Mr. George Lander, Jr., in whose death our society suffers the loss of an honorary member and a generous and consistent friend. A copy of these resolutions to be spread upon the records of the society.

It was voted by the members that we will have the annual summer and fall exhibitions this year as usual. The location of the hall and dates to be announced later.

A committee was appointed to arrange for the annual entertainment, the time and

place to be announced later. The members and their families and friends have always enjoyed these affairs in the past. The forthcoming event will be no exception.

A communication was read from the Co-operative Committee of the N. A. G. offering to supply copies of the exceptionally good essays read at the recent convention of the N. A. G. at Boston, Mass., to be read and discussed at the meetings. The offer was unanimously accepted.

James Stuart and P. W. Popp entertained the members present with a graphic description of their recent visit to Boston. In connection with the convention and business session of the N. A. G. they voiced the



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To you who are gardeners, if you send your name and name of employer—the Guide will be sent free.

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The Sherman T. Blake Co., Pacific Coast Agents  
431-C Sacramento St., San Francisco, Cal.



appreciation of others of our members present there of the royal entertainment and horticultural treat accorded to them by the gardeners and florists of Boston and vicinity and the A. N. Pierson Co. of Cromwell, Conn.  
P. W. POPP.

#### NORTH SHORE HORTICULTURAL SOCIETY.

At the regular meeting of the North Shore Horticultural Society, Manchester, Mass., on January 21, President W. N. Craig, of the National Association of Gardeners, gave a very interesting and instructive lecture on perennials and bulbs. President Craig also gave a brief outline of the aims and ambitions of the N. A. G., and hoped that all gardeners would support the organization by becoming members and taking an active interest in its doings and welfare. Vice-president Wetterlow had a collection of primulas on exhibition. Last year Mr. Wetterlow was awarded a silver medal for a mauve primula, which was a cross between *primula stellata* and *P. chinensis*, the habit of the plant being of the *stellata* variety and the flowers of the *chinensis* type and fully as large. The plants exhibited at the last meeting were seedlings from this cross, being true to type and white, red, pink and mauve in color.

At the previous meeting William Till read the paper by W. W. Ohlweiler, of Missouri, "The Profession of Gardening," after which it was voted to accept the National Association's offer to furnish a similar paper for discussion at subsequent meetings.

The following officers were elected for 1916:

President—Mrs. W. Scott Fitz.

Vice-president—Eric H. Wetterlow.

Treasurer—John Jaffray.

Clerk—Leon W. Carter.

Librarian—Patrick A. Gilmore.

Executive Committee—Alfred A. Parsons, chairman; Herbert Shaw, James Salter, Axel Magnuson and William Till.

This society was organized in 1899, leasing Lee's Hall for its headquarters, and was incorporated in 1909, the membership being about 200. Last year Lee's building was sold and the society was turned out of its home. A small hall was secured for temporary use and a movement started to build a horticultural hall. The society has purchased a building site near the railroad station and hopes before long to be able to erect a suitable building. Plans are being considered for a main hall about 60x80, with ante-rooms and basement for storage purposes, etc. The Building Committee is composed of the executive committee and three shore residents. If the hall is built this year it will be through the generosity of the wealthy shore people, who have always taken a great interest in the society and contributed liberally to its support.

For various reasons it was voted to omit the annual banquet this year.

WILLIAM TILL.

#### NEW LONDON HORTICULTURAL SOCIETY.

New London Horticultural Society held its first meeting of the season in its rooms, Municipal Building, State street, on Thursday, January 13. After the usual routine of business, etc., President Donald Miller presented Mr. Alfred Flowers, gardener of the G. Palmer estate, to address the members upon the principles of transplanting. Mr. Flowers touched upon the methods of removing large trees and shrubs, seedlings of annuals, vegetables, herbaceous plants, evergreens, etc.; best ways of caring and

protecting same after removal. A good discussion followed the remarks of the speaker. It was voted to receive the essay papers (offered by Mr. Ebel to us) for discussion as opportunity offers us, the secretary being instructed to write Mr. Ebel to that effect.

One new member was received.

A beautiful exhibit of *Buddleia Asiatica*, *Freesias*, *Mignonette*, *Carnations* and *Primulas* were exhibited by the various gardeners at the meeting.

Rising vote of thanks to the speaker was given. Meeting then adjourned.

STANLEY JORDAN,

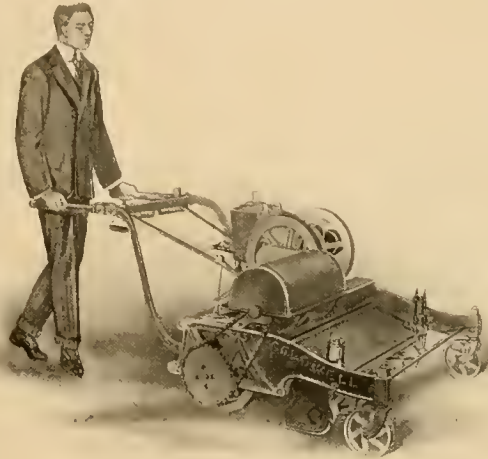
Secretary.

#### LENOX HORTICULTURAL SOCIETY.

The regular monthly meeting of the Lenox Horticultural Society was held January 12. The business of the meeting consisted of appointing a committee to arrange for the annual ball in connection with the society to be held in the Town Hall the end of the month.

The Schedule Committee was asked to make arrangements for a competitive floral display to be held in connection with the visit of the members of the Garden Club of America on June 27 and 28.

It was unanimously agreed to accept the offer of the National Gardeners' Association



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to supply copies of the lecture papers which were read at the recent Boston convention, also other subjects of interest to be read and discussed at the meetings of the society.

The first of these interesting lectures entitled "Is Gardening a Profession" was read at this meeting and a good discussion followed.

J. H. FRAMPTON,  
Assistant Secretary.

#### NASSAU COUNTY (N. Y.) HORTICULTURAL SOCIETY.

A well-attended meeting of the Nassau County Horticultural Society was held in Pembroke Hall, Glen Cove, on January 12 at 2 p. m. President James McDonald in the chair. Chairman Ernest Brown of the Dinner Committee reported that all arrangements for holding our annual dinner had been completed. The dinner will be held at the Oriental Hotel, Glen Cove, on January 25, at 6:30 p. m.

A communication was received from the secretary of the National Association of Gardeners, offering on behalf of that society to supply us with an essay on some subject of interest to the horticultural profession for each month of the coming year, so that it may be read at our monthly meetings. It was unanimously decided to accept this generous offer.

The essay for this meeting received was "Is Gardening a Profession?" by Mr. W. W. Ohlweiler. The paper was a very able one, and the essayist handled his subject in masterly style. It was thoroughly enjoyed and appreciated by all of the members present and if we are to consider this essay as a standard for those which are to follow, we are assured of a very interesting and instructive course of lectures for the coming year.

Messrs. Valentine Clerer, George Hutton and George Wilson were appointed judges of the exhibits and made the following awards: Best 12 sprays of freesias, 1st, Harry Boodband; best 3 poinsettias, 1st, Robert Jones; best 3 heads of lettuce, 1st, Robert Jones; plant of primula malacoides exhibited by John Everett, cultural certificate.

James Duthie exhibited 6 plants of primula malacoides Townsendii, an improved form of primula malacoides, which was much admired by the members present, and was awarded a certificate of merit by the judges.

This primula, which originated with Mr. Duthie, forms a much more compact plant than the older type, while the individual florets are much larger and the color is a most distinct and pleasing shade of pink. Mr. Duthie reports that the seed of this variety, which he has saved and sown, comes almost uniformly true to type, the percent age reverting to the old type being so small as to be almost negligible.

Mr. Johnson, of R. & J. Farquhar & Co., and Mr. Earnshaw, of the Bon Arbor Chemical Company, were visitors at the meeting.  
JAMES McCARTHY,  
Corresponding Secretary.

#### NEW JERSEY FLORICULTURAL SOCIETY.

A regular monthly meeting of this society was held in Orange on January 17. Installation of officers took place as follows. W. A. Manda officiating; Henry Halbig president; Max Schneider, vice-president; Edw. A. Manda, treasurer; Geo. W. Strange, secretary. Max Schneider received the following points on his exhibit: Carnations, 80; vase of cut flowers, 70; violets, 70; cyclamen, 85 points. W. A. Manda received a first class certificate for a seedling carnation resembling Delhi but brighter in color.  
GEO. W. STRANGE, Secretary.



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#### CONNECTICUT HORTICULTURAL SOCIETY.

This society held its second January meeting in its room in the County building at 8 o'clock Friday evening, January 28, with President Hollister presiding. It was "Carnation night," and several members made exhibits of exceptionally fine specimens. John F. Huss, superintendent for Mrs. James J. Goodwin, and Alfred Cebelius, head gardener for Prof. M. W. Jacobus, staged specimens of Enchantress, E. Supreme, Rose Pink E., White E., Beacon, White Wonder, Benora, Alice, White Perfection and Gorgeons. Mr. Cebelius also displayed a vase of Buddleia Asiatica of wonderful beauty and growth. George W. Fraser, of the Connecticut Agricultural College, exhibited a vase of Red Wing Carnation for W. A. Dawson, of Willimantic. These blooms were of rare beauty and size and are becoming very popular. Theodore Staudt of Rockville, exhibited two vases of port carnations and one vase of Sir Watkin Daffodils. By the above list you may readily appreciate the beauty of the hall and the fragrance enjoyed during the entire meeting. Chairman Hollister requested C. H. Sierman, Fred Boss and A. Righenzi to judge the exhibits, and after careful consideration the following awards were made: John F. Huss, cultural certificate; Alfred Cebelius, first-class certificate on Carna-

tions and a cultural certificate on the Buddleia Asiatica; Theodore Staudt, first-class certificate of merit on Sport Carnations, and a certificate of merit on Narcissus; W. A. Dawson, first-class certificate and noted in the minutes as worthy of special mention inasmuch as the society cannot award a higher diploma than that mentioned.

After the announcement of the awards, President Hollister read an article from "Horticulture," headed "Jackson T. Dawson, His Work and His Workshop," which describes briefly the splendid work of this grand old gentleman, and Mr. Huss gave a reminiscent talk of his acquaintance with Mr. Dawson, both of which were very interesting and enlightening. The chairman also read a clipping relating to the erection of a marble pillar to mark the spot where the original McIntosh Red stood in Canada, this monument being erected by Canadian horticulturists. He also appointed a committee to meet with a committee from the Pomological Society to the end that a similar monument be erected on the spot where the original Greening apple tree stood near Sterling, R. I. The Greening is more commonly known than the McIntosh and perhaps more widely used.

The meeting was well attended and thoroughly enjoyed by the members. The next meeting of the society will be held Feb. 11.  
ALFRED DIXON, Secretary.

**NEW HAVEN COUNTY HORTICULTURAL SOCIETY.**

The New Haven County Horticultural Society begins the year 1916 with the following officers: President, Wm. J. Rathgeber, New Haven; vice-president, Alfred E. Doty, Morris Cove; secretary, W. C. McIntosh, New Haven; treasurer, David Kydd, West Haven.

The Board of Managers, who have special charge of the annual exhibition, are as follows: Alfred E. Doty, chairman, Morris Cove; Herbert F. Clark, West Haven; Robert Paton, New Haven; A. W. Davidson, Ansonia; T. H. Dewhurst, Milford; Nathan A. Miller, Branford; J. H. Murray, New Haven; Jno. Bocking, New Haven; Edson L. Bradley, New Haven; L. B. Linsley, West Haven; Charles C. Barnes, New Haven; C. Louis Ailing, West Haven.

The newly elected officers have mapped out a vigorous campaign for the coming year. They have taken a new hall in the heart of the city, one flight up, well heated and lighted. The old hall was three flights up. And the new hall is given to the society free of charge. "Progress" is the motto of the society, and the members have decided to live up to this motto for the year 1916. Already they are taking in new members. This year will see the membership doubled.

At the last meeting the discussion was "Fertilizers." Those who took particular part in it were Jno. H. Murray, superintendent botanical gardens, Yale University; John H. Slocumb, florist; Robert Paton gardener for Thos. G. Bennett, Winchester Repeating Arms Company, and the following growers: Nathan A. Miller, Wm. J. Rathgeber, L. B. Linsley, Alfred E. Doty and Edsin L. Bradley.

W. C. McINTOSH, Secretary.

**HORTICULTURAL SOCIETY OF NEW YORK.**

An exhibition was held under the auspices of the Horticultural Society of New York in the American Museum of Natural History, Central Park West and 77th street, January 19. The exhibits were largely from private estates and there were a number of excellent features, noteworthy being orchids from Clement Moore, Haekensack, N. J. (J. P. Moosman, gardener); Mrs. F. A. Constable, Mamaroneck, N. Y. (James Stuart, gardener), and Lager & Hurrell, Summit N. J., commercial growers, all of whom took prizes. Henry Goldman, Deal Beach, N. J. (Anton Bauer, gardener), exhibited for the first time a seedling snapdragon. This is a fine production, as it now appears, with creamy yellow flowers, close and evenly distributed. It was awarded a special prize.

Mrs. H. Darlington, Mamaroneck, N. Y. (P. W. Popp, gardener), was awarded a special prize for a handsome vase of *Buddleia Asiatica*. William Shillaber, Essex Falls, N. J. (J. P. Sorenson, gardener), won a special prize for a vase of pink sweet peas named Yarrowa. J. C. Brady, Gladstone, N. J. (Fred Hughes, gardener), took special prizes for vase of Hoosier Beauty roses, vase of Double White Killarney roses, vase of Carnation White Wonder and vase of poinsettias.

In the classes for carnations, Mrs. C. Hermann, Tarrytown, N. Y. (Abel Weeks, gardener), won first prize for 12 white. Henry Goldman was first with 12 Enchantress shade and first with 12 Mrs. Ward shade. J. C. Brady won first for 12 scarlet. D. G. Reid, Irvington, N. Y. (A. W. Golding, gardener), took first for 12 crimson and first for vase of 50 blooms, one or more varieties arranged for effect with asparagus. P. W. Popp was awarded a special prize for six pots of *Spiraea rubrum* and James Stuart re-

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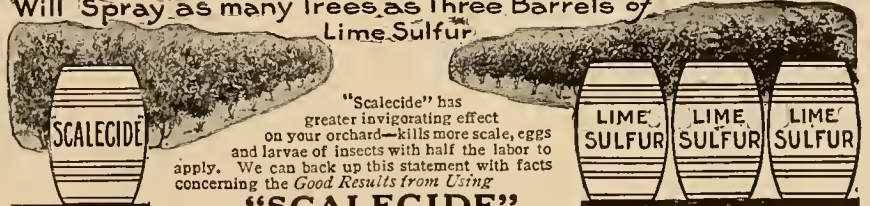
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ceived a certificate for a vase of euphorbia. A meeting of the society was held at 3:45 p. m., after which William N. Craig lectured on the "Home Flower Garden." A. F. F.

**MEDFORD HORTICULTURAL SOCIETY.**

At the monthly meeting of the Medford (Mass.) Horticultural Society on January

18. William Colton, City Forester of Newton, gave a very interesting lecture on the History of the Mosquitoes, and what has been done in Newton towards their extermination. He also gave an interesting account of the shade trees, under his care, and what is being done to keep them in good condition. Mr. Colton is evidently an en-

enthusiast in his profession, and a close student of nature, readily answering all questions that were put to him. He made a strong plea for the better care of shade trees in cities and towns, proving their economic value by facts. Lectures of this kind are of great value, arousing local interest, in something that is too much left in the hands of the local politician, who gets the position, not for his knowledge of trees and their care, but as a campaign reward.

GEORGE F. STEWART.

#### OYSTER BAY (N. Y.) HORTICULTURAL SOCIETY.

The monthly meeting of the Oyster Bay Horticultural Society was held in the Truck House, Oyster Bay, January 26. President Alfred Walker occupied the chair. Several new members were elected to active membership. James Duthie, Duncan Beaton and Charles Millburn were appointed as judges of the exhibits and their decisions were as follows: Society prize for twelve pink carnations—James Bell, first. Twelve white carnations—Wm. Ford, first. Twelve carnations, any color—Arthur Patten, first. One pot of primula—Frank Kyle, first. Table of cut flowers—John Sorosick, honorable mention. Bunch of violets—A. Walker, honorable mention. Vase of narcissi—A. Walker, honorable mention. Twelve seedling carnations shown by Hermann Schwarz were recommended by the judges to be shown again. Exhibits for the February meeting are one pot of cinerarias, twelve mushrooms and six antirrhinums.

JOHN T. INGRAM, Sec'y.

#### NEWPORT HORTICULTURAL SOCIETY.

At the meeting of the Newport Horticultural Society held January 25, a paper on "Growing Sweet Peas for Exhibition" was read by William Gray and one on "Gardening for the Amateur," by James Robertson. Both papers brought out an interesting discussion from the large number of members and amateurs present. It was one of the most interesting meetings held in some time and in order to keep up the interest more papers are forthcoming, one on "Budding and Grafting" being promised by E. Kempenaar for the next meeting. Some of the assistant gardeners also have papers in course of preparation, notice of which will appear later.

#### PATERSON FLORICULTURAL SOCIETY.

The meeting of the Paterson Floricultural Society held last Tuesday was the most enthusiastic ever held. Great interest is being taken in the proposed new schedule of Classes particularly Dahlias for our Fall Show, which, when adopted will make our exhibition better than any ever held in this neighborhood.

Our show brings forward blooms of the highest standard both as to quality and method of growing, and while competition is very keen amongst our members, what we want is to have out-of-town individuals or societies try their hand against us as we feel it would create better fellowship and be instructive as we believe we can produce the better goods.

At last our friend "Bob" Petrie, of the Riverlawn Sanitarium, has been beaten in the display at our meeting rooms. Every month we have had grand floral displays and "Bob" took the prizes. This time, backward brother Vanderlife came forward with the finest carnations we ever saw. "Bob" for once took a back seat, but he is still ahead on points.

Another feature of our meetings is the readings and instructions by the Essay Committee headed by Archie Smith. Archie's claim is, anyone who grows by his method will use no other.

RICHARD BUYS, Sec'y.

#### GARDENERS' AND FLORISTS' CLUB OF BOSTON.

The Gardeners' and Florists' Club of Boston held its annual banquet at the New American House, Boston, on February 9, with an attendance of over three hundred. The tables were beautifully decorated with orchids, roses, carnations, sweet peas and other choice cut flowers and plants, the banquet room presenting a beautiful appearance. James Methven, the recently elected president, acted as toastmaster. W. R. Rich responded on behalf of the Massachusetts Horticultural Society, W. C. Stichel for the Boston Flower Exchange, W. N. Craig for the National Association of Gardeners, Wilfrid Wheeler for the State of Massachusetts and John McFarland for the Boston Co-operative Flower Market. Visitors were present from New York, New Jersey, Pennsylvania and Maine. A splendid entertainment was furnished, followed by dancing, and the evening was a thoroughly enjoyable one.

#### HOLYOKE AND NORTHAMPTON FLORISTS' AND GARDENERS' CLUB.

The regular monthly meeting of the Holyoke and Northampton Florists' and Gardeners' Club was held February 8 with E. J. Canning, Prospect Heights' Nursery, Northampton.

Members turned out in good number, and President Butler kept things moving in good style. By unanimous vote it was decided to change the meeting night from the second to the first Tuesday in each month, to take effect at the March meeting.

On behalf of the members G. H. Sinclair presented our worthy secretary, James Whiting, with a gold stick pin, as a slight token of appreciation of his good work in this office for the past four years.

Instead of a paper being read and discussed each member brought a question on a slip of paper. These were shuffled and drawn and each one allowed five minutes to answer. Facial expressions during the brain racking process were a fine study. The plan was a great success, each member had to say something, and the questions asked were real live ones which uncorked much useful information.

Exhibits of good quality added greatly to the interest of the meeting.

F. D. Keyes & Son staged a vase of carnation Georgeous and a large specimen cyclamen, which same plant was exhibited a year ago, and in the interval had matured a good crop of seed. G. H. Sinclair brought a fine spike of Clivia miniata and vases of sweet pea, Mrs. Sims and Christmas Pink. D. J. Gallian showed a fruiting plant of Ficus pandurata, and H. E. Downer, of Smith College Botanic Garden, a pan of hyacinth La Grandesse and six plants of cyclamen. One new member was elected.

H. E. D.



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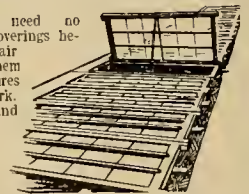
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## HORTICULTURAL SOCIETY OF WESTERN PENNSYLVANIA.

The Horticultural Society of Western Pennsylvania has decided to change its headquarters from the East Liberty Branch of Carnegie Library, Pittsburgh, to the downtown Colonial Hotel, owing to the latter being more convenient for the Sewickley and Sewickley Heights members. Carnation Night was observed at its February meeting by the organization, and the January session was devoted to roses. There was a fine exhibition of the flowers, which included a collection from Charles H. Totty of Madison, N. J., and from A. N. Pierson, Inc., of Cromwell, Conn. Supplementary there was quite a discussion among those present, who generally conceded that the cloudy winter days of Pittsburgh practically preclude successful greenhouse rose culture. However, the past year has been decidedly less smoky than any season in the local history of the steel and iron industries, and several men are contemplating resuming this special branch of the work with renewed energies.

On Saturday evening, January 15, the Horticultural Society held an open session in the auditorium of the Chamber of Commerce, when J. K. M. L. Farquhar of Boston delivered an interesting lecture on his travels through the gardens of China and Japan. The lecture was illustrated with the stereopticon and showed the mode of gardening in the Orient. Mr. Farquhar also introduced a number of new hardy plants from China, which he is distributing to the trade, and which were collected by Mr. Wilson. Prior to the meeting Secretary Tyler had issued invitations which were responded to by numerous members of the Garden Club of Allegheny County and other amateurs. At the April meeting of the society a lecture will be delivered on the subject of "Small Greenhouses and What to Grow in Them," which is especially designed for the amateurs who are affiliated or incidentally interested in the new organization. There is also to be a spring meeting in honor of the ladies of the Garden Club of Allegheny County, at which the subject of bedding plants will be discussed.

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J. J. WILSON SEED CO., INC.,

Newark, N. J.

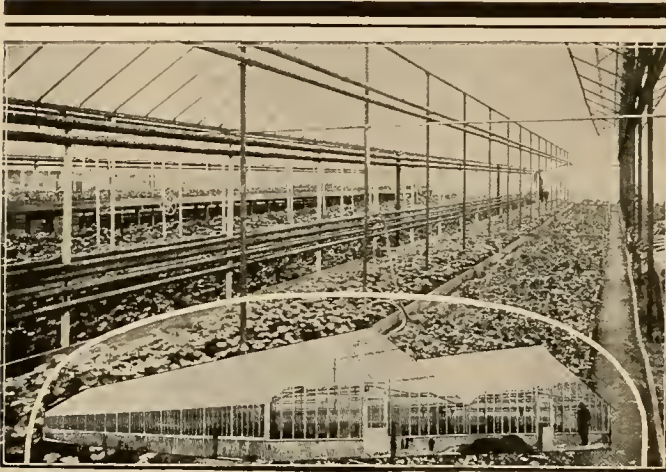
**HARRY BALDWIN**

Manufacturer of

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**LATH ROLLER BLINDS**

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We Just Finished These Two Greenhouses for Mr. Rudolf Nagel, of Lancaster, Pa.

He says:

*"They stand as solid as a rock; there isn't the least amount of shaking or rattling in extremely heavy wind storms."*

But this is nothing unusual to us. They are built right—that's why we are being so consistently selected by prominent Growers to build for them some of the biggest Greenhouses in the country.

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*We go anywhere in the U. S.  
to submit plans and prices.*

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1396-1412 Metropolitan Ave. Brooklyn, New York

## Label Your Roses and Plants

Do Not Forget Their Names

### Simplex Weather Proof Labels Are Permanent

<p><b>Plant Labels —with Wires</b></p> <p>No. 1—Size 3 x ½ inches, 25c. doz., \$2.00 per 100.</p> <p>No. 2—Size 4 x ¾ inches, 50c. doz., \$4.00 per 100. Postpaid</p>	<p><b>Garden Labels</b></p> <p>18 inches high. Card, size 2¾ x 1½.</p> <p><b>Price 15c. each</b> \$1.80 per doz., \$15.00 per 100. Transportation charges extra.</p>
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**STEWART & CO., 5 Cortlandt St., New York**

## KNOCK-DOWN BIRD HOUSES

Most complete, artistic line ever offered. 46 different styles and sizes, from 35c up to \$25. Ready-built houses *already* seasoned. Birds dislike brand new things. We give you the best results for the least money. Build now! Write today for Illustrated Folder.

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**BON ARBOR No. 1.** Soluble Plant Life. A most wonderful and invigorating food for all plants, indoor and outdoor.

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**RADIX WORM ERADICATOR.** Instantly removes worms from your Tennis Courts, Putting greens, etc.

**ANT DESTROYER.** Will remove all ants outside or indoors in a week's time. Be sure and try it.

**NATURAL HUMUS.** Is the best for making new lawns, gardens, etc.

*Write for descriptive catalogue  
and prices*



When it comes  
to Greenhouses  
Come to

**Hitchings and Company**

General Offices and Factory—ELIZABETH, N. J.

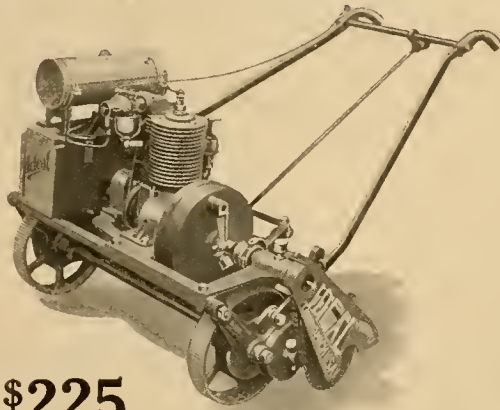
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# Ideal

Junior  
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\$225

## This Summer—the Ideal

Get rid of the inefficient horse-drawn mower with all its annoyances—do away with a squad of hand-propelled grass cutting machines. This summer use the Ideal, the lawn mower that pushes itself.

Give your lawn double the care, more cheaply, more efficiently, and in much less time than by either of the old methods of mowing. The Ideal, with its simple, reliable clutch and automobile throttle control, stands unequalled in the field of lawn mowing contrivances.

Write to us for particulars—now, before the grass begins to grow in the spring.

**The Ideal Power Lawn Mower Co.**

R. E. OLDS, Chairman

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## Neglect did this!

**Have your trees examined NOW!**

*Let tree surgery save them!*

—but be sure to get *safe* tree surgery. Unscientific "tree doctoring" by irresponsibles and "jack-of-all-trades" is a greater cause for tree ruin even than neglect itself.

For Safe tree surgery, for methods that are scientifically accurate and mechanically perfect, for work that eliminates experiment, for the services of finished experts, for work that *endures*, take the dependable and satisfying course and go to—

## Davey Tree Surgeons

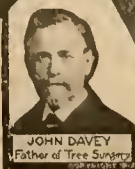
H. A. Everett, President of the Northern Ohio Traction and Light Co., Cleveland, O., writes: "It is now six years since you treated the trees on my farm at Willoughby, and I am more than satisfied with the results." In our files are hundreds of similarly enthusiastic letters. The U. S. Government, after exhaustive investigation, officially chose Davey experts as best. Every year of neglect adds 10% to 25% to the cost of saving trees. Have your trees examined NOW. Write today for free examination and booklet illustrating Davey Tree Surgery.

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Local Representatives at White Plains, N. Y., Stamford, Conn., Jamaica, L. I., Newark, N. J.

(Operating the Davey Institute of Tree Surgery. Accredited representatives available between Kansas City and Boston)





## Nice Grounds Require Nice Fences

The above picture shows our Non-Climbable "RIOT" fence in use at the residence of Mr. Howard Cole, Madison, N. J., where we erected 40,000 linear ft. of fencing.

**We build fences anywhere**  
both straight and Non-Climbable.

**Write for Catalogue**  
No. 30 that shows many fences we have erected in different parts of the country.

We have the  
**Foremost Fence Building System**  
in the world.

*Catalogue and prices on request*

**J. H. DOWNS, 39 Cortlandt St., New York City, N. Y.**

Science is teaching that it is as essential to

# PROTECT PLANT LIFE

from insect pests and the various fungi with which it is afflicted as it is to properly fertilize it.



fly, thrips, soft scale, rose, cabbage and currant slugs, and other soft bodied and sap-sucking insects. It can be applied to the tenderest foliage, flowers, fruits and vegetables.

Aphine will keep your plants (sweet pea vines, rose hedges, etc., etc.) in the garden free from insects.

Gill, 25c.; half pint, 40c.; pint, 65c.; quart, \$1.00; gallon, \$2.50.

## SCALINE

As a summer spray for hardy trees, shrubs and plants it is an effective remedy against green, black and white fly, red spider, woolly aphid, cottony maple scale, tulip scale, and all soft scale. Use one part Scaline to forty to fifty parts water.

*These products have the endorsement of leading commercial and private growers, and are generally recognized as standard remedies for the control of the insects and plant diseases for which they are recommended.*

For sale by the leading seedmen throughout the country. If not obtainable in your community, send us your order direct and we will have it shipped to you from our nearest agency.

**Aphine Manufacturing Co.**

MANUFACTURERS OF  
AGRICULTURAL CHEMICALS

**Madison, N. J.**

a concentrated liquid spraying material, readily soluble in water, is used at various strengths, according to directions on cans.

Aphine is equally effective in the house and garden; free from disagreeable odors of most insecticides, and practical for professional and amateur growers.

It is effective against green, black and white

Scaline will rid your evergreens and shrubs of the red spider pest, which has done so much havoc to them recently.

For summer spraying, Scaline is recognized as a marked improvement over the old-fashioned kerosene emulsion; more effective and more economical. It mixes readily with water, contains no sediment, and can be applied with the finest spray nozzle.

Quart, 75c.; gallon, \$1.50; 10 gallons, \$10.00.

## FUNGINE

is a concentrated sulphur composition, used as a spraying material, readily soluble in water, containing no sediment, and, unlike Bordeaux mixture, and lime and sulphur, does not stain the foliage, but cleanses it.

It is an effective remedy for mildew, rust and wilt, affecting flowers, fruits and vegetables, and is used with much success by leading growers on young stock as a preventive against various blights. One gallon makes 50 gallons spraying material.

Half pint, 30c.; pint, 50c.; quart, 75c.; gallon, \$2.00.

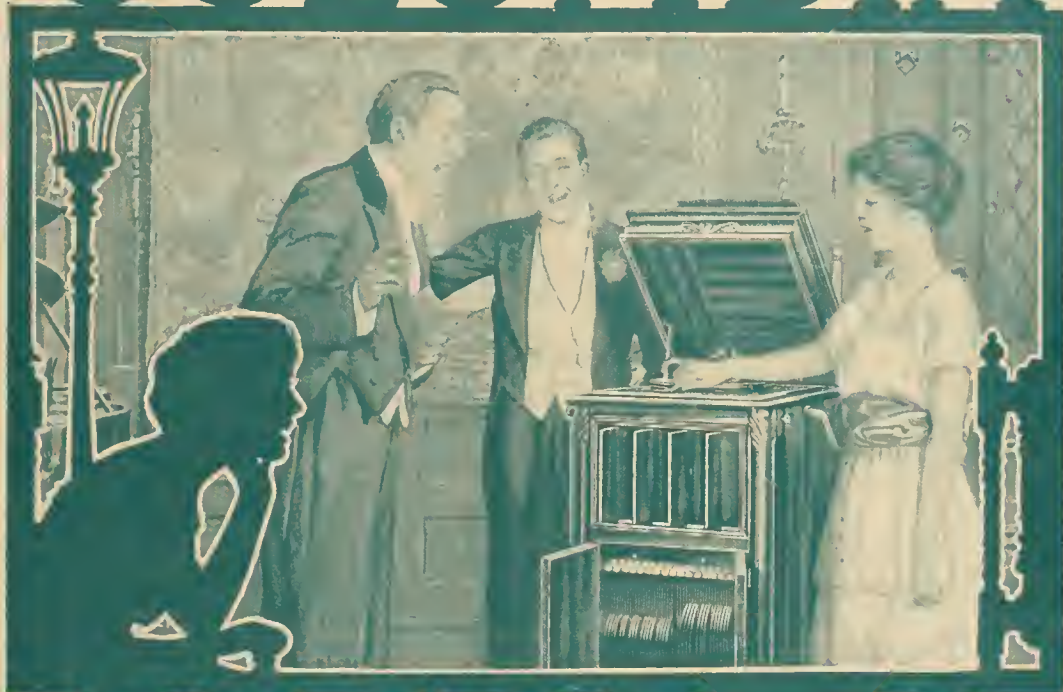
## VERMINE

is a soil sterilizer and vermicide. Destroys cut, wire, eel and grub worms, maggots, and root lice. Used one part to four hundred parts water, thoroughly soaking the ground, it will protect your plants and lawns against ravages under the soil.

Gill, 25c.; half pint, 40c.; pints, 65c.; quart, \$1.00; gallon, \$3.00.



# COLUMBIA

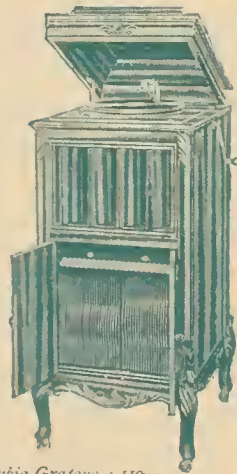


# RECORDS

Double-Disc

EVERYBODY joins in when the Columbia Grafonola plays the big song hits of the day. But the latest "hits," *first* recorded and *best* recorded on Columbia Double-Disc Records, are only an indication, a temptation, a foretaste of the life, the fun, the sentiment, the classic beauty offered in the complete catalogue of Columbia Records, free on request at your dealer's.

*New Columbia Records on sale the 20th of every month.*



Columbia Graphophone Co.

Woolworth Bldg., New York, Prices in Canada Plus Duty.

Columbia Grafonola 110—  
Price \$110





These three rows of sash are full of plants all ready to set out.

## The Sure Way To Surely Have An Early Garden

Five of these frames cost so surprisingly little as \$4.62. For Melons, Phubarb, and Flowers, they are ideal.

**T**HE most troublesome trouble with gardens; just as it used to be with automobiles, is in getting them started.

Dame Spring has such an exasperating way of luring us on with warmish days full of hope; and then playing us with some of the most exasperating varieties of weather, that just knocks gardening progress galley west.

So to have that coveted early garden, we must get the running jump on Spring, by starting our seeds and growing good husky, stocky plants in cold frames.

Happily for you, we have at least six different sizes of frames, to fit your needs,

as well as your pocket book.

For example, there are the tote-about sizes. You can buy ten of them for so little as \$6.56.

Five Melon Frames cost \$4.62.

Or a two-sash Junior Frame 68" long by 38½" wide for \$8.40.

Then if you want the big frames with their sash 3 x 6 feet we can sell you any length.

But don't put off ordering. Every day's extra start now, means several days ahead, later on.

Send for Two P's Booklet for further facts and figures.

# Lord & Burnham Co.

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# GARDENERS' CHRONICLE

OF AMERICA

A  
HORTICULTURAL DIGEST



PARKS & GARDENS

ILLUSTRATED



Within a distance of 50 miles of New York, this Alphano grown celery developed so rapidly that large market shipments were started the 26th of last June, when prices were away up. Full particulars on application.



This celery is over three feet from root tip to top. It was grown on an unproductive heavy clay soil which was given a three inch coat of Alphano and ploughed in. Name of place on application.

## Cut Down Your Soil Enriching Costs Use ALPHANO The Odorless, Weed-Seedless Sanitary Soil Builder For Lawns, Vegetables, Flowers and Shrubs

**A**LPHANO HUMUS is a completely balanced soil ration. Its base is a rich nitrogen soil humus, thoroughly composted, lively with soil building bacteria, and heavily reinforced with plant foods. The high prices of nitrogen, phosphorus and potash in chemical fertilizers this year, gives Alphano, which contains them all, a remarkable value for the money.

One ton is equal to several of average stable manure. It is a great absorber of moisture, fortifying roots against dry weather.

We sell it to you in an odorless, dry, finely granulated form.

Do not confuse it with the water logged, highly acid, raw humus sold under various names. It is acknowledged that we are the only concern selling a concentrated, dry, prepared humus. Our ten years of proven success, and the sale of over half a million tons, are your guarantee for Alphano's sweeping merits.

### INOCULATED

In addition to the natural bacteria Alphano contains in such numbers, we heavily inoculate it with our Alphano Inoculant, giving it teeming billions of all the essential nitrogen fixing and soil digesting bacteria, including the nodule bacteria of all the clovers, along with those for beans, peas, alfalfa and the like.

Alphano is the only legume-inoculated humus. We will sell you this Alphano Inoculant separate if you wish. Send for full particulars and prices.



\$12 a ton in bags.  
\$10 a ton in bags by the carload  
\$8 a ton in bulk by the carload  
Prices F. O. B. Alphano, N. J.

### FOR YOUR LAWN

For your lawn, Alphano is ideal. Being odorless, you can use it any time. Being in granulated form, you can easily distribute it evenly and raking it in thoroughly, it quickly reaches the roots. Being rich in both the quickly available and the gradually liberated foods, it at once stimulates growth and continues to sustain it for a surprisingly long time. It absorbs five times its weight in moisture, protecting your grass against dry weather.

### FOR YOUR GARDEN

So rich is Alphano in humus and plant foods that it will in one season convert a compact, unproductive lumpy clay into a fertile, open, friable soil, easy to work. Or it will bind together a light, loose sandy soil, and make it highly productive. For flowers and vegetables, it is equally resultful. Being sanitary and entirely free from the many dangerous infections carried by stable fertilizer its health side argues strongly for it. Our Alphano Book tells of four valuable garden uses.

### FOR YOUR SHRUBS

Dig Alphano freely around your shrubs. Do it early so the blooms will be profuse and the first growth of Spring rapid and strong.

For Rhododendrons, Alphano makes a sure growing soil condition, the same as their native humus laden habitat. In planting them, mix the soil with a third Alphano. Every Spring, dig in a goodly mulch around the roots.

Buy at once this wonderful Alphano, nature's balanced soil ration. Its cost is so little, you can afford to use it freely.

# Alphano Humus Co.

17-G Battery Place

New York City

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"World's Choicest Nursery and Greenhouse Products"

## GROWN IN AMERICA

Our wide and complete collection enables us to execute your orders thoroughly, for inside as well as outside decorations. You are invited to inspect this material at our Nurseries.



- ROSES
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- SHADE TREES
- RHODODENDRONS
- FLOWERING SHRUBS
- HERBACEOUS PERENNIALS
- PALMS AND HOUSE PLANTS.
- OUR HYBRID GIANT FLOWERING MARSHMALLOW

OUR ILLUSTRATED GENERAL CATALOG No. 45, mailed on request, describes these products fully.

*We Plan and Plant Grounds and Gardens Everywhere*

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We take pleasure in directing the attention of our patrons to our Plant Tub Department. This has now been in existence for several years.

In addition to these we make many other designs and if customers will submit to us sketch showing styles and dimensions wanted we shall be pleased to quote prices.

**WINDOW BOXES AND ENGLISH GARDEN FURNITURE.** We manufacture Window Boxes, and Garden Furniture to order. We shall be pleased to give prices on sketches submitted showing dimensions of Window Boxes and Garden Furniture, stating color and style.

**ARTISTIC RUSTIC WORK.** Summer-Houses, Pergolas, Tables, Chairs, Settees, Circular Seats for Trees, Tennis-Court Shelters, Grape and Rose Arbors, Bridges, Fences, Gates, Terrace Steps, Rustic Wells and Bird-Houses. We build everything that can be built of natural wood. Our Wood-work represents the highest perfection of wood-worker's art. Estimates furnished for Special Work.

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12-13 " " " ".....	1.50	
14-15 " " " ".....	2.00	
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26-27 " " " ".....	5.50	
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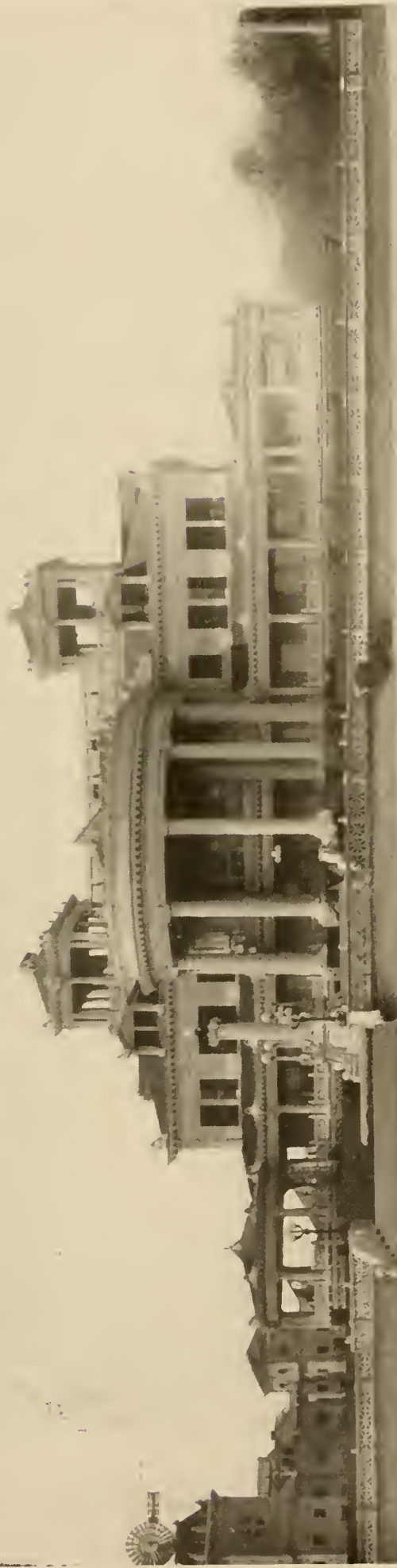
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Ask for our Plant Tub Catalog.

NURSEYMEN, FLORISTS AND PLANTERS, Rutherford, New Jersey

**BURNETT BROTHERS**  
**98 CHAMBERS STREET, NEW YORK**



SOWN WITH  
**BURNETT'S SPECIAL LAWN GRASS SEED**

SHADOW LAWN

THE SUMMER HOME OF THE PRESIDENT OF THE UNITED STATES AT WEST END, N. J.

(Send for Our Illustrated 1916 Spring Catalogue of Seeds, Bulbs and Plants)

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**A**LL of the seeds, plants and bulbs that you purchase are bought on the reputation of the seller. Even the most thoroughly trained seedsman or horticulturist is unable to give a satisfactory opinion without exhaustive tests, and with this fact in mind it is always desirable to first investigate the reputation of your seedsman. The business of Peter Henderson & Co. was established in 1847 and has been built to its present proportions by the most careful attention to quality.

The second and third generations of Hendersons are in charge today and there is something more than just a plain business relationship existing between themselves, their employees and their customers. When you buy Henderson's seeds you buy 69 years of experience; you buy the prestige and reputation of years of successful seed raising and selling; you buy seeds that have behind them the sentiment brought out by many years of careful, conscientious attention to our customers and their wants. The very smallest part of the cost is represented by the seeds, and it is by far the most important. Try the Henderson way this year and see if there isn't a difference.

Our catalogue, "Everything for the Garden," 206 pages, 16 color plates and 1,000 illustrations. The handsomest we have ever issued, sent without charge if you will mention The Gardeners' Chronicle.

**Peter Henderson & Co.**

35 and 37 Cortlandt Street, New York

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The Standard of Merit which MATCHLESS means has been the factor in the rapid growth of our business during the past twelve years.

Our 1916 Catalogue of MATCHLESS Seeds and Bulbs may not be as elaborate as others, but it contains all the varieties required for the Professional or Amateur Gardener, with the MATCHLESS reputation behind them.

If you have not received a copy, a postal will bring it to you.

### HARDY ROSES

We have now on hand one hundred varieties of Hybrid Tea and Hybrid Perpetual Roses, all strong two-year-old plants.

*Write for our list of varieties.*

## W. E. MARSHALL & CO.

*Seeds, Plants and Bulbs*

166 West 23d Street

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## Rockery Plants

Send for Our List of the 50 Best

FROM our collection of over 340 varieties of Rock Plants, and 40 varieties of Evergreens and Shrubs best suited to Rockery Planting, we have made a careful selection of 50 that we know to be the best all around ones.

They are ones you will want, whether your rockery is large or small. They will give you a continuous series of bloom from April till Thanksgiving Day. Come to the Nursery and see our Rockery, planted with its 340 varieties.

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If at the New York Flower Show, April 5th to 12th, be sure to see our Rockery Exhibit.

Our complete catalog of hardy flowers, trees and shrubs, and rockery plants you are welcome to.

### Julius Roehrs Co

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Wallace's famous Iris, Lilies and Montbretias  
Awarded 600 medals, cups and trophies

Blackmore & Langdon's world-renowned Begonias  
Awarded 44 gold medals and 16 cups

Our fine stock of cold storage Lilies now ready

Our cold storage Spiraea, deliveries throughout the year,  
awarded a gold medal

For Highest Quality—  
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Inspect our Exhibit at the International Flower Show, New York

We have the most recommendable varieties of Bulbs  
in exceptional quality



## NOVELTIES IN SINGLE 'MUMS

that are worth general growing. Varieties that as sprays are superior to existing sorts. We have selected from the Johnson seedlings six of the finest that we offer as the "Mount Greenwood Novelty Set." One plant each of the six varieties for \$1.50.

The "Cromwell Gardens Novelty Set" is made up of seedlings of our own raising, with the exception of Margaret Waite, the deep pink sport of Mrs. E. D. Godfrey. Price, \$1.50 for the set—one plant each of the six varieties.

These will help the collections of 'mums for the shows in the fall, and Ramona and Fascination will be in many of the winning collections.

A. N. PIERSON INC.  
**CROMWELL GARDENS**  
 CROMWELL CONN

## DREER'S GARDEN BOOK FOR 1916

is more than a catalogue. It is a guide-book of authoritative information on when to plant, how to plant and what to plant in whatever line of gardening you are interested. It contains cultural articles written by experts and is valuable alike to the amateur with a small plot or the professional with acres. It contains 288 pages, four color and four duotone plates. It lists all the dependable, tested, standard varieties of flowers and vegetables as well as the season's best novelties.

The newest Roses, the best Dahlias, and Dreer's Improved Hardy Perennials are given special prominence.

It features a number of noteworthy specialties in Vegetables, Sweet Peas, Asters and Phlox. Whatever is worth growing you will find in Dreer's Garden Book for 1916, with full instructions how to grow it.

*Mailed free to you if you mention this publication.*

HENRY A. DREER

714-716 Chestnut Street, Philadelphia

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If you contemplate buying semi-established, established or imported Orchids, consult us first.

We carry in stock about 25,000 plants and from April to July we shall receive large consignments of imported Orchids.

We specialize in supplying the private trade.

Let us figure on your requirements—our quality is second to none.

Orchid Peat, Live Sphagnum Moss, Baskets, Pot Hangers, always on hand.

Send for our price list.

G. E. Baldwin & Company

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## Flower Aristocracy

The aristocrats among flowers spring from "Seeds with a Lineage"—Carters Tested Seeds.

Carters Seeds rank highest in purity and germination due to expert testing, selecting and improving their variations at Raynes Park, England, for generations and generations.

Since introduced in America, Carters Seeds have been the logical choice for the grounds and gardens of people who wish for flowers and plants which are above the ordinary.

Send for Carters "Garden and Lawn," 1916 Edition (free of charge). A wonderfully illustrated seed catalogue containing 16 color pages as well as useful directions on planting and cultivating. Write now for the edition is limited.

CARTERS TESTED SEEDS, INC.

111 Chamber of Commerce Bldg.  
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Branch of JAMES CARTER & CO.  
 Raynes Park, London, England.



**Carters**  
 Tested  
 Seeds

"The Seeds with a Lineage"

# Choice Choosings in Swas-Teeka Orchid Cannas

SO strikingly beautiful in their color and form, are some of Antoine Wintzer's latest productions, that they seem to have ceased being Cannas and become glorious Cattleya-like Orchids. Their colorings are akin to the rainbow. In foliage, both bronze and green. In



height, dwarf, medium and tall. Luther Burbank writes: "Your Giant Canna sent me last season attracted much attention. It is a great Canna." Here is a list which Wintzer calls his "Happy Family Collection." You can't go wrong on a single one of them.

SEND FOR COMPLETE LIST OF ALL OUR CANNAS

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<i>Pink</i>		
	Each.	Per Doz.
* HIAWATHA B. ....	\$0.15	\$1.50
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* EASTERN BEAUTY B. ....	.15	1.50
* JUANITA B., \$1.25 per 10 .....	.30	3.
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* SPLENDOR .....	.35	3.50
* WM. SAUNDERS B. ....	.25	2.50
<i>White</i>		
* MONT BLANC (Improved) ....	.20	2.

## TALL

<i>Pink</i>		
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* WEST GROVE .....	\$0.15	\$1.50
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* GLADIATOR .....	.20	2.
* JENNIE WALLS FAHNLIN .....	.50	5.
* MRS. CARL KELSEY, Orchid Flowering .....	.15	1.50
<i>Yellow and Orange</i>		
* ZENITH .....	.15	1.50
* WYOMING B., Orchid Flowering .....	.15	1.50
<i>Red</i>		
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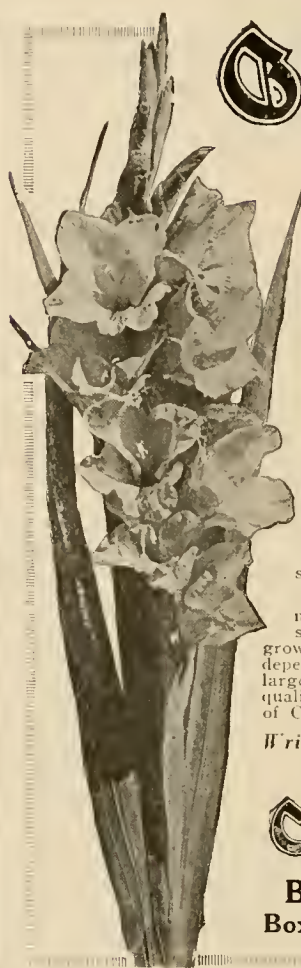
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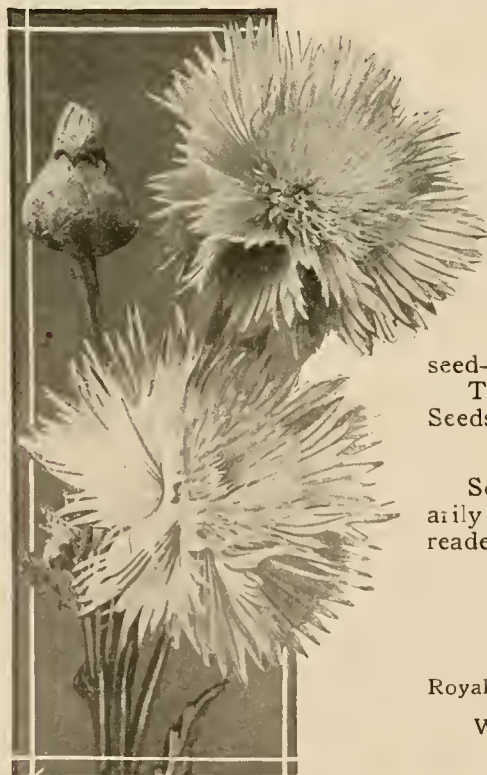
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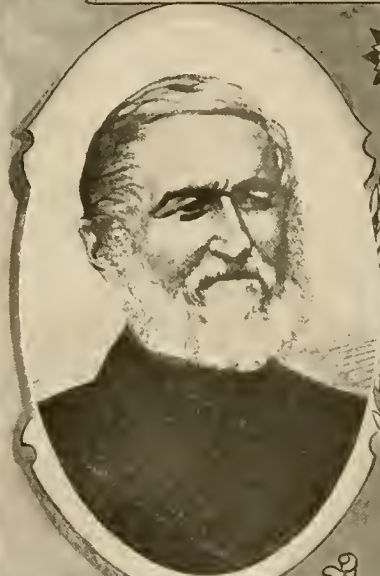
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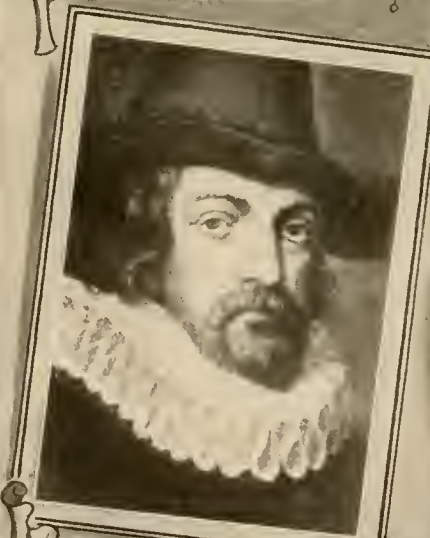


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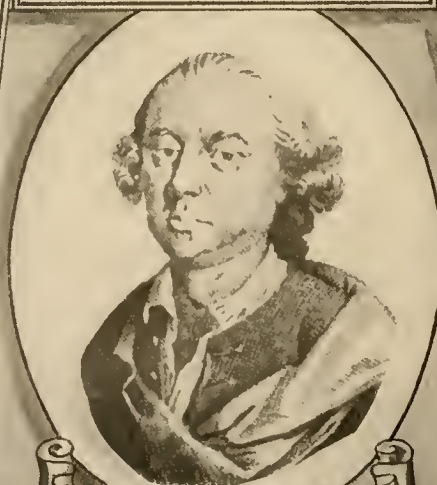


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# GARDENERS' CHRONICLE OF AMERICA

Devoted to the Science of Floriculture and Horticulture

Vol. XX.

MARCH, 1916.

No. 3.

## *The Early Masters of the Garden Art*

By L. P. Jensen, Missouri.

*"God Almighty first Planted a Garden, and, indeed, it is the Purest of Human pleasures. It is the Greatest Refreshment to the Spirits of Man; Without which Buildings and Palaces are but Grosse Handy-works. And a Man shall ever see, that when Ages grow to Civility and Elegancie, Men come to Build Stately, sooner than to Garden Finely. As if Gardening were the Greater Perfection."*—Sir Francis Bacon.

ABOUT twenty years ago, I began gradually to collect a library of early works pertaining to gardening, or those treating on gardening as an art of design. To-day, my library contains a fairly complete collection of early authors on this subject, published since the appearance of the well-known essay "On Gardens," by Sir Francis Bacon in 1625.

These volumes contain many valuable and interesting passages, which the gardener of to-day might study with profit. The history of gardening, is, as the history of architecture and other arts, the history of human progress. The first gardens were probably made to supply a primitive want, small enclosures, containing, as Lord Walpole said, "a gooseberry-bush and a cabbage," and gardens for the growing of medicinal herbs.

It is not the intention of the writer to touch the early development of the ancient gardens, such as described by Xenophon, Diodorus, Siculus, Strabo, Quintus Curtius, Plinius, Horace and other early Grecian and Roman authors, but to present a brief sketch of the life and works of some of the early workers and writers, whose work may be said to have been important factors in the development of the principles considered as essentials in the practice of the art of gardening to-day.

After the fall of the Roman Empire, little is known of gardening up to the beginning of the sixteenth century, when it was revived by the Medici family of Rome.

These gardens were of formal design, and served as models for the noted and artistic formal gardens of the Italian Renaissance. At the end of the sixteenth century the French began to copy the gardens of the Italians, and during the reign of Louis XIV, 1651-1715, Andre Le Notre settled the French style in the laying out of grounds and gardens. Hirschfeld, in his "Theorie der Garten-

kunst," volume I, 1779, said: "If Le Notre had been born under any other monarch than that of Louis XIV, his taste would, in all probability, never have spread nor his name been known to posterity. But that age in which a feeling for the fine arts had begun to awaken in men's minds, together with the personal character of this monarch was favorable to pomp and brilliancy. The nation and the court wished to be dazzled and enchanted by novelty and singularity, and though there certainly was nothing in Le Notre's manner that had not before been displayed in Italy, and with the exception of parterres, even by the Romans, yet the grand scale and sumptuous expense of the plans surpassed everything before seen in France, and produced precisely the desired end. His long clipped alleys, triumphal arches, richly decorated and wrought parterres, his fountains and cascades with their strange ornaments, his groves full of architecture and gilt trellisses, his profusion of statues, all these wonders springing up in a desert looking, open country, dazzled and enchanted every class of observers."

The principal works of Le Notre are: Versailles, which cost nearly 200 million francs; Trianon, St. Cloud, Chantilly, and the celebrated terrace of Saint Germain. Very little is known of the life of Le Notre. He visited Rome and is said to have been in England, but this is very doubtful. He was born in 1613 and died in 1700. His style was adopted by all of Europe.

At this period the art of gardening seems to have centered exclusively on formal arrangement and this continued for more than half a century.

Sir Francis Bacon's little essay "On Gardens" is credited with having shed the first ray of light on the horizon of the naturalistic gardening. Bacon proposed winter or evergreen gardens, and that part of the garden be given

over to wild nature. "As for the making of knots and figures," said he, "with divers colored earth, they be but toys. I do not like images cut out in junipers and other garden stuff, they are for children."

Sir Francis Bacon was a most distinguished philosopher in the reign of King James I. of England. He was born in 1560 and died in 1626.

Certain passages in John Milton's "Paradise Lost," published in 1669, are considered as a prophesy of the coming change of garden art. Horace Walpole said of Milton: "One man, one great man we had, on whom nor education nor custom could impose their prejudices; who, on evil days though fallen, and with darkness and solitude compassed round, judged the mistaken and fantastic ornaments he had seen in gardens, were unworthy of the almighty hand that planted the delights of Paradise. He seems with the prophetic eye of taste (as I have heard taste well defined) to have conceived, to have foreseen, modern gardening; as lord Bacon announced the discoveries since made by experimental philosophy.——What Coloring, what freedom of pencil, what landscape, in these lines":

"——from that saphire fount the crisped brooks,  
Rolling on orient pearl and sands of gold,  
With mazy error under pendant shades  
Ran nectar, visiting each plant, and fed  
Flowers worthy of Paradise, which not nice art  
In beds and curious knots, but nature boon  
Pour'd forth profuse on hill and dale and plain,  
Both where the morning sun first warmly smote  
The open field, and where the unpierc'd shade  
Imbroc'd the noontide bow'rs. ——Thus was  
this place  
A happy rural seat of various view."

John Milton was born in 1608 and died in 1674.

Ornamental gardening, as practiced at this period in France, is described and illustrated in the work: "Theorie et la Practique du Jardinage." Paris, 1709, by D'Argenville. This work was pirated by Le Blond and translated into German and English, and published in many editions. The illustrations and detail descriptions of this work are very interesting. Sir William Temple's essay "On the Gardens of Epicurus," 1685, is interesting as it tells what was considered a perfect garden in England, at this time. He pictures a perfect garden on a flat, gentle slope, lying in front of the house, with a descent of steps from a terrace extending the whole length of the house. The inclosure is to be cultivated as a kitchen garden and orchard. Such a garden he found in Moor Park, Herefordshire, which he describes with considerable detail, calling it, "the sweetest place, I think, that I have seen in my life, before or since, at home or abroad."

It is allowed on all sides that Joseph Addison and Alexander Pope prepared for the new art of gardening the firm basis of philosophical principles. Joseph Addison, a statesman and writer, was born in 1672 and died in 1719. He had a small retirement at Bilton, which he laid out in the natural style. His protests against the prevailing style of gardening were published in the "Spectator." "On the causes of the Pleasures of the Imagination arising from the works of Nature and their superiority over those of Art," and "A description of a Garden in the Natural Style."

Alexander Pope, celebrated English poet, was born in 1688 and died in 1744. He attacked the verdant sculpture and formal groves of the time with the keenest shafts of ridicule in his article in the Guardian "On verdant Sculpture," published 1713, and in his "Epistle to Lord Burlington," 1731, laid down the most just principles of

art, the study of the place, and never to lose sight of good sense.

The following is from his "Epistle to Lord Burlington":

"—— To build to plant whatever you intend,  
To rear the column, or the arch to bend,  
To swell the Terrace, or to sink the grot,  
In all, let nature never be forgot,  
But treat the Goddess like a modest fair,  
Nor over-dress, nor leave her wholly bare.  
Let not each beauty ev'ry where be spy'd,  
Where half the skill is decently to hide.  
He gains all points, who pleasingly confounds,  
Surprises, varies, and conceals the bounds,  
Consult the genius of the place in all,  
That tells the waters or to rise or fall:  
Or helps th' ambitious hill the Heav'ns to scale  
Or scoops in circling theatres the vale;  
Calls in the country, catches op'ning glades,  
Joins willing woods, and varies shades from shades;  
Now breaks, or now directs, th' intending lines,  
Paints as you plant, and as you work designs,  
Still follow sense, of ev'ry art the soul. ——"

Pope practiced what he wrote, in his garden at Twickenham, as far as was possible on an extent of two acres.

It was reserved for William Kent to carry the ideas of Addison and Pope more extensively into execution. It was reserved for him, says Daines Barrington "to realize the beautiful descriptions of the poets, for which he was particularly adapted by being a painter, as the true test of perfection in modern gardening is, that a landscape painter would choose it as a composition. Kent was painter enough to taste the charms of landscape, bold and opinionative enough to dare and to dictate, and born with a genius to strike out a great system from the twilight of imperfect essays, he realized the compositions of the greatest masters."

Kent was born in Yorkshire, England, in 1675, and apprenticed to a coach-painter. He soon afterward came to London, discovered a genius for painting, was sent to Italy by Lord Burlington, with whom he afterwards lived till his death, in 1748. He was first employed to paint historical objects on ceilings, afterwards he became architect, and lastly landscape gardener. It is not known where he first exercised his genius as a layer-out of grounds; probably at Claremont or Esher, two of his designs both minutely described by Whately. Kent was also employed at the Kensington Gardens.

William Shenstone, the poet, born in 1714, died in 1763, was the first to give a name to the new art of gardening, when he said, in his "Unconnected Thoughts on Gardening"; published 1764: "Gardening may be divided into three species: kitchen gardening, parterre gardening and landskip or picturesque gardening."

In the same volume is published a plan and description of his country-seat, the Leasowes, laid out in the natural style by Shenstone.

Mention should also be made of Lord Kame's "Gardening and Architecture" in his "Elements of Criticism," Vol. II, published in 1762, where he calls attention to the value of both the formal and natural style of gardening in design.

Kent had many imitators, but these, lacking the artistic qualifications of Kent, not only failed, but caused much destruction of ancient gardens. They created a system of gardening, absolutely void of genius, taste and propriety. Their creations were all surrounded by a narrow belt of plantations, and the space within was distinguished by a number of round and oval clumps, and a reach of one or two artificial rivers on different elevations. This descrip-

tion, in short, will apply to almost every place laid out in England, from the time, about 1740, when the passion commenced for new modeling country seats, to about 1785 or 1790 when it, in a great measure, ceased. The leading outline of this plan of improvement was easily recollected and as easily applied. The great demand produced an abundance of artists, and the general appearance of the country so rapidly changed under their operation, that, in the year 1772 Sir William Chambers declared: "Our virtuosi have scarcely left an acre of shade, nor three trees growing in a line, from Land's-end to the Tweed; and if their humour for devastation continues to rage much longer, there will not be a forest-tree left standing in the whole kingdom." This system was in fact more formal than the ancient style, which it succeeded, because it had fewer parts. The ancient gardens had avenues, alleys, platoons, circular masses, rows, double and single, all from one material, wood, but the new style, as then degraded, had only three forms, the clump, the belt and single tree.

The good sense of the country soon revolted at such monstrous productions, and proprietors were ridiculed for expending immense sums in destroying old gardens, avenues and woods, and planting in their place young clumps, for no other reason than that it was the fashion to do so. This protest produced a number of most valuable publications, which are well worth the study of the present-day gardener.

The following are particularly interesting and instructive:

1765.—G. Mason. "An Essay on Design in Gardening." Historical.

1764.—Wm. Shenstone. "Unconnected Thoughts on Gardening."

1771.—Thomas Whately. "Observations on Modern Gardening." This was the first complete treatise on the new art of gardening, and is still indispensable.

1772.—Wm. Chambers. "Desertations on Oriental Gardening." This volume describes the method of ornamental gardening in China, and had considerable influence on the change of taste. The name English-Chinese gardening sometimes applied to picturesque gardening, may be traced to this volume.

1772-1789.—Wm. Mason. "The English Garden, a poem in four books." A second edition, 1783, containing a commentary by W. Burgh, is particularly interesting. Wm. Mason, in a note in the second book, calls "Bacon the prophet, Milton the herald, and Addison, Pope and Kent the champions of true taste, because they brought it into execution."

1780.—Horace Walpole. "On Modern Gardening," in his "Anecdotes of Painting." Historical.

1785.—Wm. Marshall. "Planting and Rural Ornament." Two volumes.

1783-1809.—Rev. Wm. Gilpin. Ten volumes on "Picturesque Travel," and two volumes on "Forest Scenery." These volumes are full of interesting descriptions, and should be studied, if possible; his "Forest Scenery" is particularly valuable.

1794.—Sir Uvedale Price. "On the Picturesque." The best edition, 1842, edited by Sir Thomas Dick Lauder. Price writes on the value of the study of pictures for the purpose of improving real landscape. In advocating this, he said:

"With regard to improving, that alone I should call art in a good sense, which was employed in collecting from the infinite variations of accident (which is commonly called nature in opposition to what is called art) such circumstances as may happily be introduced according to the real capabilities of the place to be improved.

"This is what painters have done in their art. He therefore, in my mind, will show most art in improving who leaves (a very material point) or who creates the greatest variety of pictures of such different compositions as painters would least like to alter."

1794-1803.—Humphrey Repton. "Sketches and Hints on Landscape Gardening" and "Observations on the Theorie and Practice of Landscape Gardening."

1806.—"An Inquiry into the Changes of Taste in Landscape Gardening."

Repton was the first who took onto himself the title of landscape gardener and the first to lay down fixed principles for the art. His works are still indispensable, and,

fortunately, were republished by the American Society of Landscape Architects, 1907. Every gardener who has the least to do with the planning and designing of ornamental grounds should study this work. Repton was born in 1752 and died in 1818.

1803-1820.—J. C. Loudon. Numerous works on gardening and landscape gardening, all of which are interesting and instructive to the present day gardener.

The works of the above-mentioned English authors were translated into German and French, and their elegant sensible style rapidly spread over continental Europe. Among the German authors, of this period, the following are particularly worthy of study:

1779-1785.—C. C. L. Hirschfeld. "Theorie der Gartenkunst," 5 volumes.

1818.—F. L. von Seckell. "Beitraege zur bildenden Gartenkunst."

Von Seckell was a professional landscape gardener, who after extensive travels in France and England, returned to Germany, where he was employed by the nobility to rearrange and lay out a large number of important places. His designs were characteristic of simplicity and dignity, and his book, based as it was on practical experience and observation, is worthy of careful study.

Unfortunately, however, this book is very hard to obtain.

Von Seckell was born in 1750 and died in 1823.

1834.—Hermann Fürst von Pückler-Muskau. "Aendungen über Landschaftsgärtnerei."

Pückler-Muskau worked for thirty years on the improvement of the district in which he lived. Charles Eliot says:

"The significance for us Americans of this work at Muskau is very obvious.—He preserved everything that was distinctive. He destroyed neither his farm nor his mill, nor yet his alum works; for he understood that these industries, together with all the human history of the valley, contributed to the general characteristic element, only second in importance to the quality of the natural scene itself."—"His essays on landscape were long since translated into French, and it is hoped that they may yet appear in English, for they contain a very clear presentation of the elements of landscape design, as well as many lively descriptions of his work at Muskau."

The work of Pückler-Muskau was republished a few years ago by Theodor Lange, at the publishing house of Hans Frederick of Leipzig, Germany; previous to this time it was almost impossible to find a copy. Pückler-Muskau was born 1785 and died 1873.

The most important works published in France during this period are:

1774.—C. L. Watelet. "Essay sur les Jardins."

1776.—J. M. Morel. "Theorie des Jardins, etc."

1777.—L. R. Girardin. "La Composition les Paysages, etc."

Andrew Jackson Downing introduced the art of gardening in America and he is best known from his book, "Landscape Gardening and Rural Architecture," a valuable and popular work, published in many editions, the first 1841, and from his "Essays" to the "Horticulturist" from 1846 to 1850.

A Memoir of Downing may be found in his "Rural Essays," 1890 edition. Downing was born in 1815 and died in 1852.

Having called attention to the most distinguished masters of the art of gardening and the writings produced by them for our benefit and pleasure, I will conclude with the words of Sir Josua Reynolds:

*"The more extensive, therefore, your acquaintance with the works of those who have excelled, the more extensive will be your powers of invention, and what will appear still more like a paradox, the more original will be your conceptions."*



# Our Hardy Roses— Their Habits and Needs

By  
Arthur Smith  
Pennsylvania

*Frau Karl Druschki, the Favorite of Garden Favorites. Sometimes referred to as the White American Beauty.*

THE title, Queen of Flowers, which the Rose received very many years ago, will undoubtedly be retained by it for all time, especially as in comparatively recent years there has been a large number of hardy hybrid Tea Roses produced which enables us to have in the northern States a more continuous and more prolific season of bloom than was the case when we depended practically upon hybrid Perpetual Roses alone.

or a thousand, three feet should be considered the minimum; if you like to go deeper, so much the better for the roses. It is absolutely necessary that the work be thor-



*Gorgeous, an Irish Rose of Recent Introduction. Color, a deep coppery yellow, heavily veined and flushed salmon rose, and is all that its name implies.*

Success in growing roses, as with everything else, depends practically entirely upon what we do and how we do it before the plants are set out. The Rose, more than anything else, requires a rich soil deeply cultivated. The expression "deeply cultivated" will doubtless convey a different meaning to different people. In preparing the ground for roses, whether you are intending to plant one



*Red Radiancè. A new Rose of many excellent qualities. Its large flowers are of an even red color.*

oughly done. It is of no use to dig a trench, throw some manure into the bottom, cover it with the soil in chunks and let it go at that. In planting a rose we are planting something which can last our lifetime and longer, pro-



vided the work of preparation is properly carried out and the entire three feet or more of soil is thoroughly broken to pieces and plenty of rich manure intimately mixed with it.

The importance of this preparatory work must be my excuse for dealing with it somewhat in detail.

Roses, if we wish for the best they are capable of, do not lend themselves to being mixed with other things and are therefore invariably grown in a border by themselves, and by a series of borders a rose garden can be made. The individual border should not be too wide, five feet being the maximum width, so that any necessary work connected with the roses can, after they are planted, be performed without standing on the border. This width is suitable for two rows of plants. If there is only room for a border containing one row of roses then the minimum width should be three feet; of course it may be of any length.

Roses are of course plants for the sun rather than the



*Ulrich Brunner. A large rose of fine form, cherry red in color.*

shade, but at the same time a little shade from the hottest sun is, all other things being equal, beneficial. Perhaps the ideal aspect is one where the roses can get all the sun up to about eleven or twelve in the forenoon and be in the shade for the rest of the day. The worst aspect is where they have no sun at all up to noon and all the sun for the rest of the day. It is important that the position should be one where there is a free circulation of air, but if there is an evergreen windbreak a little distance away on the north so much the better. It sometimes happens, however, that we have to make the best of such conditions as exist and cannot always find a position that is ideal in every respect. Having decided upon a situation for our rose border which is the best under such circumstances as over which we have no control, we then commence to make it fitted for the reception of the plants. This should be done in the autumn if possible so as to be ready for spring planting, while in those places where autumn



*White Killarney. Pure White Sport of the popular Killarney Rose. Free flowering and fragrant.*

planting is successful the bed should be prepared several months beforehand.

If the ground is now covered with sod this should be pared off and put on one side ready for mixing with the subsoil. The remainder of the top soil to the total depth of one foot should be removed and placed along the sides of the site of the bed, leaving two feet of subsoil to deal with.

In working up ground to any depth and adding manure to it, it will be found to occupy more space than it did before, and in this particular example the surface of the bed when finished would be at least a foot above the level of the surrounding ground. This is not a desirable condition, as it would cause rains, or water added artificially,



*American Pillar. A vigorous climbing rose producing clusters of large single flowers of a bright pink shade.*

to run off instead of down to the roots. When the bed is finished the surface should be about level with the ground around it, which would bring it after it has sunk, two or three inches below the undisturbed ground, which would enable water to be confined to the actual bed and afford room for the addition of enrichment from time to time. To enable this to be brought about six inches of the subsoil should be entirely removed, leaving eighteen inches. To this eighteen inches of subsoil six inches of good half rotted manure should be added, thoroughly breaking up the soil and mixing the manure with it as the work proceeds. The work is facilitated if a trench is first dug across the bed and the soil from it taken to the spot where the bed is to finish, then the soil can be worked forward in strips; the sod taken from the surface should at the same time be broken up and mixed with the subsoil, which if very clayey is benefited by the addition of some good light compost. Having completed the working up of the subsoil, a coating of air-slaked lime should be spread over it, just sufficient to whiten the surface, and then the top-soil may be replaced and have manure worked in with it with the addition of two pounds of pure bone meal to the square yard. The bed is now ready for the reception of the plants.

In this section (New York) April is a good month to plant; the distance apart for hybrid perpetuals should be two feet and for hybrid teas eighteen inches. Some difference of opinion exists as to whether it is better to use budded plants or those on their own roots. While much can be said in favor of the latter, the former will invariably give the best results, all other things being equal, provided they are planted at a sufficient depth. Innumerable failures with roses have been brought about by want of attention to the latter point. A budded rose should be placed in the ground at a depth sufficient to cause the point on the stock at which the rose was budded to be six inches below the surface. At this depth the rose itself will generally throw out roots above the stock and the tendency of the stock to produce suckers will be to a great extent prevented; also, what is of the greatest importance, should an exceptionally severe winter kill the rose to the ground, it will, when planted at this depth throw up shoots from below. The best plants to buy are two years old dormant plants that have been potted up in the autumn; these are generally sent out sufficiently pruned. Care should be taken that the soil is well firmed around the roots.

After planting, the ground should have a coating of air-slaked lime; this dressing of lime should be repeated every year. During the growing season the ground should be kept cultivated so that there is always three inches of loose soil all over. If watering is necessary it must be done thoroughly. It is astonishing how many there are who water their plants without giving them any water. To be of any value the water must be sufficient to reach below the roots. It is very rarely, however, that properly prepared ground kept continually loose on the surface requires watering.

In addition to the before mentioned continual cultivation, summer care consists in removing the flowers, either for decorative purposes or those that have dropped their petals, with as long stalks as possible, the object being to encourage the growth of strong young wood throughout the season. The first year of a newly prepared border feeding will not be required, but each subsequent year a rose border should be fed with liquid manure when the soil is moist during July, or sheep manure and bone meal can be worked in.

After the flowering season is over roses may be cut back to about eighteen inches from the ground, which

will facilitate the application of the winter mulch; this may be applied as soon as the surface is just crusted with frost. The thickness of the mulch may vary with the climate, although it is best to err on the right side. Surrounding the border with wire netting and filling up with eighteen inches or two feet of hardwood leaves is a good plan, or salt hay or coarse strawy manure may be used. The date when this mulch may be removed in the spring will depend upon local conditions, but from the middle to the end of March is sufficiently early. After this, pruning may be done, which consists of removing very weak shoots and cutting others back to about two buds above the ground, although in the case of the very strong growing varieties, three or four buds may be left.

Apart from the preparation of the soil, cultivation and continual feeding, which apply to all classes of roses, my remarks have been principally in connection with hybrid perpetuals and hybrid teas. Although, as before mentioned, the latter give a more continuous display of bloom, I should be sorry to see the former banished from our rose gardens, as in their season they are unsurpassed.

As regards other classes, the climbing varieties only require the dead and old wood removed each year; this is best done soon after their blooming season is over.

The best place for the Rugosa roses is as part of the shrubbery. The only pruning required is the removal of wood over two years old; they throw up young wood from the roots each year. The fruit of this species is very ornamental for a long time after the blooming period has passed.

The Wichuraiana roses are very valuable for covering sunny banks where grass does not thrive. The bank should be thoroughly cleaned from weeds and enriched; as the roses trail over it they should be pegged down and roots will form; in a very short time the bank will be covered and will be a thing of beauty instead of an eyesore, more especially as this species of rose is almost—and in mild sheltered spots quite—evergreen. This kind of rose is also useful for planting at the back of a retaining wall, for which purpose the climbing varieties are also valuable.

I must not forget to call attention to the value of the Baby Ramblers or Polyantha class, which are not made as much use of as they deserve to be. If one has only room for a few roses, I think that these will be found to give more in the way of flowers than any other kind, as the bushes are from the earliest to the latest times covered with bloom in the form of sprays. The only pruning they require is the cutting out of the branches that have produced flowers.

We do not see rose hedges so frequently as I think we should. I have never been able to understand why any one should ever have a privet hedge planted upon their place; if there is one redeeming feature in a privet hedge I have not yet discovered it. We are not to-day discussing the question of hedges, otherwise numerous things could be mentioned which are all far above privet for that purpose. I merely wish to suggest that roses can very often be used, and the climbing class lends itself especially for hedges. The Sweetbriar should be freely mixed with the others along a hedge, as the leaves of it exhale a delightful perfume on summer evenings. The hybrid Sweetbriars are not so strongly scented as the old English Sweetbriar.

The wild roses, too, should be used more frequently. We do not make enough use of our native wild flowers, and there are many places amongst shrubs and in semi-wild spots that can be beautified by our wild roses, all of which will show improvement in quantity and quality of bloom when subjected to the better soil which should be provided for them.

# Some Favorite Flowers of the Garden

By Wm. R. Fowkes, New York

A FLOWER garden is an inspiration and a refining influence to mankind. Love began in a garden. The creation of the beautiful world we live in, in spite of the gross sins of mankind, would be an oasis were it denuded of flowers. The difference, it has been said, that there is between town and country is, that God made the country, and man the town.

But be as it may, the town and city are no longer neglected in our land. Across the Atlantic we find the flats and dwellings of the city people adorned with beautiful flowers, grown in window boxes.

Our grandmothers all had their own favorite plant, which they grew with marvelous success and a great source of pride and satisfaction.

The favorite of one would be the show Pelargonium, the old Kingston Beauty variety, which many flower lovers will remember; another, the Fuchsia, grown on a home-made ladder, like trellis; the Begonia; the drooping Campanula; Gypsophila, with its azure blue covering the pot; and then the white variety Alba, succeeding it; others had the monthly roses, and on the walls surrounding would be found the Gloire-de-Dizon Rose and Clematis Jackmanni.

We recall the ivy-clad porches and sometimes honeysuckle-adorned entrance to the house, modest but beautiful. In February the Snowdrop appeared in the hedges, from under the snow; the Crocus followed with their golden hues; later the blue Scilla Sibirica, and the golden daffodil, Narcissus Von Zion, appeared with March breezes loud and shrill, followed by the beautiful sweet-scented single-flowered Pheasant's Eye Narcissus we used to call Sweet Nancys. Then came the double Gardenia flowered type, which was rich in odor; and then the lovely primrose modestly peeped forth with its healthy verdant leaves and charming flowers that we loved to pluck in the fields as well as gardens. And the modest sweet spring flowers seemed almost to whisper to us of a promise which never yet failed, that winter chill is past and that while the earth remaineth, seed-time and harvest, cold and heat, summer and winter, shall not cease.

In America floriculture is advancing rapidly, and we are not far behind Europe, for we can now go to our cities and find window boxes on the hotels and apartment houses; and the less pretentious city dweller raises a few bulbs in pots and glasses and boxes which, although sometimes crude, contain some lovely flowering plants.

Horticulturists are constantly giving us some new and fascinating exotics to grow.

I am penning these lines to show the amateur how he or she can grow some of these lovely flowers we had at our disposal. There are three classes of flowering plants, namely, annuals, biennials and perennials. The first named can be produced from seed, and grow, blossom and die the same year. The second one, raised the first year, makes growth the succeeding year, blossoms and dies. The third class is permanent and is mostly raised from seed, afterwards being propagated by cuttings or division of the roots.

We have also the bulb and tuberous plants, and they all belong and continue to occupy their position in the gardens of flower lovers.

Then, the roses we all love and would not like to be without are at our disposal in great variety of glorious colors and shapes. The great variety and habit pos-

sessed by them have rendered them as fixtures in our gardens. We have the Tea rose with its delightful fragrance and great usefulness as a cut flower; the more vigorous hardy hybrid Perpetual; the Banksiana rose that will grow on any dry, hard, worthless-looking bank and give a lovely display in early summer; the ramblers with their wonderful prodigious growths and charming blossoms; the Pillar rose, which adorns the pillars of many entrances to the mansions of our wealthy people; the Standard rose has its place, and if planted in conjunction with dwarfs becomes at once a thing of beauty.

There is also the lily family. Lilies are not planted as they deserve to be, for nothing is more noble in our gardens during August than a bank of *lilium Auratum* and kindred varieties. They require a deep, well-drained sandy loam, and can be planted five inches deep, and, left undisturbed, will thrive for years. All their after requirements are a coating of rotten manure during the hot months of the year. They thrive best in partial shade, and an ideal place is among a clump of Rhododendrons, the peaty soil suiting them admirably. Spent hops are also an ideal food to use in planting both Rhododendrons and Lilies.

The flower kingdom is of such vast proportions that I can only touch briefly on it in an article like this, but I will give a few brief cultural directions to show how a good supply of flowers can be obtained in the garden from spring until frost arrives.

The first flowers we have in spring belong to the bulb family, and are the Crocus and Narcissus of many varieties, but all they require is to be planted twice their depth and six inches apart in rows a foot apart, or if in clumps nearer, in good deep soil that has one-fourth well-rotted manure incorporated in it. They should be planted in October if possible. A covering is necessary to protect them, not from frost, but to prevent the bulbs lifting out of the ground in spring when freezing and thawing have done their most. Do not cover, however, until the ground is frozen, and then do not use green manure or too much rotted manure. The ammonia from such, I know, has often caused bulbs to decay during the winter, and no flowers or bulbs are seen, and the seedman is often blamed for sending out diseased bulbs. The best covering is salt hay or dry litter, about nine inches in depth, to be taken off when frost is over and the ground commences to warm up.

Annuals predominate largely, but I must not forget that the bulbs are perennials if they are planted where they can remain. If obliged to take them out for summer bedding, then it is more satisfactory to procure fresh bulbs each year. They can be purchased at very low cost, and as new varieties come out, it is well to add to one's stock. Lily of the Valley can be planted thickly under trees or in any shady border, and will remain there for years, while its sweet-scented flowers will come up annually. All it requires is a good covering of leaf mould every fall.

Asters are one of our most useful flowers. The great improved varieties have almost rivalled Chrysanthemums with their productiveness and size of bloom. Seed should be sown in a temperature of 60 degrees Fahrenheit about April 20, not sooner, because if sown too early they become root bound and the stem becomes hard and woody, a prolific source of trouble later on with stem rot.

Prepare some loam and leaf mould in equal parts and put through a one-half inch screen; fill flats three-fourth

full of the coarser soil, and the remainder can be filled with the fine soil, which should be pressed moderately firm and level. Water with rose on pot and then sow fairly thick, afterwards covering seed lightly; then place a piece of glass on top to prevent evaporation, and cover with paper, as seeds germinate better in the dark. Keep a sharp eye on them each day, and as seedlings appear gradually turn to the light. When second leaves have formed transplant two inches apart, in flats about three inches in depth and place in cold frames to harden off until planting time. Do not allow any manure to come in contact with them at this primary stage or evil results will occur later on. They thrive best in an open position in any good garden soil that has been deeply dug the previous year.

Give the soil a dressing of wood ashes and work it well into same at planting time, also a sprinkling of bone meal; this is much better than animal manures for Asters. Plant out, making holes for their reception with a trowel. Plant one foot apart in rows and eighteen inches between rows. I usually grow for cutting purposes beds of six feet wide, and plant four rows in this given space. They must be planted firmly and the surrounding soil must be lightly cultivated and kept free from weeds. The trouble most people experience with Asters are these: stem rot, yellows and beetles. Last year I grew 20,000 plants and ploughed up a piece of sod land infested with grubs. I took extra pains, knowing what to expect; I watered the soil every week with a solution of Vermine to keep the grubs away.

The beetle I took in hand by not allowing it any play, and I sprayed each week with Aphine. The yellows is a fungus disease. I used Fungine every two weeks as I invariably do with roses, and did not lose one per cent. I was rewarded for all my trouble and extra attention with plants two to three feet high and averaging 36 blooms on each plant. My neighboring gardeners asked me how I did it and I told them. Many people journeyed miles to see them. All the food given was a little Bon Arbor once in three weeks and a little bone meal.

Chrysanthemums are invaluable and are now to be had from several expert firms who advertise in the CHRONICLE, and who will give a suitable list of outdoor 'mums that will bloom from August until frost. Plant out in good soil from three or four-inch pots, two feet each way, in May, and pinch the first two growths and good, husky plants will follow and tie up to stakes as they grow. Black fly will appear, and Aphine will kill it. A little cow manure liquid will help them to develop good blooms. They can be stored in frames during winter.

Gladioli are another strong feature and are invaluable. Bulbs can be planted from April until June for a succession. Plant four inches deep, six inches apart, in rich soil, in an open position; feed liberally when the growth is advanced, and secure each plant to a stake. When stems are partly developed with flowers they should be cut and placed in jars of water to develop to their highest perfection.

Sweet Pea culture is well known, and they have become indispensable for summer floral decorations. The culture is simple. Plough or dig the ground deeply in the fall. Procure good seed, if fine blooms and long stems are wanted. Put three seeds in a three-inch pot and start in a cool house March 1; when developed about three inches high thin out the two weaker and retain the strong plant. Plant six inches apart and put brush or wire netting for the plants to cling to and give plenty of water. Pick off all flowers daily and shade with canvas during the hot portions of the day.

Stocks can be grown the same way as Asters, but al-

ways remember to cut off the long roots and you will avoid club root often.

Cosmos are being improved annually. One or more firms are devoting considerable time to their improvement, and they have developed a type of bold, large flowers that are very useful. In early fall sow seed in flats and transplant into three-inch pots; plant out May 20 three feet apart, and give a stout stake to each one, and plenty of water and liquid manure and they will thrive wonderfully.

Dahlias are particularly useful, coming in to blossom in the early fall, when the other flowers are on the wane. They succeed best in partial shade; at least, this is my own experience. If flowers are wanted in quantity, full grown roots are to be preferred, but if for exhibition or large blooms, young plants from three or four-inch pots, with single stems, are best. Plant out when danger from frost is past, as five degrees will injure them. Plant four feet each way in rich soil. A bud will form and cause a break from which three leaders will usually appear. Take one off and tie the others out to stakes; others will follow, and must be handled with judgment; quality of bloom will depend on the number grown. The sub-laterals must be cut out as the growths advance; also disbudding must be attended to. Feed liberally with cow manure liquid and a little soot, when in bud, will help to intensify the color. Cultivate the surface of the soil, keeping a sharp lookout for nematodes, and, if they appear, apply previously advised remedies.

Pansies are useful for spring and summer. If wanted to flower in the latter time, however, cuttings should be taken in September and placed in frames during the winter and planted out in May in rich soil, comprising clay and rotted cow manure. They will thrive well under the shade of trees and are good subjects for a carriage drive where no other flowers will live long.

Antirrhinums and most annuals can be grown easily for cut flower purposes by sowing outdoors about May 20 in beds or borders; rows one foot six inches apart, and thinned out as they grow and given plenty of water in hot weather they will do splendid.

Paeonies are useful plants. They are of noble appearance and can be planted and left undisturbed for years, and give a wealth of blooms.

Poppies are useful and can be sown in any part of the garden, and dislike being disturbed. They give a mass of blooms.

Tuberous Begonias are not useful for cut flowers, but have their place, and every well ordered garden should devote a corner to their culture. Start them in flats containing leafsoil and moss, and plant out in a shady position. Give plenty of water and they will give great pleasure and satisfaction to the lovers of nature's handiwork until Jack Frost appears.

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# Growing Sweet Peas for Exhibition

By William Gray, Rhode Island.



*The President—Color, a brilliant glowing scarlet.*

ground for its culture, especially when the aim is to secure flowers of superior quality for exhibition.

The trenching of the ground should be done in the fall to a depth of 3 ft. and thoroughly enriched, with manure, bone and wood-ashes, a dressing of lime being also given if the ground is deficient in that respect. The addition of garden refuse of any kind such as leaves, lawn rakings, etc., in fact, anything of a vegetable nature that will decay and provide humus, will greatly aid in bringing a poor subsoil up to a good state of cultivation. Unless the ground has been previously trenched and enriched it is not advisable to bring the subsoil to the top, as owing to its poorer quality a check might be given the young plants at the start.

Where only one row is planted the ground should be trenched at least 3 ft. wide, the length of the row, but where a plot is devoted to them it is best to trench the whole plot, as this provides better drainage and the ground keeps more uniformly moist than when trenched where the rows are to be planted and hard untrenched ground left between. If sufficient manure is not available for the enrichment of the whole plot the three-foot section, where the rows come, can be well enriched, leaving a three-foot wide section to be enriched the following year, and the rows changed over to occupy the same, thus providing a change of ground.

Experience has taught us that many of the hardy annuals attain greater perfection when sown early under glass, and transferred to the open ground from pots or flats, the reason being that a much stronger root system is established before rapid growth commences. This method has been found to work well with the Sweet Pea and growers striving for the best results now sow the seed during the latter part of January or the first part

of February in three-inch pots, one seed to a pot. White-seeded varieties, being inclined to rot under wet and cool conditions, should be sown in a light sandy compost made moist enough so that very little watering is required until germination has taken place. I find the best plan to sow in pans, pressing the seed in lightly and covering with sand, afterward transferring the young plants to the pots. Any good potting compost will do for black-seeded varieties and they should receive a thorough watering on being sown, sufficient to keep them moist until germination has taken place.

Occasionally a variety may not germinate through having a very hard shell and if the seed of a variety that has not come up is still hard and sound a small piece chipped out of the shell of seed will cause it to germinate by allowing the moisture to penetrate. After germination has taken place the aim should be to bring the young plants along slowly in a cool temperature, no effort being made to encourage growth. A warm temperature will cause the plants to break weak and no hardening up afterward will make them equal the results to be had from cool thrifty grown stock. Plants started in greenhouses, unless the temperature can be kept low enough to suit



*Fiery Cross—Color, fiery red, or rich orange-scarlet.*



*Floradale Fairy—Color, deep rich cream.*



*Royal Purple—Color, rich rosy purple.*



*Cherub—Color, deep ivory white, edged with bright rose.*

and shutters so that frost may be excluded, but in the daytime on all favorable occasions should receive all the air and light possible. As the season advances the sash should be removed entirely during mild spells of weather, protection being given only on frosty nights, thus ensuring hardy plants that will stand early planting to the open ground. Planting to the open ground takes place in the vicinity of Newport around the 15th of April. With the growing of the plants in pots it is possible to follow the practice of giving to each plant sufficient space for its development by planting certain distances apart.

No superiority can be claimed for the single row over the double row system. I prefer to plant in double rows, one foot between the rows and one foot or more between the plants, the double rows being at least six feet apart. Before planting, the ground is dug over one spade deep and a light dressing of super-phosphate applied and raked in. In raking the ground over slightly hollow the ground along where the rows are to be planted so that the roots may receive the full benefit from subsequent waterings and feedings. In planting remove the crock from the ball of the plant and disentangle the roots to some extent, make holes of ample depth to straighten the roots out in, and firm the ground well around each plant. Some short brush should be placed around each plant to give them something to cling to and keep them from being blown about with the wind.

The ground should be kept well cultivated around the plants, and this will be all the attention required for some time, as growth at first is slow. After the plants have reached a height of one foot staking will have to be attended to. Brush is excellent for this purpose when the Sweet Peas are allowed to grow naturally, but under the intensive system of culture it has been found more convenient to use bamboo stakes. In carrying out this plan strong stakes are driven in firmly at the ends of each row and at intervals between if the row is a long one. If grown on the double row system, cross-pieces are nailed to the stakes, and wires stretched tautly lengthwise of the row are fastened to the cross-pieces. To the wires bamboo stakes are fastened, spaced about six inches apart. When the Sweet Peas have grown to a length to permit of tying in, two or three of the strongest growths are selected and tied one to each bamboo stake.

As growth continues they are given a tie in at weekly intervals and all side shoots kept pinched out so that the energy of the plant is confined to the main growths taken up. If the ground has been well prepared no feeding

should be necessary until the plants have been blooming freely, when liquid manure applied once a week will keep them growing freely and producing good long-stemmed sprays. Liquid manure made from cow, horse or sheep manure is preferable to chemical fertilizers for this purpose. Thorough waterings should be given during dry spells and should always precede a feeding with liquid manure. During dry hot weather spraying of the foliage is also very beneficial, helping to counteract the hardening up of the growth and shortening of stem, caused by such conditions. The ground should be kept well cultivated, being loosened up as soon as workable after each watering and feeding or rain to conserve the moisture, frequent cultivation being more beneficial than mulching when the ground has been deeply trenched. Varieties which burn or lose color, which include those of the

orange or salmon shade and some of the crimson, should be shaded with cheese cloth during bright sunny conditions.

Not having experienced any trouble from diseases of any kind, I cannot say much on this point, but would advise a change of ground on their appearance.

Aphis or green-fly rarely proves troublesome on well grown plants, but can easily be checked if on its first appearance the plants are sprayed with a solution of some of the tobacco compounds.

In choosing flowers for exhibiting only those in their prime should be chosen; flowers past their best will be lacking in color, and unopen flowers detract from the appearance of the sprays. The flowers should have stood in water for at



*A vase of Yarrawe (early flowering variety), showing how effectively the Sweet Pea can be used as a cut flower.*

least four hours before being packed to carry any distance. On taking the bunches out of the vases to be packed, the stems of each bunch should be wrapped in moist absorbent paper and the whole bunch wrapped in oil-proof or wax paper. In packing use boxes of a depth sufficient to contain one layer and just sufficiently tight to prevent any movement.

Varieties most suitable for growing for exhibition are those of strong growth, producing flowers that excel in length of stem, size of bloom, and the number of flowers to a spray. As new varieties displace older ones, there is a constant change taking place from year to year in the best to grow for this purpose, some of the most popular at present being:

Constance Hinton, King White, Hercules, Elfrida Pearson, Dobbies Cream, Royal Purple, King Manoel, Rosebelle, John Ingman, Mrs. C. W. Breadmore, Elsie Herbert, Wedgewood, Maud Holmes, R. F. Felton, Lavender, Geo. Herbert, Loyalty, Jessie Cuthbertson, Edith

Taylor, Barbara, Scarlet Emperor, New Marquis, Marks Tey, Thos. Stevenson, Rosina, Charles Foster, Agricola, Mrs. Routzahn.

Promising varieties being distributed this year are: President, Cherub, Jean Ireland, Fiery Cross, Dobbies Old Rose, Miss Burnie, Floradale Fairy.

### DISPLAYS OF SWEET PEAS.

THE adaptability of Sweet Peas for effective grouping at our exhibitions is now being realized. It is difficult to understand why we have put up for such a long time with straight stages, in many cases the vases packed closely side by side with little variation of level, with nothing to set off, vary, harmonize, or contrast, with the masses of color. Sweet Peas cannot bear such a test!

At one time it was remarked that the arrangement of Sweet Pea displays seemed intended to show how even such beautiful flowers might be rendered ugly and unattractive.

It must be conceded, when the matter is duly thought out, that Sweet Peas are as well suited for effective grouping as roses; indeed, they have rather the advantage over the latter in habit and profusion of flowering, besides which there is the additional advantage which Sweet Peas possess in the more numerous and varied shades of color than can be found in the favorite mentioned, or any other florists' flower.

It really seems as though many exhibitors have been blind to the best means of rendering their displays attractive, but many have shown us how elegant displays can be made, and the advantages are so self-evident that others will surely follow in their footsteps. The accompanying illustrations show some varied methods of elegant arrangement, and are far better than long descriptions. They should make it manifest that it is quite possible to secure a beautiful and effective arrangement with comparatively little trouble.

The idea should be to stage the flowers with due attention to harmony of colors. In some displays strong contrasts are secured; in others, blending of coloring, shade softening into shade. These exhibits invariably excite attention and interest, when prim rows of vases will often fail to awaken appreciative response.

The grouping of Sweet Peas for effect calls for talent of a fairly high order. Arrangements that will appeal to the artistic eye as effective studies in form and color are rarely seen. Two almost universal faults are excessive formality in the contour of the group, and the overcrowding of material. The former, at times, cannot be overcome when the ordinary flat stagings are used, but, even then, as the illustrations show, the exhibit need not lose its attractiveness. The quality and the freshness of the flowers are items of the utmost importance.—*The Gardeners' Magazine* (English).

### NOTES ON BALSAM CULTURE.

BALSAMS, commonly known as *Impatiens Balsamina*, were but rarely well grown until the past few years, for the popular works on floriculture prescribed a false system, comprising disbudding, stripping, and other interferences with the natural growth of the plant. After several experiments on these flowers in various ways, a writer made a declaration that there was only one way worth attention, that being the natural way.

We are quite accustomed to see in our gardens abundance of beautiful balsams. The old rule of pinching back the leader to promote growth of side shoots, and removing the flower buds to increase the size of the plants, was altogether vicious, because the natural

growth is more elegant and effective, and the finest flowers are produced on the main stem, and these are completely sacrificed by disbudding. Although the bal-



Courtesy *Gardeners' Magazine* (English)

*Vases and Baskets of Sweet Peas Staged at the Westminster (England) Show. Note the Arrangement.*

sam comes from a tropical climate, it is not very tender.

It is desirable to make two or three sowings of balsams, say from the middle of March to the middle of May. The May sowings may be made in the open ground on a prepared bed. The soil at every stage should be light and rich, but not rank in any degree. The plants should be pricked out from the seed pans when they show their first rough leaves, and soon after they should be shifted to encourage a stout dwarf habit.

A sunny position should be chosen for the bed, in which they may be planted during June. The balsam is a very gross feeder, and a liberal dressing of manure should be given to the beds. Cow manure, in a well-decomposed state, will give the balsam its full value not only in the growing of the plant, but in the forming of the roots, so that it can revel and enjoy the hot sun without the aid of much water. Heat, moisture, and a strong light favor a fine bloom.—*Exchange*.

# Water Lilies for the Home Garden

By William Tricker, New Jersey.

As no two gardens are alike, what I may say on cultivation you must consider in general. Where there is a natural supply of water it can doubtless be utilized, but you cannot plant where there is a swift current or where there are likely to be violent freshets at any season. Water Lilies like a stagnant pool or pond or a sluggish stream. Where the stream is strong, or freshets likely, you can so construct a pool that you can have a regular supply of water or sufficient to keep a certain level in the pond, and with the use of a sluice gate and by-pass all surplus water can escape and no damage result.

For large ponds, not in the garden proper, plant the

frostproof; have the work done thoroughly at first and avoid any future trouble and annoyance. If you have straight and perpendicular walls you can use forms as in other concrete work, but if you have flaring sides forms will not be necessary. Make the excavation the size and shape required, and to be not less than two feet deep when finished. Select heavy wire netting or steel rods for re-enforcing and fix this securely on the sides of the pond and on the bottom if necessary, then apply a coating of concrete, rough, after that the finish coat. Be sure and have the ground properly graded and the pond perfectly level. If you desire it have an overflow and outlet, but for a small pool it is not necessary.

As to materials, I have used the following ingredients with satisfactory results: Two bags Portland cement, three barrows of sand, five barrows of gravel or broken stone. The walls need not be more than four inches thick, smaller pools three inches, but the reinforcement should be carefully attended to.

For small pools soil may be placed directly on the bottom and the plants placed or planted in, but for larger pools it is best to place the soil in boxes. The boxes are best made in proportion to the size of pond. Remember that each plant develops according to the amount of space and root room or amount of plant food or stimulus afforded. This applies especially to the tender Nymphaeas.

For general purposes I prefer planting in boxes three feet square and one foot deep. Such a box is large enough for two plants of the tender Nymphaeas or three plants of the hardy varieties, but as there is a great difference in the varieties this applies only to the general class, not the Pygmeas or such as recommended for tub culture.

As to soil, where possible have composted sods from an old pasture, and if this is not attainable, take the next best, a heavy loam. Stack this in the proportion of two of sods and one of cow manure, or good farm yard manure. Where such is available there is no necessity of using any artificial fertilizers, avoid using fresh soil and manure or there will be much fermentation and green scum on the water. If you have not composted soil and manure, use good garden soil and thoroughly rotted cow manure or the next best. When filling the boxes make the soil moderately firm and cover the surface with about an inch of coarse sand, have the boxes in place and filled, and the water in the pond, say six inches over the boxes several days before planting.

Plant when the weather is warm and the season advancing, better a little late than too early, as the plants should not stand still. If the weather is warm it will



*Showing how a barrel may be utilized for an "aquatic garden." By planting Iris and other moisture loving plants around it, a pretty effect can be secured.*



*A more substantial pool for aquatics is that of cement construction, which will add greatly to the attraction and joys of a garden.*

strong growers of the odorata and tuberosa type, but in the home garden use such plants as the European hybrids of many colors and such as do not produce seed.

In the garden where there is not a natural supply of water, select a spot that is naturally lower than the garden, if such can be had; then you can construct an irregular shaped pond, small or big, according to the size of the garden proper; for in a small garden it would not look well to have a lake, but this is a matter of individual taste. I think any garden, small or large, can have some representatives of the aquatic family. A small pool four feet, five feet or six feet in diameter will answer for the amateur with a small garden; it is not necessary to have a round pool, any shape will answer, and if you have a formal garden, an oblong or any other shape will grow Water Lilies. The main points to be observed in constructing an artificial pond are to have it waterproof and



assure growth at once; this applies to the hardy varieties, the tender *Nymphæas* should not be planted before the first week in June, when we have, or look for, summer weather.

When you have not room for a pond or pool, a few tubs will be better than none at all. These can be made from barrels sawn in half, but better still, by sawing the barrel through, three inches above the hoop that will be the top of the tub, thus cutting the barrel twice; this will prevent the staves spreading and a continuous leakage. Fill the tub two-thirds full of soil, as before recommended, and fill with water. It will be better to have the tubs sunken in the ground to the level of the top. Two or more tubs may be used, as space will permit. One plant is enough for each tub, and not of a very strong habit. As the soil in the immediate vicinity of the tubs will be wet or moist, several plants, such as *Iris Kämpferi* and many others suited to such spots, will suggest themselves for planting here.

For all artificial ponds, pools, fountain basins, tubs, it is unnecessary to have running water. Fill up as the water evaporates, and in all cases keep a few gold fish; these will destroy the larvæ of the mosquitoes and afford much

pleasure and animation. During the hot weather in summer and the occasional droughts, a spraying with the garden hose in the evening will refresh the plants and wash off the dust.

As to wintering, this is a perplexing question to many. Where the plants have grown is in most cases the best place to winter them. Naturally they should not be disturbed in winter or the approach of winter. If the artificial pond is well made, waterproof and frost proof, then let it remain as it is; if of small dimensions, some rough lumber can be placed across it and leaves may be piled over it, and some fresh manure spread over this to keep the leaves in place. This will ward off much frost; but if the masonry is in danger of being broken with the frost and it is necessary to drain the pond, it must be done. In such a case draw off the water, pack the boxes close together, and cover them deep with leaves and litter. This is the best protection. Then in addition there is the natural covering of snow. If this cannot be done, dig the roots up and bury them in the ground two feet or three feet deep and cover the spot with leaves or manure. This applies to the hardy varieties only. For wintering the tender varieties it is not so easy.

#### LUPINES AND THEIR CULTIVATION.

LUPINES are among the easiest of all hardy plants to cultivate, and although they show preference for warm, light soils, they may be grown in almost any garden. It is usual to sow the seed in spring. The Tree Lupine (*Lupinus arboreus*), with its fragrant yellow flowers, is seen to best advantage when grown in a wilder part of the garden and allowed to grow unchecked. Nothing can be more picturesque than large plants from eight to twelve years old, if they can only be induced to attain that age. The flowers are almost always sweetly scented, but it cannot be said that they are invariably of good color. It almost seems as though the Tree Lupine has been influenced by the perennial varieties in regard to color, for mauve-tinted flowers are by no means uncommon. The predominant color is unquestionably yellow, but the shade may vary from pale lemon to rich gold. It is always advisable to save seed from the best colored golden yellow varieties, but even this precaution may re-

sult in seedlings producing flowers of a dull purple, mauve, French grey, lavender, buff, bronze, or even a mixture of yellow and white or mauve and white. It should be remembered, however, that cuttings of the Tree Lupine root quite readily in the open ground, and by this means the best colored varieties may be kept true. Like other Lupines, it shows a preference for light, open soils; while it is an admirable subject to grow in association with sun-loving plants, such as Poppies, Columbines and Rock Roses. As the Tree Lupine has an unhappy way of dying suddenly after attaining an age of two or three years, and as it may be killed by frost in severe weather, it is advisable to always have a few seedlings in hand. Of the perennial Lupines, the varieties of *Lupinus polyphyllus*, chiefly dark blue, are undoubtedly the best. They include *grandiflorus*, *macrophyllus*, *alba* and the handsome *Moerheimii*. The last named produces spikes of rose and white flowers in profusion all through June.—*The Garden (English).*



An Early Summer Border bright with Lupines in many shades of color.



*Residence of Giraud Foster, Bellefontaine Gardens.*

## *Bellefontaine Gardens, Lenox, Mass.*

**H**UNTING, shooting and the more vigorous forms of sport claim the attention of some estate owners, while others find their chief recreation and pleasure in quieter forms of amusement. Not that gardening is merely an amusement; it is a matter of serious study, as any one who has dipped into it to any appreciable extent knows full well. And we do not assert or infer either, that Mr. Giraud Foster, owner of Bellefontaine Gardens, Lenox, Mass., does not enjoy his day out with rod or gun, but assuredly he is first of all to be regarded as one of our stalwart patrons of horticulture, an avocation that has been the pursuit of all grades, princes, poets, philosophers, peasants—your peasant mayprince, poet and philosopher, too, as witness

Mr. Foster's estate, Bellefontaine, is one that has an enviable reputation even in such a notable gardening district as Lenox. It extends to 200 acres and was purchased twenty years ago by its present owner. At that time it consisted largely of farm land, much of it swampy.

But a well thought out plan has been followed, and there has been no rush or undue haste to get every tree planted, every wall and walk in place, and everything finished as if for all time; rather the aim has been to "hasten slowly," and to furnish employment for a body of permanent hands all the time. This is good, for the proprietor and his men come to know one another, to work together in their scheme; homes and attachments



*The Swan Pool in the Woods, One of the Many Attractive Spots of Bellefontaine Gardens.*

Robert Burns, shall we include him?, Tolstoy—during all ages.

It has been well said that gardening is the efflorescence of civilization. "Men come to build stately sooner than to garden finely," was the remark of Francis Bacon three hundred years or more ago, and John Evelyn, Horace Walpole, Joseph Addison, the Marquis of Bute, the Empress Josephine and many another have found his words true.

are made, families grow up, and in the whole evolution of things the man at the top surely has a constant fund of interest and enjoyment. His influence on the lives of many is very considerable, and with his wisely directed efforts he is in truth a real benefactor in his day and generation. That Mr. Foster assumes his responsibilities and pleasures in this light we do not doubt.

The house is a handsome one of red brick and Lee marble. All the buildings on the place are of local ma-

terial. The architects, Messrs. Carrère and Hastings, of New York, also planned the grounds around the mansion, but the workmanship was by Mr. Foster's own employees. This has been his policy all along. Some thirty men are at work for nine or ten months each year.

The several illustrations accompanying these notes will convey an impression of the character of some of the features immediately around the house. When the planting and developments are well completed, Bellefontaine will be a place of much magnificence. It is laid out on classical lines. At some little distance from the house westward lies the farm, and just as the garden and green-houses are good and notable, far-famed for the quality of the products grown therein, the same applies to the farm. Here we find a fine set of brick buildings, flanked on either side by two splendid houses for the married men, and boarding houses for the single men. There is a herd of thirty head of registered Jersey cattle. The cow stable and dairy are both lined with sanitary white tile; everything has been provided so as to ensure the purest milk, cream and butter. The vegetable garden is approximately three acres in extent, and laid out so as to give a maximum length of row in the various plantings. This facilitates work being done by horse cultivators. The famous Sweet Peas are grown on part of the higher ground in an open situation, and the crop has been grown on the same quarter for several years. Mr. Ed-



*A Vista in the Woods. Similar Vistas With Statuarial Adornment and Terminals Are a Feature of the Grounds Near the Residence.*



*View of the Ornamental Balustrade Around the Courtyard. Note the Specimen Bay Trees and Hydrangeas.*

most modern labor-saving machinery is employed, such as electric hay hoist, corn harvester, potato digger, two row cultivator and two row corn planters, seed drills, machines for sowing fertilizer and such like. The estate has its own water supply and sewage system, so that it will readily be

seen that in all respects it is thoroughly appointed and complete, supplying a variety of products and furnishing a wide diversity of interests.



*A View of a Part of the Flower Garden.*

ward Jenkins, the superintendent of the farm and garden, remarked that by this successive cropping the land is improved, while the expense of preparing a new plot annually is avoided.

The care and conservation of manure, both liquid and solid, receive special attention. Concrete pits have been built, and are made tight in summer to prevent flies from laying their eggs there. The liquids are drained through a large tank from which an electrically operated rotary pump discharges the contents directly into the benches of the rose houses, or upon various parts of the vegetable garden and the corn field. A vitrified tile silo holding 120 tons of corn is filled annually from the crops grown on the farm. Oats and peas for green fodder and for hay are raised to supplement the regular hay crops. All the

*Steps Leading to the Terrace.*





*A View in the Rose House, Showing Edwin Jenkins, Superintendent of the Estate. Note the Long Stems of the Roses.*

It is to the glass department that gardeners' minds usually turn with keenest relish. Here their professional instincts find their sphere of perhaps greatest and most exacting test. There is some 12,000 square feet of ground under glass, which consist of two graperies, two peach houses, three melon houses, a chrysanthemum house, a rose house, palm house and several smaller houses for general stock. In addition there are the usual complement of pits and frames, both heated and cold. A system of sub-irrigation is adopted in the rose house and grapery, which Mr. Jenkins says has given good results.

It would be interesting and useful to hear more from him on this rather unusual feature of present day plant houses. It was more heard of and discussed at length some twelve or fifteen years back, and is still adopted or retained by some of the large growers of carnations. Of the decorative plants different subjects are and have been specialized in from time to time. Among these may be mentioned the beautiful chimney bellflower (*Campaula pyramidalis*), night-blooming *Nymphaeas* or water lilies, and the seldom seen *victoria regia*. Both indoors as well as in the open we find Sweet Peas are pet subjects. The rich, curious and beautiful *Gloriosa superba*, a plant well named, is cultivated more exten-

sively than one usually finds on private places. Its remarkable flowers are excellent for decorative work. The motto of the superintendent in the glass department, as elsewhere in his work, is to provide changes for his employers, something agreeable, something new and of interest.

Our visit was all too brief to allow of more ample note taking, yet it is hoped that these few descriptive observations may have served to convey some idea, how-



*A Prize-Winning Collection of Vegetables Grown at Bellefontaine Gardens.*

ever incomplete, of Mr. Foster's garden and estate. There are some fine effects in the hardy flower garden and in the surrounding woods, and one left Bellefontaine with the desire to try and revisit it in the not far distant future, and to renew acquaintance with other of its features more closely and at greater leisure—ITINERANT.

#### THE DAFFODILS.

I wandered lonely as a cloud  
That floats on high o'er vales and hills,  
When all at once I saw a crowd,  
A host, of golden daffodils;  
Beside the lake, beneath the trees,  
Fluttering and dancing in the breeze.

Continuous as the stars that shine  
And twinkle on the Milky Way,  
They stretched in never-ending line  
Along the margin of a bay;  
Ten thousand saw I at a glance,  
Tossing their heads in sprightly dance.

The waves beside them danced, but they  
Outdid the sparkling waves in glee;  
A poet could not but be gay  
In such a jocund company;  
I gazed—and gazed—but little thought  
What wealth the show to me had brought:

For oft, when on my couch I lie  
In vacant or in pensive mood,  
They flash upon that inward eye  
Which is the bliss of solitude;  
And then my heart with pleasure fills  
And dances with the daffodils.

By James Whitecomb Riley.



*What the Grapery Looks Like When the Vines Are in Fruit. Some Magnificent Bunches Are Shown.*

# The Common Names of Plants\*

By W. C. Egan, Illinois.

THE common names of plants spring from the hearts of the common people. Scientific ones have the mustiness of the herbarium. Both are essential. Common names change with localities and often skip from one plant to another, creating confusion. Take the Sycamore for instance. The biblical scholar claims it is a Fig-tree, *Ficus Sycomorus*, the Englishman insists that it is a Maple, *Acer Pseudo-Platanus*, while the lumberman of the Ohio River bottom swears it is the *Platanus occidentalis*, the American, or Western, Plane-tree. The Californian, Australian and New Zealander, each claims the name for separate and distinct species.

By right of priority the biblical student is correct, as the Common Wild Fig, *Ficus Sycomorus*, in biblical times was known as the Sycamore, or Sycamine among the common people. It was a large-leaved, low branching tree and on this account easily accommodated Zaccus when he climbed up into it in order to see our Lord pass by.

*"Zaccus he  
Did climb a tree  
For the Lord to see."*

How came the name Sycamore, modernized into Sycamore, to be applied to the Maple? There is a curious history connected with it. During the middle ages the acts of our Saviour were dramatized, and desiring to represent Zaccus in his aerial position they wanted a Sycamore tree, the Wild Fig, but none were at hand, so they did the next best thing they could. They chose a Maple, which in leaf somewhat resembled the ancient Fig-tree and called it a Sycamore. The tree chosen is known, botanically, as *Acer Pseudo-Platanus*, the False Plane-tree, and soon became known as the Sycamore by the masses. Later on this Maple was introduced into England, its common name following it. This accounts for the Englishman's authority, although he often modified it and called it the Sycamore Maple. When Johnny Bull came to America "some of him" settled in Ohio and adjoining states and saw there a tree unknown to them, that in foliage somewhat resembled their Sycamore at home and it soon became a Sycamore to them. This is the Sycamore of commerce, used extensively for interior house decoration and known as *Platanus occidentalis*, the American, or the Western, Plane-tree. The English settlers in California and elsewhere saw resemblances in other trees to their home Sycamore and the same name was given to them.

Common names, while they lie closer to the heart than the scientific ones, are very misleading.

Here in Illinois may be seen in bloom in early spring a charming Japanese shrub, known as Forsythia, named in honor of Wm. Forsyth, the king's gardener in Kensington. Its long, arching, rod-like shoots are completely covered with yellow, bell-shaped flowers before the foliage appears. In some places in Arkansas this shrub is known as the *Golden Rod*, a name more suitable for it than it is as applied to our Golden-rod, a fall blooming herbaceous perennial, which blooms in racemes or clusters and not rod-like in appearance. In New England gardens the Forsythia is called *Sunshine Bush*.

The many curious common names given to the Three-colored Violet, *Viola tricolor*, are interesting in that they nearly all indicate some form of affection, such as "*Kiss Me*," "*Tickle-my-fancy*," "*Kiss-Me-Ere-I-Rise*," "*Jump-*

*up-and-Kiss-Me*," etc. In "Old Time Gardens" Alice Morse Earle says in speaking of this flower "To our little flower has also been given this folk name, "*Mect-her-in-the-entry-kiss-her-in-the-buttery*," the longest plant name in the English language, rivalled only by Miss Jekyll's triumph in nomenclature for the Stonecrop, namely: "*Welcome-home-husband-be-he-ever-so-drunk*."

A lady from the south visited Egandale one day and when passing a specimen of the *Aralia spinosa* remarked, "I see you have the *Tar-tree*." I replied, "I've known it called *Hercules' Club*, *Devil's Walking Stick* and *Angelica Tree*, but never heard of '*Tar-tree*.'" She then said that the darkies called it that because the spines "tars" (tear) their clothes.

Perhaps in no country are common names used so freely as in England. There the masses cultivate them extensively and from them have sprung many of the names attached to their garden pets. The comparatively limited area of the country and the universal use of plants serve to perpetuate and understandingly disseminate any fanciful name. A glance at a compilation of these names is somewhat interesting. The word "*grass*" with some descriptive term is applied in four hundred and seventeen cases, including the *Yucca* and *Gladiolus*. The term "*lily*" is used over fifty times for flowers outside the genus *Lilium*. The use of the bark in medicine and the arts has given the simple name of "*Bark-tree*" to some fifty different species. The resemblance in flower or fruit to an apple has caused that word to be applied in various form to seventy-three plants, among which we find "*Love Apple*," "*Hen Apple*," and "*Apple Pie*." The word "*Ash*" is associated with seventeen genera outside the genus *Fraxinus*. Under the name "*Beech*" we find six genera and the appellation "*Baytree*" covers eleven different trees.

The compilation removes some misconceptions that are prevalent. For example, the "*briar root*" out of which pipes are made is not briar, but belongs to the Heath family. The word "*briar*" as used in this connection is a corruption of the French word "*bruyere*" signifying Heather. Those who buy dried "*currants*" for their puddings get the fruit of the Zante Grape Vine, *Colocasia esculenta*, which we also know under the name of *Caladium esculentum*, and called "*Elephant's Ear*," is also called "*Bleeding Heart*." One species of *Mullein* masquerades under twenty-seven names. The term "*She's a daisy*" must be rather indefinite, as it is applied to fourteen genera.

Queer names are numerous and it is hard to conceive what suggested them. Our temperance friends would not like to place in their front yards such plants as "*Brandy Bottles*," "*Burn-Nose Tree*," and "*Carbolic Acid Plant*," nor would our legal adviser feel complimented if we presented him with a "*Bush-Lawyer*." We might send to our physician a "*Belly-Ache-Bush*," some "*Bloody-Fingers*," "*Nose-Bleed*," and "*Fingers-and-Toes*," but he would undoubtedly prefer a "*Fat-Hen*," "*Fat-Pork*," "*Mutton-Chop*," "*Goose-and-Gosling*," and "*Gooseberry Pie*." The household cat is immortalized seventeen times, the least poetical of which is "*Cat-Chop*."

We find a "*Melancholy Gentleman*" at "*Loggerheads*," but by the "*Grace-of-God*" with the chance of "*Courtship and Matrimony*." "*Brown Betty*" pulled "*Jim Crow's Nose*" while "*Grim-the-Collier*" gave a "*Blue-*

\*Republished from *Billerica*.

Kiss" to "Blooming Sally." "Blue John" ascended the "Ladder to Heaven" to see the "Holy Ghost Flower" and came down on the "Holy Rope" made of "Holy Hemp," while the "Cats-in-Clover" watched the "Apes-on-Horseback."

As for ladies, they were not forgotten. The "Lady-in-the-Boxer" could entertain "Lady-Birch," "Lady-Fern," "Lady-Grass," "Lady-Poplar" and "Lady-of-the-Meadow," but would hardly admit the "Naked-Lady." Before the entertainment she could take the "Lady's-Ear-Drops" from the "Lady's-Pin-Cushion," and with the "Lady's-Fingers" put them on. Standing before a "Lady's Looking-Glass" she could arrange the "Lady's-Tresses," put on the "Lady's-Slippers," "Lady's-Mantle" and "Lady's-Gloves," but before doing so should remove her "Lady's-Seal," put on the "Lady's-Thimble" on her "Lady's-Thumb" and mend the "Lady's-Smock," and when all was over could rest on "Lady's-Bedstraw."

In England where the common names are quite familiar, the knowledge of them is often tested at social gatherings where a skeleton story, prepared beforehand, is given each guest. The paper containing the story has blank spaces to be filled in with such common names as might complete the story. A certain time is allowed to finish and prizes awarded according to merit. A very complicated one would read somewhat like the following:

"Youth-and-Old-Age" wandered forth one day at "Four-o'clock" A. M. The "Sun-Rose" above the "Mountain-Fringe" heralding the full "Morning Glory" of the "Farewell Summer" "Thyme." "Old Age" was a "Quercus." He had on a "Leather Jacket" and a "Skull Cap" with a "Purple Fringe." An old fashioned "Stock" encircled his neck while his legs, which were nearly "All-Bone," were enclosed in a pair of "Dutchman's Breeches" and on his feet were a pair of "Moccasins." In one hand he carried a "Cane" and strapped across his "Leather Jacket" was a "Poor Man's Weather Glass," and, I am sorry to add, a "Brandy Bottle" was hidden in his pocket. Of course, "Old Age" was the "Elder." "Youth" had all the spirit of a "Wild Irishman," the "Brawn" of a "Wild Savage," free from "Care" and "Bent" on having a sweet "Thyme." His days were always "Fair Days." He was very "Poplar" and the "Fair-Maids-of-France" thought "None-so-Pretty," but common "Honesty" compels me to record that "Thyme" and "Thyme" again he would "Go-To-Bed-At-Noon." But after all he was "Anise" fellow and full of "Spunk." He wore a suit of "Pink Cape," and on his head was a "Soldier's Cap," while his "Bright Eyes" were shaded by a "Chinese Parasol." 'Twas early, they tried to "Tread Softly," so as not to "Wake Robin."

Suddenly "Youth" exclaimed, "'Poppy,' what thoughts are 'Currant' in your mind? I fancy your footsteps 'Flag.' We are 'Cumin' to a 'Virgin's Boxer' and can rest. Won't that 'Gladden' your heart?" "'Yam' somewhat tired" answered "Old Age." "'Lettuce' rest. I will 'Cast-Me-Down' upon this 'Lady's-Cushion.'"

"All right, 'Myrrh,' dear fellow," exclaimed "Youth." "Do it 'Quick,' but look out for that 'Nettle,' that 'Radish' looking one. A rest will do you 'Much Good' and it will 'Tickle-My-Fancy' to lie down also. Now if you will stretch out and 'Lilac' a sleeping babe it will do you good.

"Young man," said 'Old Age,' stop your 'Everlasting' prattle. Keep your mouth closed or you will get your 'Mug-wet' in this dew."

"'Have Have!'" laughed the "Youth," "you cannot 'Cast-me-Down' with such advice. I call that 'Gall.' That's sharper than a 'Serpent's Tongue.' Say 'Poppy'

there goes an Indian, one of the 'Crow Bells.' I'm going to make love to her."

"'Besom' what careful of the 'Red-Legs,' rash 'Youth.' Don't tread on her 'Indian Corn' or there may be trouble. I owe the 'Races' a grudge. One more 'Indian Shot' so as to make another 'Indian Turnip' his toes to the 'Daisies' causes but few 'Indian Mourners.'" "'Holy Hoke,' old man, you are getting crazy. Do you suppose there is no 'Indian Heart?'"

"'Begonia,' foolish fellow," replied "Old Age." "Dost thou see 'Onion' hill that 'Maid-of-the-Meadow' 'Plantain Lilies'? You 'Live-in-Idleness' and are at 'Logger-heads' with 'Industry.' Your 'Maudlin' tongue will do you 'Little-Good.' Have a 'Care.' Are you 'Ware' that she desires to 'Mate?' You should 'Over-Look' her 'Modesty' and 'Rush' towards her and you will never 'Rue' it. She is a 'Spring Beauty' and has a 'Mint' of money. She is inclined to 'Matrimony' and you may 'Marigold.' Any 'Dog-wood' like to do that. Drive 'Caraway' and 'Gladden' her heart. Declare your 'Boy's-Love,' meet her at the 'Garden Gate' and exclaim, 'Jump-up-and-Kiss-Me.' You're 'Arum' fellow, if you don't."

"Can't do it, 'Poppy.' She would think me a 'Meddler.' Let her 'Pine' away. No maiden's heart can ever 'Break.' Let her join the 'Nuns.' Your talk is 'Bombast.' I could never 'Stick-Tight' to her. My love 'Wood-waren' cold. Such a 'Yoke-Wood' not be 'Paradise.' I would rather 'Poke' along as I am."

Just then a succession of "Earthquakes" swallows "Youth-and-Old-Age" and finishes the story.

## COMMON NAMES.

## SCIENTIFIC NAMES.

Apes-on-horseback	Bellis hortensis prolifera
Apple Pie	Epilobium hirsutum
Anise	Pimpinella Anisum
All-bone	Stellaria Holostea
Arum	Calla palustris
Brandy bottle	Nuphar lutea
Burn-nose tree	Daphne tinifolia
Bush lawyer	Rubus australis
Belly-ache bush	Jatropha gossypifolia
Bloody fingers	Digitalis purpurea
Blue kiss	Scabiosa succisa
Blooming Sallie	Epilobium augustifolium
Brown Betty	Rudbeckia hirta
Brawn	Ustilago segetum
Bent	Psamma arenaria
Bright eyes	Euphrasia officinalis
Begonia	Begonia tuberosa
Boy's-love	Artemisia Abrotanum
Brake	Osmunda regalis
Bombast	The genus Gossypium
Cane	Saccharum officinarum
Carbolic acid plant	Andromeda Leschenaulti
Cat chops	Mesembryanthemum felinum
Courtship and Matrimony	Spiraea Ulmaria
Cats-in-clover	Lotus corniculatus
Care	Pyrus aucuparia
Chinese Parasol	Sterculia platanifolia
Currant	Ribes
Cummin	Cuminum Cuminum
Cast-me-down	Lavandula Stoeckas
Crow-bells	Scilla nutans
Caraway	Carum Carui
Dutchman's breeches	Dicentra Cucullaria
Dogwood	Cornus
Elder	Sambucus
Everlasting	Helichrysum
Earthquakes	Briza media
Finger and Toe	Lotus corniculatus
Fat Hen	Chenopodium album
Fat Pork	Clusia flava
Four-o'clock	Mirabilis dichotoma
Farewell Summer	Asters
Fair-days	Potentilla Anseriana
Fair-Maids-of-France	Ranunculus aconitifolius
Flag	Iris

- Goose and Gosling  
Gooseberry-pie  
Grace-of-God  
Grim-the-Collier  
Go-to-bed-at-noon  
Gladden  
Gall
- Garden-gate  
Hen Apple  
Holy-Ghost-flower  
Holy-rope  
Holy-hoke
- Haw  
Honesty  
Indian Corn  
Indian Shot  
Indian Turnip  
Indian Mourners  
Indian Heart  
Industry
- Jim Crow's Nose  
Jump-up-and-kiss-me  
Love apple  
Logger-head  
Ladder-to-Heaven  
Leather Jacket  
Lettuce  
Lilac  
Live-in-idleness  
Little-good  
Lady-in-the-bower  
Lady Birch  
Lady Fern  
Lady Grass  
Lady Poplar  
Lady-of-the-meadow  
Lady's Eardrop  
Lady's Pin-cushion  
Lady's Fingers  
Lady's Looking-glass  
Lady's Tresses  
Lady's Slippers  
Lady's Glove  
Lady's Thimble  
Lady's Cushion  
Lady's Smock  
Lady's Bed Straw  
Lady's Mantle  
Lady's Seal  
Lady's Thumb  
Marigold  
Matrimony  
Mint  
Modesty  
Medlar  
Maid-of-the-Meadow  
Maudlin  
Mutton Chop  
Melancholy Gentleman  
Mountain Fringe  
Morning Glory  
Moccasin  
Myrrh  
Much-good  
Mugwet  
Nose-bleed  
Naked-lady  
None-so-pretty  
Nettle  
Nuns  
Over-look  
Onion  
Purple-fringe  
Poor-man's-weather-glass  
Poplar  
Pink Crape  
Poppy  
Plantain  
Pine  
Paradise  
Poke  
Quercus  
Quick  
Radish
- Catkins of Willows  
Epilobium hirsutum  
Hypericum  
Hieracium aurantiacum  
Tragopogon pratensis  
Iris foetidissima  
Formed on oak leaves  
byinsects  
Viola tricolor  
Pyrus Aria  
Peristeria elata  
Eupatorium Cannabinum  
A corruption of Holly-  
hock  
Crataegus  
Lunaria biennis  
Zea mays  
Genus Canna  
Arum Dracontium  
Nycatanthes arbor-tristis  
Cardiospermum Corindum  
Variety of European  
Gooseberry  
Phyllocoryne jamaicensis  
Viola tricolor  
Lycopersicum esculentum  
Centauria nigra  
Polygonatum multiflorum  
Eucalyptus punctata  
The genus Lactuca  
Syringa  
Viola tricolor  
Euphorbia helioscopia  
Nigella damascena  
Betula alba  
Asplenium felix-foemina  
Phalaris arundinacea  
Populus fastigiata  
Spiraea Ulmaria  
Fuchsia  
Armeria maritima  
Anthyllis Vulneraria  
Campanula Speculum  
Genus Spiranthes  
Cypripedium  
Inula conyza  
Campanula rotundifolia  
Arabis albida  
Cardamine pratensis  
Galium verum  
Alchemilla vulgaris  
Polygonatum multiflorum  
Polygonum Persicaria  
The genus Tagetes  
Lycium barbarum  
Genus Mentha  
Bupleurum rotundifolium  
Mespilus germanica  
Spiraea Ulmaria  
Achillea Ageratum  
Galium aparine  
Hesperis tristis  
Adulmia fungosa  
Ipomoea  
Cypripedium  
Myrrhis odorata  
Athamanta cervaria  
Asperula odorata  
Achillea Millefolium  
Colchium autumnale  
Saxifraga umbrosa  
The genus Urtica  
Orchis Morio  
Canavalia gladiata  
The genus Allium  
Rhus Cotinus  
Anagallis arvensis  
Genus Populus  
Lagerstroemia indica  
Papaver  
Plantago  
Pinus  
Amomum Melegueta  
Genus Phytolacca  
The Oak  
Crataegus Oxyacantha  
Raphanus sativus
- Red-legs  
Race  
Rush  
Rue  
Sun rose  
Skull-cap  
Stock  
Spunk  
Serpent's-tongue  
Spring-beauty  
Stick-tight  
Soldier's-cap  
Thyme  
Tread Softly  
Tickle-my-fancy  
Virgin's bower  
Wild Irishman  
Wild Savage  
Wake-Robin  
Ware  
Wood-waxen  
Youth and Old Age  
Yam  
Yoke Wood
- Polygonum Bistorta  
Ginger Plant  
The genus Juncus  
Thalictrum  
Helianthemum  
The genus Scutellaria  
The genus Matthiola  
Polyporus fomentarius  
Erythronium americanum  
Claytonia virginica  
Bidens frondosa  
Aconitum Napellus  
Genus Thymus  
Jatropha urens  
Viola tricolor  
Clematis virginiana  
Discaria Toumatou  
Agrostemma Githago  
Trillium grandiflorum  
Sea-weeds  
Genista tinctoria  
Zinnia  
Dioscorea sativa  
The Elm

## SCABIOSA BLOOMING AFTER FROST.

THE accompanying illustration is the reproduction of a photograph taken by J. A. Weber, superintendent of "Shawondasee" Farm, Excelsior, Minn., during the middle of November last of *Scabiosa Japonica* in full flower with the thermometer registering fifteen



*Scabiosa Japonica* Flowering After Frost.

degrees of frost. At the time the plant had one hundred and twenty blooms on it. A most remarkable feature is that it did not commence to bloom until the heavy frost had severely attacked the rest of the perennials in the garden.

## A CORRECTION.

IN the March number of the GARDENER'S CHRONICLE appeared an article by Arthur Smith on the criticism of the use of the phrase "landscape forestry." The title, inadvertently applied, was "Is Landscape Gardening a Misnomer?" whereas it should have read, "Landscape Forestry."

# A Shakespearean Garden

NO celebration of the three-hundredth anniversary of Shakespeare's death would be complete without a Shakespearean garden. The works of the great dramatist abound in plant lore and garden craft, and prove beyond question that he knew and loved the plants and gardens of his time.

The era in which Shakespeare lived and worked was one particularly favorable for gardening, as well as for literature and the other arts. It was only just previous to this period that the nobility began to erect their great

ment that "Men come to build stately sooner than to garden finely; as if gardening were the greater perfection."

It is natural, therefore, that the history of the architecture and gardening of the Elizabethan era should be closely related. Religious persecution in parts of Europe, combined with other causes, brought many gardeners, as well as building artisans and artists, to England. On the other hand, traveling on the Continent was popular among the wealthier classes, and comparatively safe. Consequently, many foreign ideas were introduced, especially those of the Renaissance, and the style of architecture began to change from the Gothic to the more classical English Renaissance, resulting in what is now known as the Elizabethan style. The influence of these changes was soon felt in the garden which combined ideas of the Tudor period with those obtained from abroad. This fusion of ideas happily resulted in a style purely national, much better adapted to England than a strict adherence to the gardens of any other country. Some of the principal Tudor features that remained were the railed flower bed, the mount, topiary work, hedges, simple knots and arbors, pleached alleys, arched galleries, walls, and trellised fences. Europe contributed the terrace, the foun-



*Garden House and Pavilion at Montacute.*

country mansions, and the garden was considered a very important adjunct. Probably at no other time has landscape gardening taken a higher rank, the garden giving, as it did, a special and finished character to the building,



*The Garden and Maze at Hatfield House, Herefordshire, Built 1605 and Restored.*



*View Across the Pond at Montacute.*

and being an essential part of the general scheme. The architect-builder of the house was usually the designer of the garden, John Thörpe being one of the most famous architects of the period, who designed many estates combining house and grounds. That the landscaping was considered no mean task is evidenced by Bacon's state-

tain, the labyrinth or maze, and the more elaborate arbor and parterre, while architecture and sculpture became more common in gardens through foreign influence.

It should perhaps be mentioned first that the ideal Elizabethan garden was square, or, if oblong, divided into square parts. The building, with its wings and forecourt, dominated the design, the balustraded terraces which formed the connecting link between house and garden, dropping to the garden grade by means of a grassy slope, or a brick or stone retaining wall. The walks, called "forthrights," made of sand, gravel, or turf, were straight and very broad. "Covert" alleys at the sides were very popular, sometimes formed by vines on arched trellises, and sometimes by pleached alleys, the latter made by interweaving overhead the branches of the trees on either side of the walk. Willows, lindens, elms, hornbeam, cornel, privet, and hawthorn were popular for this purpose.

Flowers were used in abundance in the knots or par-



terres, also in other beds, usually bordered with a low hedge of box or similar plants, or with lead, brick, pebbles, tiles, or even the shank bones of sheep. Larger beds were "railed," either by a low trellis, or a single railing on posts at the corners, such rails and trellises being usually painted green and white, the Tudor colors. Beds were often raised above the level of the walk by a low brick or stone wall. The mount, a relic of monastic gardens, was a high artificial hill, sometimes in the center of the garden, sometimes at the end, overlooking the garden and the countryside. These flower garden railings and mounts are seldom used in modern garden craft.

The garden of Shakespeare's time was always enclosed, sometimes by a wall of brick or stone, sometimes by a trellis fence or high hedge. "He hath a garden circummured with brick," writes Shakespeare. Flowering and fruiting vines covered the walls and trellises. Hedges were used inside the garden also, in various shapes and sizes, box, cypress, yew, privet, hawthorn, roses, fruit trees, juniper, hornbeam, and cornel being the plants most commonly employed. Wood trellised arbors were frequently used, though those of brick or stone were sometimes seen. Topiary work was of yew, box, privet, or juniper, the peacock forms being most popular.

Of all these famous old gardens, one only, Montacute, in Somersetshire, remains practically unchanged, although the gardens of Hatfield House, Herefordshire, have been restored and may be considered typical of the period. Remnants of many gardens are left, however—examples of garden furniture, a few pleached alleys or mounts—and several good illustrations and written descriptions are extant.

Although Shakespeare wrote of many countries and peoples, his scenes and characters are essentially English, as are his plants and gardens. A Shakespearean garden, therefore, could not be other than an English garden of the period—an Elizabethan garden.

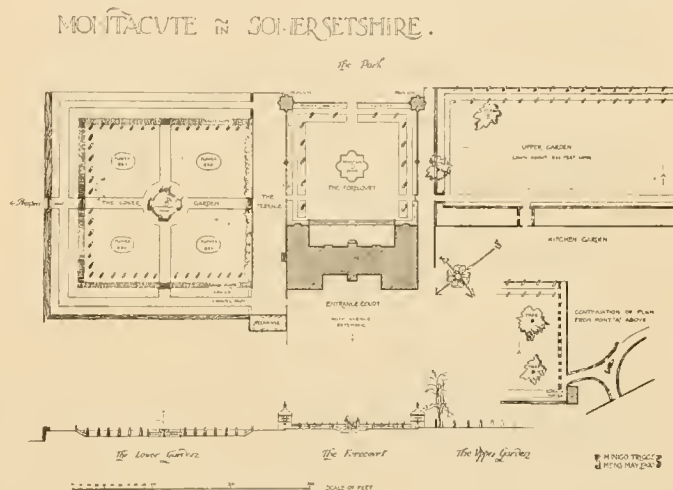
During the last week in April and the month of May such a garden will be shown in the floral display house of the new plant range at the Missouri Botanical Garden, St. Louis, Mo. This will not be an attempt to copy any particular garden of Shakespeare's time, and the limited area makes impossible anything but a garden in miniature. It will, however, embody most of the features that characterized the gardens of the Elizabethan period, the accompanying plan giving a good idea of the arrangement. The house will be divided into three square gardens, each 50 x 50 feet, the parterre, the trellised garden, and the topiarian garden, each dominated by several Elizabethan motifs.

The balcony of the floral display house, with the pool

and fountain below, lends itself admirably to the scheme, and affords a good view of the parterre or knot and the gardens beyond. The pattern to be used in this parterre was one very popular in Shakespearean times. The flower beds along the sides, as well as the parterre itself, will be bordered with a hedge of privet and juniper.

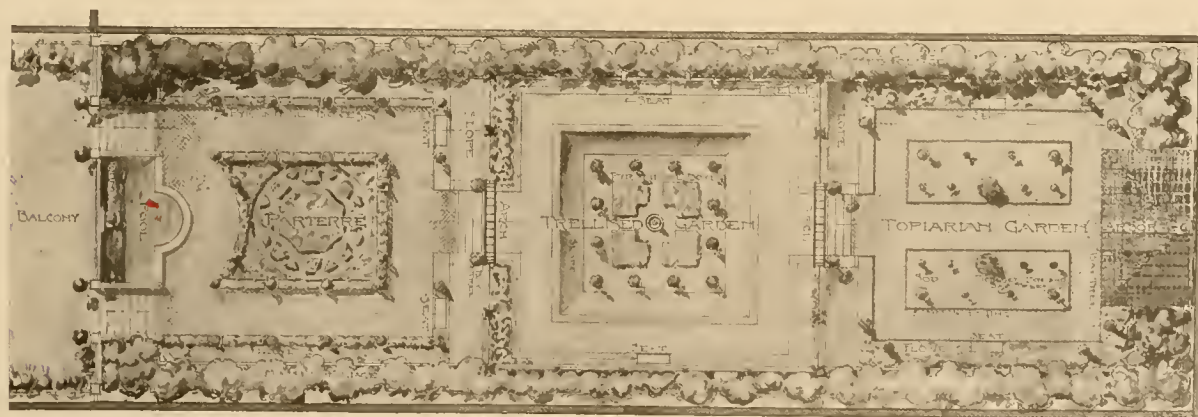
The trellised garden, as its name implies, will be enclosed by a high trellis with arched entrances, over which are to be trained climbing roses and other vines. This garden will be terraced, with turfed slopes, and flower beds and graveled walks above. The plan of the interior was taken from the lower garden at Montacute, the central portion being depressed, a fountain, junipers, and small flower beds forming a part of the design. All woodwork in the parterre and trellised garden will be painted green and white.

The topiarian garden will be devoted principally to box



trees trimmed into various shapes, an arbor of trellis work, covered with vines, terminating the main axis of the three gardens. The motif for the arbor was taken from the plans of the old Wilton House gardens, designed by Isaac de Caux. Within this garden will be shown the greater number of the collection of plants mentioned by Shakespeare in his works. It should be borne in mind that, while it is possible to identify most of these, some are doubtfully referred to existing species, and in a few cases the name used by Shakespeare may have been misleading. However, the list as given is the result of a careful compilation of all the information obtainable from various authorities, and is believed to be as accurate as anything of the kind that could be prepared.

(Illustrations loaned by Missouri Botanical Garden, St. Louis.)



Plan of Shakespearean Garden to be Arranged in Floral Display House at Missouri Botanical Garden, St. Louis.

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No. 3.

WHAT OUR ADVERTISERS OFFER TO  
OUR READERS.

WE respectfully commend the advertising columns of this number to the careful attention of our readers, for therein are contained several offers to furnish some most interesting literature on subjects of vital import to all gardeners—professionals and amateurs. You incur no obligation in requesting that the matter be mailed to you.

The careful consideration and forethought given in these days to horticultural advertising copy make the advertising columns of the horticultural press no less interesting, and in many instances no less instructive, than the editorial columns.

They possess a merit which deserves your attention.

BIRD PROTECTION FOR ST. LOUIS.

L. P. JENSEN, chairman of the committee on bird preservation and propagation of the National Association of Gardeners, has succeeded in interesting the park department officials of St. Louis in bird protection, and among those who have already enlisted in the work may be mentioned Park Commissioner Nelson Gunliff, Superintendent of Parks Ernest Strehle, the St. Louis Bird Club and the superintendent and principals of the public schools. Mr. Jensen has been requested to address two improvement associations on the bird subject, and recently addressed the St. Louis Park Association on "Bird Protection in the St. Louis Parks." There is no reason why the members of the National Association of Gardeners and American Association of Park Superintendents in other cities cannot and should not create a similar interest in this humane work.

A NATIONAL PARK SERVICE.

A BILL was recently introduced in Congress by Congressman William M. Kent, of California, to create a national park service. Mr. Kent, writing us on the subject, says:

"Of late, there has been a careful study made and a well formulated plan conceived looking toward the improvement, preservation and extension of the national park system. This is largely due to the services of Mr. Stephen Mather, who accepted a post known as Assistant to the Secretary of the Interior, and was immediately placed in control of the park service, by Hon. Franklin K. Lane, outside of forest reservations.

"Mr. Mather evidenced his public spirit by securing funds, largely his own, to purchase the Tioga Road which goes across the Yosemite park and which was an abandoned private enterprise. This has been put in fair condition by special appropriation and now furnishes one of the most wonderful drives in the United States.

"Mr. Mather furthermore studied out a system of concessions that will go far toward making the parks self-sustaining, while keeping all concessionaires under government control as to rates to be charged to the visiting public, and quality of service to be rendered.

"The present Superintendent of the Park Service, Mr. R. B. Marshall, who has shown great capacity as Chief Geographer in the Geological Survey, where he reorganized the entire topographic survey work in the United States and the Hawaiian Islands, has rendered eminent service in straightening out many complications that have arisen out of incoherent conditions.

"We are certainly getting a sound nucleus of Park management which can only work out into a complete scheme under continuity of management. Should Mr. Lane not continue as Secretary of the Interior, Mr. Mather as a matter of course would lose his position, as each Secretary of the Interior would choose for himself the man who holds such a confidential position.

"But by the establishment of a Park Bureau, I cannot conceive of any future Secretary of the Interior parting with the service of a bureau chief with the knowledge, capacity and public spirit of Mr. Mather.

"I only mention him as a type of man that could be retained in office under the proposed bureau system. It is the hope and belief of those who are backing this measure that it will not make any considerable increase in the cost of operating the parks, but that by following out Mr. Mather's plans, so much saving will be made to concessionaires that they can well afford to divide their profits with the Government, to the end of further improvements which will benefit them, just as much as they will benefit visitors for whom the parks are established."

The bill should have the support of all those who desire to see our national parks preserved and developed, and we suggest that those favoring it address their Senators and Representatives urging the passage of the bill (Number H. R. 8668).

Gardeners, park superintendents and all interested in horticulture should give their support to this worthy measure.

# NATIONAL ASSOCIATION OF GARDENERS

WILLIAM N. CRAIG, President,  
Brookline, Mass.

OFFICIAL COMMUNICATIONS

M. C. EBEL, Secretary,  
Madison, N. J.

## GARDENERS' DAY AT NATIONAL SHOW.

Gardeners' Day will be observed at the National Flower Show in Philadelphia on Tuesday, March 28. While no formal meeting has been arranged, President W. N. Craig and other officers will attend the show on that day to meet visiting members.

The day has also been designated as New York Day, and a special train will leave New York City on that day from the Pennsylvania depot at 10 a. m. under the auspices of the New York Florists' Club. Arriving at Philadelphia, the party will have lunch at the Pennsylvania depot and then proceed to Convention Hall, where the Flower Show will be held. The cost of this trip to Philadelphia, including luncheon and admission to the show, is \$3.50.

The New York Florists' Club extends an invitation to members of the National Association of Gardeners going to the Flower Show by way of New York to join its special train party.

## TRUSTEES' AND DIRECTORS' MEETING.

A meeting of the trustees and directors of the National Association of Gardeners will be called to meet in New York City on a day during the week of the New York Spring Flower Show.

## THE GARDENERS' ESSAY CONTEST.

The judges, Messrs. Jenkins, Downs, Smith, Stewart and Dick, appointed to pass on the essays submitted in the contest for ex-President Everitt's prize, will have their decision ready in time to have the names of the winners announced when the gardeners gather at the National Flower Show on March 28.

The rules and regulations governing the essay contest for President Craig's prizes, \$25 first; \$15 second; \$10 third, for assistant gardeners, for the best three essays submitted by November 1, and limited to twenty-five hundred words on any horticultural subject, will be published in the April number of the CHRONICLE.

## DELINQUENT MEMBERS.

Members in arrears for dues are requested to remit the same by the first of the month as the Executive Committee has called for a list of delinquent members to be presented at its meeting next month for action according to the terms of the by-laws.

## NEW MEMBERS.

The following new members have been added to our roll during the past month: William G. Woodger, Pocantico Hills, N. Y.; Lars Reitan, Huntington, N. Y.; James McNeill, Monticello, Ill.; John E. Ryan, Brooklyn, N. Y.; Charles Dodd, Westerleigh, Staten Island; James Coyle, Arthur A. Loughren, William T. Mulligan, John B. Becker, John M. Boland, John Peterson, Joseph A. Kleber, Anton Mirtel, John Griffin, Jacob Kellus, Hugh Murray, Gustave A. Schoeman, of New York, N. Y.; Charles E. Armstrong, Port Washington, N. Y.; John I. Foxeroft, Farmington, Conn.; William Christians, Pittsfield, Mass.; Sidney Baston and William East, Buffalo, N. Y.; Hugo P. Stenstrom, White Plains, N. Y.; William Nicholson, Framingham, Mass.; Theodore C. Jurgenson, New Marlboro, Mass.; Hugh Kierman, Marblehead, Mass.; James Brown, Newport, R. I.; George N. Barrie, Chestnut Hill, Mass.; George S. Kinnaird, Cohasset, Mass.; Alfred H. Green, Worcester, Mass.; Herbert Woodger, Lenox, Mass.; Christian Jensen, Topsfield, Mass.; Wilfrid Edmonds, Plymouth, Mass.; Manus Curran, Sweickley, Pa.; Franklin A. Whelan, Mt. Vernon, Va.; Patrick J. Boomer, Great Neck, N. Y.; Russell H. Young, Port Washington, N. Y.; Lewis H. Wise, Dunellen, N. J.; James Barnet, Roekport, Me.; Harry Hyslop, Adrian, Mich.; Robert F. Grunert, Greenwich, Conn.; Samuel Loekerbie, Menlo Park, Cal.; Charles A. Turnbull, Seal Harbor, Me.; Michael Nolan, Brooklyn, N. Y.; Thomas Rolly, Middleburg, Va.; Stephen H. Treglown, Pomfret Centre, Conn.; W. Ormiston Roy, Montreal, Canada; Charles F. Giltenboth, Pittsburgh, Pa.; James Butler, New York, N. Y.

## ADVERTISING THE SERVICE BUREAU.

The following notice appears in the 1916 seed catalogue of the firm mentioned:

"An efficient and practical gardener is as essential to successful gardening as are our tested seeds.

We desire you to know that we are now in the position to secure for you the services of the most efficient and practical gardeners, suitable either as superintendents, head gardeners, or assistant gardeners.

Upon receiving information that you are in want of such a man, we will at once put you in touch with the Service Bureau of the National Association of Gardeners, which is maintained for the special purpose of providing opportunities for qualified gardeners. It aims to place in vacant positions men who are fully capable of meeting all the necessary requirements.

Carters Tested Seeds, Inc., and the National Association of Gardeners make no charge for services rendered you through this Service Bureau.

We earnestly invite your confidence and co-operation in this matter.

CARTERS TESTED SEEDS, Inc."

Such recognition of the association's Service Bureau is certainly complimentary to the work it is undertaking, and it is to be hoped that other firms will follow this action. The interest of all employers, gardeners and the horticultural trade in general, can be best served through a thoroughly established independent institution, to which those requiring the services of efficient gardeners, in their different capacities, can apply for capable men.

Such an institution can also do much towards alleviating the present demoralization which exists as to what should constitute a proper salary for a gardener's services. The existing condition is due, in a large measure, to the gardeners themselves who, in competing for positions name such terms as to place an inquirer in doubt concerning just what might be accepted as a reasonable wage.

Do not misunderstand from the above suggestion that the Service Bureau is tending towards regulating the wages of gardeners, for this is far from its object. It has had the opportunity, however, of convincing more than one owner of country estates recently that really competent gardeners are entitled to, and demand proper compensation. Those that do otherwise, usually render service that cannot be regarded efficient.

## AMONG THE GARDENERS

John Thomson was recently appointed head gardener to General Champlin, Rye Beach, N. H.

James McDougal, formerly of Glen Cove, N. Y., has been appointed gardener at Hearts Delight Farms, Chazy, N. Y.

John Forbes, recently of Brookdale Gardens, Madison, N. J., has accepted the position of gardener in charge of greenhouses at the Hobart J. Park Estate, Portchester, N. Y.

Joseph Wood, late of "Cloverhurst Farm," Bridgeport, Conn., has accepted a position as superintendent to the F. H. Kalbfleish Estate, Babylon, N. Y.

Robert Taylor has secured the position in charge of greenhouses on the estate of Russell H. Bogg, "Hohenhurst," Sewickley Heights, Pa.

# Department of Ornithology

Under the Direction of the Committees on Bird Preservation and Propagation.  
National Association of Gardeners, L. H. Jensen, St. Louis, Mo., Chairman.  
American Association of Park Superintendents, Hermann Merkel, New York, Chairman.

## PUBLIC PARKS AS BIRD SANCTUARIES.

By Paul B. Riss, Illinois.

THE conversion of all cemeteries of the country into sanctuaries for birds is the aim of a campaign announced by the National Audubon Societies. This association urges the seclusion of hunters and cats from cemeteries, so that birds may be protected and thus make cemeteries habitable for birds. There are more than a million acres of land in the United States used for burial grounds and the association is aiming to add these to the bird reservations.

The proposition appears entirely feasible and would spread a network of sanctuaries all over the country, as no town or village, however small, does not have at least one burying ground. However, we question the possibility of interesting the many individuals in charge in this particular work. A village may have more than one and a city surely has several cemeteries all presided over by different officials. The work, in interesting each and every one, therefore, becomes difficult; especially when we take into account the total indifference of the individuals toward bird protection.

It seems that the National Audubon Society would find a more fertile field among the superintendents of parks of this country. While parks are not maintained in every village, yet the parks in most cities are in charge of only one official, which would simplify the work of enlisting as much if not more territory for bird sanctuaries than is controlled by the several cemeteries. The park superintendent, too, is a horticulturist, who fully understands the economic value of birds; knows what they are doing for him personally. He is aware of the fact that the birds are helping him to rid his plants, shrubs and trees of insects, larvae, beetles and caterpillars.

The parks, also, are generally scattered over the entire city, and thus the park superintendent is able to reach all classes of people in his role as a bird protector. The parks, too, are visited more regularly and by more people a greater part of the year than are the cemeteries, where people go with the exact purpose of spending a quiet half hour on the graves of the departed. The reverse takes place in the parks, where people visit for pleasure and enjoyment. People, who otherwise are too busy, stop to admire this tree or yonder shrub and the plants in turn are closely inspected as some of them might serve a similar purpose in the home garden. Everything is closely scrutinized. The bird boxes, feeding stations, bird-baths also draw their share of attention and so let the desire manifest itself to put out similar devices. Thus the park superintendent is in better position to give this work expression than any other individual; his audience is constant and observing and made up from all walks of life. Here in Rockford our two large parks are frequently selected for bird walks, because bird life is more abundant and varied than elsewhere on account of the protection accorded the birds.

When the eastern delegation of park superintendents stopped off in Chicago on their way to San Francisco last August we all enjoyed a delightful luncheon at Lincoln Park, Chicago. The various tempting dishes have long since been forgotten, but not the frequent visits of a male yellow warbler which apparently had found the lagoon, shrubs and trees perfectly satisfactory and departed itself with the natural abandon of safety. Here this bird found

a congenial range, within earshot of a very busy thoroughfare. The list of birds seen in South Park, where birds are systematically protected, and which was published in an earlier issue of this paper, is well calculated to arouse the envy of bird lovers who live in even more favored localities with natural streams and forests but no protection.

There are many park superintendents with splendid opportunities to further bird protection, who are but mildly interested in birds and have not yet learned of their value to man. The exact economic status of all birds varies with conditions, but the following statistics compiled by authorities, while well known and much quoted, may stimulate a greater interest in the student and be a revelation to him as well. The annual loss in crops in the United States caused by insect pests amounts to a billion dollars, or \$10 yearly per capita. The chinch bug ruins about twenty millions' worth of wheat, the cotton boll weevil reduces the cotton crop twenty millions, the codling moth and curculio takes care of another twelve million, while eighty millions are spent annually in spraying for other pests. When the Mormons first settled in Utah, their wheat crop was entirely ruined by hordes of black crickets. The second crop was doomed by the same scourge, when there appeared from all directions great flocks of Franklin gulls, which devoured every last cricket and saved the wheat. The Mormons ever since have protected the gulls and recently erected a monument to commemorate their timely help.

Prof. F. E. L. Beal estimated that the tree sparrows in the State of Iowa, ate 875 tons of weed seed during the winter, allowing but one-fourth of an ounce of seed per individual bird daily.

Mrs. Margareth Morse Nice records the following as eaten by one captive quail in a single meal: 100 chinch bugs, 12 squash bugs, 2,326 plant lice, 12 cut-worms, 39 grasshoppers, 12 army worms, 568 mosquitoes, 101 potato beetles and 8 white grubs. The sum total of weed seeds eaten by one bird during a single meal varied from 105 seeds of stinkweed and 400 seeds of pigweed to 5,000 of pigeon grass and 10,000 of lambs quarter, while the number taken by a single bird in one day varies from 600 burdocks to 30,000 of rabbits foot clover.

Dr. Sylvester Judd estimates that the Bob Whites of Virginia and North Carolina consume annually from September 1 to April 30, 1,341 tons of weed seed and from June 1 to April 31, 340 tons of insects.

Prof. King of Wisconsin found 4,016 seeds of pigeon grass in the stomach of one mourning dove and 7,500 oxalis seeds in another.

Woodpeckers are estimated as being worth \$20 apiece annually to the owner of woods, orchards or shade trees. There are many other birds equally useful. They all fill their places uncomplainingly in spite of the great handicap placed upon them by the hand of man. Statistics equally interesting can be furnished for all of them, thanks to the untiring efforts of the government and bird lovers.

The great problem is how to extend the field of labor, in further educating the public in a practical way through the establishment of bird sanctuaries within easy reach of every home. The park superintendent is the logical man to do all this for his fellow man, and in the meantime deriving great enjoyment personally from his efforts.

# American Association of Park Superintendents

OFFICIAL COMMUNICATIONS.

EMIL T. MISCHÉ, President, Portland, Ore.

R. W. COTTERILL, Sec.-Treas., Seattle, Washington.

## 1916 CONVENTION DATE.

The Executive Committee must in the immediate future decide upon the exact date for the holding of our next annual convention at New Orleans, and in this connection would like to have an expression of opinion from as many members as possible in order to accommodate the greatest possible number.

While October has been tentatively accepted as the approximate date, this was upon the presumption that the heat would be oppressive prior to that time, but Mr. Allen writes us from New Orleans that August weather in that city is no more to be feared than in any other city of the Middle West at the same season. While early October would be preferable, August or September would be agreeable aside from the discomfort of traveling in hot weather. The Society of American Florists will hold their convention at Houston, Tex., the third week in August, and by having our convention the following week, it would probably be a convenience to many who would like to attend both conventions and otherwise might pass up one or the other.

As a matter of precedent it is a fact that our conventions for the past nine years have been held in August, and the fiscal year of the association closes on August 1. Experience has shown that the most suitable part of the month for our conventions is between the 10th and 25th, permitting members to be at home on the first of the month, when many have pay rolls, bill vouchers, monthly reports, etc., to get out during the first week of the month. If the S. A. F. convention date is to be disregarded, September might be a pleasing date, say about the 20th. Park activities in many of our cities close on Labor Day, and many might feel that after the active season has closed would be a better time to get away.

On the other hand, to be sure of more comfortable traveling and cool weather for the session, October would be the safest date, if agreeable to the majority of our members. With these things in mind, an expression from the membership is desirable and will be of great assistance to the Executive Committee in solving the problem, therefore every member is urged to at once drop a card or letter to the secretary, expressing a choice of the following suggestive dates: August 22-23-24; September 19-20-21; October 10-11-12.

## PERSONAL AND OTHERWISE.

Gustave X. Amryhn, of New Haven, former president of the association, was unfortunate enough to be in the wreck on the New Haven Railroad at Millford, Conn., February 22, when nine persons were killed and 44 injured.

Mr. Amryhn was among those injured, having some teeth knocked out, his leg jammed and otherwise bruised, his injuries being painful but not serious.

Chas. K. Holmburg, of Grand Junction, Colo., now has it all over the other members in the matter of title. Mr. Holmburg has heretofore struggled along with the standard title of superintendent of parks, but when Grand Junction took up one of the fifty-seven varieties of commission form of government, Mr. Holmburg emerged with the title of "Commissioner of Civic Beauty." Not so bad for a city of less than 10,000 population. Perhaps the elevation (4,587 feet above sea level) has something to do with such high ideals.

O. D. Arp, for the past eight years superintendent of parks at Sioux City, Iowa, has resigned and will engage in the nursery and landscaping business with his father at Mobile, Ala. Mr. Arp will be succeeded at Sioux City by his former assistant, James Barton. Mr. Arp has been an active member of the association, and has attended several conventions. He states that his interest in the organization will continue, that he expects to be with us at the New Orleans convention and he intends to get us some members in the South. Our best wishes go with him in his new venture, and as he is a young man he will probably return to public park work at some future time.

J. H. Prost, city forester of Chicago and superintendent for the Special Park Commission, is the author of "Trees and Lawns for Streets," a 30-page illustrated pamphlet, which while issued primarily for the benefit of the citizens of Chicago, is brim full of practical information which any park man or forester could make use of. Mr. Prost is recognized as one of the leading tree experts of the country, and this pamphlet is a part of his campaign for the beautification of street parking strips in Chicago.

Mr. Prost will no doubt be glad to supply a copy of this pamphlet to such of our members who care to apply to him for same, without cost.

Wood Posey, of Terra Haute, Ind., formerly secretary of the Park Commission of that city, who with Superintendent Frank Brubeck, lost out two years ago on account of a political upheaval, is now on the job again as secretary.

Mr. Posey has retained his membership in the association and will no doubt be with us at the New Orleans convention, and will bring with him a new member, the new superintendent, J. E. Fitzpatrick.

R. W. Curtis, whose name appears in our membership roster as assistant superintendent of the Arnold Arboretum at Boston, is no longer connected with that institution, but is now Assistant Professor of Landscape Art at Cornell University at Ithaca, N. Y. Bulletin No. 361, of that institution, is a nicely illustrated 144-page publication, edited by Mr. Curtis and E. G. Davis, and has a great fund of information regarding planting and landscape development. It is entitled "The Home Grounds," and is well worth having on file. Mr. Curtis will no doubt supply without cost copies of this booklet, to such of our members as may send to him for same.

Vice-President Eugene Goebel, of Grand Rapids, Mich., has come forward with a mighty good suggestion of a program feature for our next convention.

It is that members should have a few lantern slides made showing some new work or development during the year at their city and bring same to the convention, when on one of the evenings, they will all be shown in succession, each member explaining his own slides. This will give every city a chance to exploit its new work for the benefit of the others, and will be far more helpful than giving over the entire time to a complete series from one city. Keep this in mind and have a few slides (standard size) made up, which will show some new structure or development of the year.

Fifty new members for the New Orleans convention is to be the slogan of your officers and as soon as the convention date is set, the secretary is going to get busy on all the prospects he can get a line on, particularly in cities of the South. The new application blanks are ready and will be sent to all members who apply. If you will send to the secretary the name of a park executive of some city who you know is not a member of the association, an invitation to the convention, application blank, etc. If you have not the time to deal with an applicant yourself, just supply the secretary with the names of prospects and he will go after them and keep after them.

## PRESIDENT'S REVIEW OF ANNUAL REPORTS, ETC.

Fall River, Mass.—1914 annual report mentions two items as parts of Superintendent Lathrop's report, worthy of special notice, one being the enjoyment afforded by an old fashioned garden of perennials at South Park and the other his comment on playgrounds. Mr. Lathrop states:

"A systematic arrangement should be made whereby all play features, tennis courts, etc., should be kept apart from ornamental features. They cannot mix and in your superintendent's opinion, one is as important as the other. A tennis court in the middle of a neat lawn and surrounded by shrubbery, may make an ideal court, but it does not belong there. Such grounds must be kept either as one thing or as the other, but they cannot be both. I do not wish to imply by this that all playgrounds should receive no ornamentation whatever, but that the two features be arranged so that our parks will not become all one or the other.

(Continued on page 149.)

# Transportation In Public Parks

By H. W. Busch, Michigan.

THE demands of the public! When are they reasonable? To what extent should a park official try to comply with them? Should he cater to what he considers the whim or caprice of the persons who periodically appear with pet hobbies for amusing or comforting the public? Should he sink his individuality altogether by kow-towing, and like the suave Jap, "Agree with the Honorable Sir?"

I believe that parks are a necessity; they are here for a purpose, and the closer we cling to the policy of maintaining them as originally intended the better satisfied the taxpayer will be. The experienced park official knows that constant and careful discrimination is at all times necessary to successfully cope with the many problems submitted to him and he knows that at times he must expect to receive criticism. Yes, and even abuse; and that his vindication oft-times comes, like the proverbial truth, with leaden heels.

Another to avoid is the smooth individual, often with political backing of some sort or another, whose great interest in the "dear peepul" can readily be learned by carefully ascertaining if the scheme proposed will result in financial gain directly or indirectly to himself or his friends. It is unfortunate that many well meaning honest people are often found advocating propositions engineered by some of these twentieth century financiers.

I say, let us keep our parks beautiful and restful. Yes! and inclined to the educational, with sufficient opportunities for wholesome recreation. We do not need to advertise a park nor annoy that portion of the public which does appreciate nature, with a lot of unnecessary noise, and in a public park maintained at public expense constant temptations for spending money should not be flaunted before the eyes of every visitor.

What then, say you, should we provide? Ah, that is a

question which you probably have already inferred means discriminatory judgment. Is the park a watering place? Then you will probably need bathing beaches. Are there lagoons? Then provide canoes and rowboats. Is it a place frequented by vehicles? Then good roads are needed. And that brings me to the subject assigned me by the president—Transportation in public parks. When and how should it be provided?

While this question is not likely to arise in connection with small parks there is always a likelihood of the matter coming to the fore in cities where large parks exist, in which cases large areas are embraced and the visitor grows weary after walking some time and then feels after retracing his steps to the point of entrance, that he has reached the limit of physical endurance. It is not for us to argue the why's and wherefore's; we know from experience that in such a park but a small percentage of the visitors reach the remote corners and the tendency is toward a congestion in the improved section, which is usually within a so-called walking distance of the entrance.

While we may care less for those who can but will not exert themselves to take in all that nature provides, there are many others, such as elderly people, convalescents, and families with small children, who would penetrate to the far corners if means of transportation were provided.

In order to do this it is not necessary to resort to the vandalism of establishing trolley lines with steel rails and all the accompanying noises and abuses within the confines of the park. If the park happens to be located in or adjacent to a city or town a car line would naturally deposit passengers at the entrance and as more entrances are made the car service should be extended to them. The more places of access the more likely will the entire acreage be used, and the attendance better distributed. In



The old and the new method. Showing the old style vehicles formerly used and the modern motor busses which have replaced them in the Detroit Parks.

some cities, because of geographical conditions in the form of lakes, rivers, ravines or mountains, it might be impossible to provide more than one entrance. Such was the problem which confronted Detroit some years ago.

In the year 1879 the city purchased for the sum of \$200,000, an island of 700 acres (Belle Isle Park) located in the Detroit River. Parts were marsh and the only means of access were by small ferries. As improvements were made and the public attracted in sufficient numbers sentiment crystallized in favor of the construction of a bridge from the mainland, and in 1889 one was built at a cost of \$295,000. The bridge was a half mile long and the island two miles long. Today the island contains a total of 14½ miles of driveways, 5½ miles of which are shore drives, and in addition there are five miles of foot walks. As time went on a zoological garden was established, a bathhouse, a horticultural building and an aquarium were erected and an athletic field established. During the winter months skating was provided. Under these conditions,

naturally, there soon was created a demand for transportation and to meet this the department purchased a number of phaetons or busses, horse-drawn, of a carrying capacity of from twelve to sixteen persons each. The passengers were carried across the bridge and to the Skating Pavilion or Casino, a distance of a little more than a mile. This innovation, as it was then looked upon, scored an immediate success, but proved quite a problem on Sundays and holidays, as the crowds came and left principally at stated times and the service was inadequate. These troubles were somewhat overcome, however, by the purchase of additional equipment and pressing into service the teams employed by the department during the week. These phaetons were constructed with canopy tops and side curtains, and during the winter months, or skating season, straw was placed on the floors and blankets provided. With a

growing city the attendance, of course, continued to increase, and fortunately the automobile was perfected and our system was changed to auto service. The first two motor busses purchased were equipped with curtains, but with the advent of winter we discovered a mistake had been made and that windows should have been installed. In the succeeding orders the change was made. The windows, by the way, are removed in the summer time.

With the changes since the days of the horse-drawn vehicle, or rather the days when people were pleased to have a bridge to walk over, having resulted in reducing the time consumed in reaching the destination and providing greatly increased comfort, one would have thought that the acme of perfection had been reached; but such is not the case, as demands are now for artificial heat, and when the proper device appears this also will be provided.

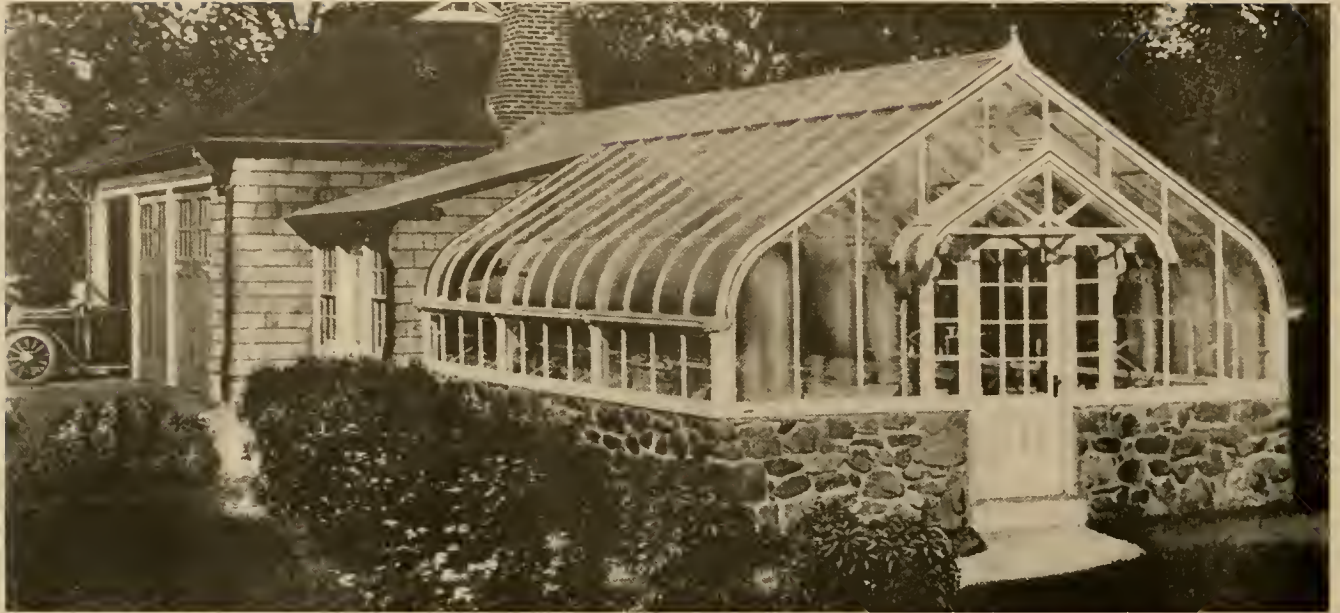
During the last fiscal year there were carried across the bridge approximately 650,000 passengers and around the park 16,000. The charge for the bridge service is three cents each way between May 26 and September 26, and five cents during the balance of the year. On the busses operating around the park a ten-cent fare is charged, which is equivalent to five cents from one end to the other.

The motor busses cost approximately \$5,000 each and have a seating capacity of twenty-six persons, but during the rush hours thirty-five passengers are often carried. The interior is similar to an ordinary street car; an aisle in the center with a row of seats on either side. They are electrically lighted, but are propelled by gasoline motor.

The cost of operation last year, including both labor and supplies, amounted to \$22,167.13. The receipts amounted to \$26,016.11. During the busy season we have a five-minute schedule; during the dull season, or on week days of the winter months, a schedule of fifteen minutes is sufficient



Showing the Interior and Exterior of a Detroit Park Motor Bus.



*Before Mr. Brown definitely decided on the house he was going to build, he and I took a little run over to Narragansett Pier and saw this charming greenhouse and garage combination of F. R. Mackensie.*

## The Case of the Browns

A PURELY PERSONAL MATTER WITH A GREENHOUSE MORAL.

By Philip H. Cox, New York.

“HELLO. Yes, this is the greenhouse builder. You want an estimate on a leanto greenhouse 15 ft. by 30 ft.? Why don't you have one of us come out and look over your grounds and have a talk with you about conditions in general before getting a price? I think I can arrange to run down this morning.”

That's how it really started. We had sent him several catalogs, and now it seemed as though the seed they had sown was showing sprouts. I didn't go that morning, but the following Saturday I hurried through my morning mail and just caught the 10.30 to Forest Bluff. On the train I tried to imagine what ideas my client might have for his greenhouse, because we sometimes find people who have very fixed notions of how “they intend to do it.” I learned from the chauffeur of the taxi I took from the station to my destination that Mr. Beverly Brown, my prospect, was a typical New York business man, who had about 1½ acres of land on which he had a residence and garage. Walking up the path to the house, I noticed that the grounds were carefully laid out and attractively planted. The garage had been located conveniently without being conspicuous from the residence.



*This is the interior of the two compartment house that we showed to Mr. Brown, so that he could see the construction arrangement of the benches.*

“Good morning!” a voice came from around the corner of the house, and Mr. Brown appeared. “Are you from one of the greenhouse concerns?” (I wondered how many he had phoned to come out.) “Well, you people certainly do not lose any time getting after a fellow, do you?”

My enthusiast was evidently taking



a day off to start the greenhouse proposition going.

"I want to tell you right now that I have asked several concerns to bid on this work and the lowest bidder gets it."

As he led me across the lawn toward the garage, he continued: "I want to build a leanto on the side of my garage. (Indicating the west side of the structure which was 20 ft. by 30 ft. running east and west and facing south.) I want a hot water boiler placed in the end of the garage next to the greenhouse to heat both buildings. I will cut a door from the garage to the greenhouse. In the greenhouse there is to be one door in the south gable, two side and one center benches. I will look after the foundation work."

Marshal Field, the great Chicago department store owner, insists on his employees regarding their customers as always being right, so instead of raising any objections I brought out my photograph album and turned to some subjects we had recently built of this size, but which were, to our notion, better suited to the conditions.

We started to smoke together and were soon sitting down in the garage looking over the photographs which invariably talk better than the salesman. I showed him special features in design and construction and soon felt safe to point out the undesirable features of his scheme.

"To place a hot water boiler on your garage floor would be impractical because it would be necessary to have the heating coils up near the roof of the greenhouse and high up in the garage walls or ceiling. This would be not very serious in the garage, but most unsatisfactory and unsightly in the greenhouse. The top of the boiler should be below the floor of the greenhouse to permit of the gradual slope of the pipes which are usually placed out of sight under the side benches where the heat is distributed most evenly.

"Then, regarding the pitch or slant of the greenhouse roof you propose, we cannot guarantee a tight job of glazing with a pitch of less than 6 inches to the



Here you have the two compartment house, showing how it looks with the plants in. You will notice that this compartment is used for geraniums and a lot of the good, old-time flowers which appeal so strongly to most of us.

foot, and as the standard height of the eave line above the inside floor is about 5 feet the ridge of your house would be 12 feet 6 inches from the floor of the greenhouse. As the cornice in your garage is only 10 feet above the greenhouse floor, you can readily see that it would necessitate a pitch which would be entirely too flat to insure a water tight roof. In building a leanto against a hip roof, you would be inviting trouble, from the snow sliding off the garage roof."

"Well, I can take care of that with a snow guard," broke in Mr. Brown.

"Yes, but perhaps you have forgotten that the reason you are building a greenhouse at all, is because you must have light, particularly direct sunlight to make it possible for plants to thrive and bloom when the mercury is nestling at the lower end of the thermometer. You have selected the west side of your



After seeing the Mackenzie house at Narragansett Pier, we took a Saturday afternoon off, and ran over to the Philadelphia suburbs, to see this three compartment house, seventy-five feet long.

garage for this indoor garden, which means that the sun will not shine on the greenhouse until after twelve o'clock in midwinter, owing to the shade cast by the garage, and as any gardener knows, sun has very little growing light value after twelve o'clock.

"I am sure you want to see the flowers looking happy when you walk inside, but somehow they only look that way when they have plenty of sunshine. So I would suggest by all means that you change your location to the easterly side."

"Say, young fellow, now I understand why you wanted to come out here instead of mailing me a figure. I had read your ads telling about the value of your expert advice, but I thought I knew just how to go about this and did not propose to be told, but I can see now what a mistake I would have made."

"Well, now as we are going to change the site, here is another suggestion. This leanto 15 ft. by 30 ft. covers 450 sq. ft. of ground. If you would use one of our stock even span houses 18 ft. by 25 ft., which covers the same area, we could give you a much more practical greenhouse for very little more money. A leanto has the disadvantages of admitting light only on one side with the result that the tendency of the flowers is to grow toward the light, thus making them more or less one-sided."

"Well, I remember my mother used to have a little leanto greenhouse and she thought it was all right."

"Yes, and perhaps you used to figure on a half hour or more to drive to church Sunday morning in the family carryall, while now you could do it in ten minutes with your big six-cylinder buzz-wagon. The evolution of the greenhouse and its products has been just as great as these means of transportation.

"Now if you would place an even span house at the east end of the garage, the house would have light

evenly distributed, practically all day in midwinter. In this type of house, 18 feet wide, we always place two lines of ventilation on the ridge. If our new type of curved eave is used, a line of continuous side ventilation is placed on each side of the house, just above the sill, offering the most perfect means for circulating the air.

"In this type of house, owing to the fact that we use a 30-inch radius at the eave line instead of 16-inch, as is generally used, we gain  $1\frac{1}{4}$  feet of headroom over the side bench. You can see this is very desirable in the case of chrysanthemums, snap dragons, roses, melons and the like requiring special height. We consider this type the best we build as it is always constructed with our Full Iron Frame consisting of heavy  $9\frac{1}{2}$ -inch cast iron sills, capping the masonry foundations: iron rafters  $\frac{1}{2}$  by 3 inches bolted to the sill and following the curve of the eave, extend to the ridge where they are connected to rafters from the opposite side by splice plates. These rafters occur every 8 feet 4 inches in the length of the house and are held in place longitudinally by steel angle iron purlins. The sash bars are spaced for glass 24 inches wide. When inside this house, it is so light as to cause both the owner and his flowers to forget that they are in a glass enclosed building and not out in the garden.

"With all our fine greenhouses and direct sunshine, we cannot expect to produce summer conditions in winter without a good heating plant. This should be properly placed in the cellar of the workroom, which in this case should be between the garage and greenhouse. This building should measure about 1 foot more in width than the greenhouse, making it 19 feet, and from 10 to 12 feet in depth between the garage and greenhouse.

"The best arrangement for the boiler is to place it

in a cellar under workroom. Have the floor about 7 feet below workroom floor, as this arrangement permits of a place to store the coal and the entire floor of workroom may be used."

"This looks to me as though I would have to spend considerable money before I get through. Why not place the boiler in a pit instead of excavating the whole cellar?"

"Well, you can do this, but then you would have no place to store the coal and would lose about one-third



While we were at Narragansett Pier, looking at the Mackensie house, Newport was but such a short distance away that we went over there and spent an afternoon, going about among the various houses. In one, we found half a dozen plants of cucumbers, on the end bench, near the partition. The gardener picked one off, just to show us that it was no exaggeration to say that he grew cucumbers as long as his arm, and I took this photograph as a conclusive bit of evidence.

of your workroom floor space; so for the little extra cost it would make a much more practical proposition.

"The workroom proper should have a sink and drain-board, potting benches and locker for seeds, bulbs and such. The roof of the workroom should be sloped to correspond with the greenhouse, thereby eliminating trouble from snow sliding off the roof on to the glass."

By this time we had become so interested in working out the plan that we had quite forgotten the time until the maid came out to remind us that luncheon was served.

"Now I want you to come into the house, meet my wife and have luncheon with us. She is not at all clear as to the sort of plants she can grow."

As we turned toward the house he stated he was convinced that he wanted our new type of Curved Eave or Semi-Curvilinear, as we sometimes term it, 18 feet wide by 25 feet long with a square sectional boiler having a grate wide enough to take care of the garage and greenhouse and another greenhouse of same size by simply supplying additional sections to boiler.

I found Mrs. Brown to be even more enthusiastic than her husband, and after luncheon she explained she wanted to grow roses, carnations, snap dragons, sweet peas, bulbs and some vegetables.

Once more I was compelled to tactfully explain the requirements of the different classes of plants so that it would appeal to her sense of reason without offending her, as they were both experiencing the usual problems to be expected in starting with something new.

"The greenhouse and automobile are much the same in this respect—the pleasure we derive from them depends largely upon our knowledge and love of them.

"As a rule, where the house is small and in order to satisfy our long-cherished ambition to have so many representatives of the flowery kingdom in an all-year-round garden, we are apt to try to grow too many varieties of plans in one house.

"The first house, as a rule, always seems to be amply large for all our needs, but as we see the many lovely things grown in our friends' houses, we begin to add to our stock until we find that where most of our plants had been looking fairly well, many of them now seem to be very unhappy. Now, here is the secret! Greenhouses are used to produce artificially the climatic conditions which may be required by the various representatives of the floral kingdom which we desire to grow.

"Now, in the course of our visits to our friends' greenhouses, we have educated ourselves to all the lovely things which might be grown in a greenhouse, and adding to our stock until we find we have many things which require special care and will not do well with the only conditions of which our one house permits. For instance, we may plant a bed of beautiful shell pink roses next to a bed of stocks. Then we wonder why the roses so soon become covered with mildew and fail to produce blossoms like those of our friends'. We all love the rose, and our first thought when we build a greenhouse is that we shall grow roses, but as a matter of fact they are usually unsatisfactory to grow unless given a compartment of their own, due to the

fact that roses are very sensitive to draughts and changes in the temperature.

"With a house of only one compartment, say 18 ft. wide by 25 ft. long, we have found that only such plants should be grown as do well in a night temperature of 50 to 55 degrees and that stand direct sunlight and plenty of outside ventilation, as plants requiring a higher temperature usually need much more care than it is convenient to give.

"The house we have planned for you is similar to the one shown in cut No. 1, having two side benches, each 2 ft. 9 in. wide and a center bench 5 ft. 6 in. wide. These benches are usually about 5 ft. deep to provide for soil being placed on them where it is desired to plant things out permanently. Where the benches are to be used only for pots, they may be covered with such material as sifted ashes or coarse sand, to retain moisture.

"Owing to the extra headroom we have over the center bench, it is advisable to use this for such long-legged plants as sweet peas. The sweet peas may be sown in the center bench in rows about 2' 6" apart, the final sowing being made about September first. Early varieties may be had in flower by Christmas. You can have a succession of blooms by sowing seeds a month later in small pots which can be put on a shelf placed on the sill between the side of the bench and the glass. When the space is ready for the sweet peas, they may be planted direct from pots into the permanent place in the center bench. For Winter blooming seeds of pansies, primulas, snap dragons, Calceolaris, Cinerarias, Cyclamen, Schizanthus, Stevia and flowering stocks, should be sown in shallow pans or flats, for the Winter.

"Of course, some carnations will be wanted. They may be planted out in the bench soil placed about 10 or 12 inches each way. Not usually growing over 18 inches to 2 ft. in height, they will have ample headroom on the side bench.

"Summer plants such as geranium and Coleus should be propagated in the early Fall from cuttings and put into sand in a portion of the bench which should have the bottom heat enclosed in order to force



*This comes pretty close to being an ideal arrangement of frames, in connection with a greenhouse. You will notice that there is a heating pipe running around the sides. The masonry work is of concrete, capped by cast iron sills, upon which angle iron rafters are bolted. It will last as long as the greenhouse. Note how it is filled with potted plants and bedding ones in flats, ready for transplanting in the outdoors garden.*

the heat through the same. This may be done by boarding up the space between the side of a bench and the floor, or heavy burlap or canvas may be used to advantage. These will root in the course of a month and will be ready for placing in small pots.

"If vegetables are desired, lettuce, radishes and cauliflower, you can start from seed any time during the Winter, while parsley may be provided by transplanting clumps from the garden to the greenhouse.

"Of course, you will want some chrysanthemums, but September is too late for starting them. They are usually propagated from cuttings some time between February and July."

"Well, I can't see where there would be room for so many things in this house," said Mrs. Brown. "It seems as though we would need that extra compartment at once."

"I was just about to tell you of the value of frames in connection with the greenhouse. No greenhouse is quite complete without frames any more than your home would be without a kitchen, for they are very inexpensive and the space taken by them is worth quite as much for semi-dormant plants as the greenhouse; and should be used as a place for storing plants previous to forcing them. Of course, the frames ought to be arranged convenient to the greenhouse. The ideal way is to have them run parallel to the house as shown in cut No. 2 and not closer than 4 ft. to avoid snow sliding from the greenhouse roof on to the frames. When they are placed near the greenhouse, it is usually a simple matter to have a coil of 2" pipe placed around the side walls of the frames and connected to the greenhouse heating plant. This heat supply will serve to keep out the frost without the usual amount of excessive covering of mats and shutters.

"There are two distinct types of frames, one built on masonry foundation 3 ft. below the ground and about 10 inches above in front; and 16 inches above at back. The walls in this case are capped with iron sills similar to those used in greenhouse construction, excepting that they are narrower. The iron rafters are spaced every 3 ft. in the length of the frames, having each end fastened to the sills. These rafters are used to hold the sash in place. Owing to the depth of this frame running from 3' 6" to 4' 0", most of the dormant plants of considerable size such as are desired for greenhouse forcing, can be stored here until wanted—such as azalias, hydrangias, rambler roses and Genestias.

"The other type of frame is made of cypress, the front being 9 inches high and the back 16 inches. These are placed on the surface of the ground and banked up with soil or manure to keep out the cold.

"Of course, there is very little height in this type and they can only be used for low-growing plants, such as lettuce, violets and dormant bulbs."

"Isn't that just fine! Why, it seems to me now that I understand something of the proper rotation for greenhouse plants and that the house would not be complete without frames which would serve so well to store dormant plants till they are needed for forcing."

"Getting back to the greenhouse again, if roses are desired, they should be grown separately. And I would suggest that you do not attempt these until you build a second compartment, as they require a temperature of 58 to 60 degrees at night. Very few plants do well with the rose as this Queen among Flowers is fussy about the atmospheric conditions as well as the temperature. But if a second compartment is available and you decide to leave out the rose, you could grow in a temperature of 60 degrees, gardenias, dormant bulbs, lilies

of the valley; and if vegetables are desired you can have tomatoes, cucumbers, muskmelons and string beans. Yes, and even strawberries grown in pots."

"Well, I suppose I will never be able to remember all this," Mrs. Brown finally remarked. "If I could only have it in writing just as you have told us, it would be such a help."

So you see, the Browns are really responsible for my writing this. I thought if what we talked over was interesting to them, it might be equally so to you.

Yesterday, I accidentally ran into Mr. Brown as he was hustling through the Grand Central Station. In our few minutes' chat, it was abundantly evident that "the Browns" are getting a goodly measure of genuine pleasure from their garden under glass. The rose in his buttonhole told me what they were growing in that second compartment we added six months after the first was completed.

*P. S.—Both Mr. and Mrs. Brown gladly gave me their permission to write these rather personal things. They seem to want all their friends to have greenhouses, and if their enthusiasm was as catching a germ as the grippe this Winter, I am sure the garages of this country would all have greenhouse attachments.*

#### WHEN TO PRUNE ORNAMENTAL PLANTS.

A LITTLE early care given to the pruning of ornamental trees and shrubs during the early part of March will do much to control their growing and flowering habits and enable the home owner to have well-formed plants and well-trained hedges or boundary plantings. The pruning of ornamental trees and shrubs is, in fact, one of the first duties that may profitably be performed in the home garden. The amateur, however, should not make a ruthless assault with shears or pruning knife upon everything in his garden. Flowering trees and shrubs that bloom in the spring or early summer should not receive radical pruning at this time, according to the United States Department of Agriculture. Of course, if on these plants there are dead or weak branches, these should be taken out, and any crossing limbs that are rubbing and seriously interfering with the growth of the bush should be removed. The tips of the limbs, however, should not be cut off nor should any young wood that does not interfere with the growth of the bush be removed. It must be borne in mind that the blossom buds for this year's flowering were formed last year, and every shoot removed takes off that much of the prospective blossoms.

Trees and shrubs that bear their flowers in midsummer and which were not pruned in the fall may be pruned at this time.

Climbing roses should not be pruned at this time except for the removal of surplus or interfering branches. Every bit of wood removed now reduces the amount of bloom the plant will bear during the coming season. Roses used in border planting should be treated in exactly the same way as other shrubs, except that many of these species will be improved by having all their old wood cut away once in every five or six years. This would mean cutting all the old canes off within three or four inches of the ground and forcing the bush to throw up entirely new wood.

Roses used for cut flowers, like the hybrid perpetuals, the hybrid teas, and teas, should be severely pruned. The hybrid perpetuals may be cut as soon as freezing weather is past. Pruning of the hybrid teas and teas, however, should be left until the young growth has started. In both cases the plant should be cut to within six inches or one foot of the ground. Four or six eyes to a stem is about the proper amount of wood to leave.

# Uses of the Gladiolus and Its Culture

By B. Hammond Tracy, Massachusetts

THINGS happen so quietly in the floral world that the general public knows little about the development along some special line; and this is very noticeably true of the Gladiolus—the aristocrat of the summer garden, the good old-fashioned “gladiola” of our grandmothers’ gardens. From the time that M. Souchet, the gardener for Napoleon III, introduced the Gladiolus as a florist’s flower, the progress in its culture and development has been most remarkable. The results of the outpourings of nature’s horn of plenty are shown in no flower more than in the Gladiolus, and the garden glory of this magnificent flower, no longer called “too stiff,” makes it a pleasure all through the summer.

The modern Gladiolus is a flower of the future, for though much is known of it as a florist’s flower, its possibilities as a decorative asset in both homes and gardens are as yet little known or appreciated. It is perhaps more

one. A truly lovely vase of pastel colors may be had with Niagara, Pink Perfection and Baron Hulot or Badenia.

The soft coral pink of Gladiolus Dawn and the sensational effect produced by masses of this coloring, coupled with its wonderful vitality, make it an indispensable adjunct in any garden scheme. Baron Hulot and Badenia are the finest of the blue Gladioli. The deep, rich, blue-purple of Baron Hulot and the true lavender of Badenia bring to mind endless color combinations for the garden and the house—Badenia, planted with Spring Song, with pink snapdragons at the base, or Badenia and Baron Hulot blooming above branching Daybreak Asters. A most successful combination has been Baron Hulot with the soft apricot pink of Hollandia or Scarsdale and Schawben.

Panama, the brilliant new rose pink, with its sister



*Lily Lehman. Pure White with just a tint of pink on tips of petals. Pink Perfection. True La France Pink in color. Large open flowers. Niagara. Light crocus yellow in color, shading deeper at throat.*

essentially a cut flower, but most satisfactory effects may be achieved by judicious planting.

Planted in clumps in front of shrubbery, or in the hardy border, they will give a mass of color from early July until cut down by the first envious frost, this continued period of bloom being made possible by successive plantings, or by planting different sized bulbs. In this position nothing gives greater satisfaction than the brilliant rose of Gladiolus Independence, which in coloring and lasting qualities is unsurpassed. Brenchleyensis, Isaac Buchanan, and Augusta are all especially fine for garden work and are not prohibitive in price. The variety Niagara, with its most remarkable coloring, a very clear nankeen or creamy buff, with just a pencil mark of the faintest lavender in the throat, commands attention whether seen in the garden or in the vase. Planted above a carpet of purple Petunias or surrounded by the rich tones of Salpiglossis, it is most effective. The buff of Niagara, with the brown of Africa, gives an unusual floral color combination and a most attractive

bloom, America, placed in a vase with Gladiolus Lily Ichnan needs only to be tried to prove its beauty.

In all the gorgeous array of colors to be found in the lists of Gladioli, the variety Mrs. Francis King, that wonderful flame pink, is unsurpassed. For brilliancy of coloring and fine form it has no rivals in decorative effect.

Equally as beautiful and of the same graceful form, with a softer coral coloring, is Halley, a magnificent, large-flowered variety and especially popular because of its early and extended season of bloom.

The Primulinus Hybrids in all their daintiness of form and coloring give an entirely new note to Gladiolus productions. The attractive shape of the blooms and the wide range of color, from the lightest yellow, through bronze and orange, to deepest rose, have made these hybrids very desirable.

The gorgeous coloring of Mrs. Frank Pendleton finds a pleasing foil in the silvery whiteness of Glory of Holland or Queen of Whites.

A porch vase of Jean Dieulafoy or Maize arranged

with the carmine of Jesse Palmer or the brilliant crimson of Lillian Morrissey breathes a very hearty welcome.

No collection or garden will be quite complete without the glorious blue of Marie de Ruyter or Violet Perfection, the yellow of Schawben or Glory of Nordwijk. The royal Rajah, Red Emperor, and Empress of India are the very finest of the rich, deep reds and are particularly desirable.

A point of interest is the selection of bulbs. It is a mistake to entertain the notion that size is virtue. It is essential that the bulbs should be of the proper age, fully developed and healthy rather than over-fed, soft, and punky, though large.

In cutting the flower spikes, it is ruinous to cut the stalk where the flowers end. There must be some foliage to lend grace. Cut the spikes so as to leave two or three leaves on your bulb root, thus giving you a flower spike sometimes nearly four feet long, leaving plenty of strength for the bulb, and beauty for the decoration.

The Gladiolus in the garden is an unsightly object if left to bloom to its limit. The flower-loving public must be educated to a willingness to cut the spikes when they have bloomed a little while in the garden, then to finish their development in the house. Nothing is more unsightly than a mass of ragged, betasseled Gladioli bending in the wind, when it is so easy to pick off the withered blooms, if one does not wish them for house decoration.

The Gladiolus is a flower of easy culture and does well in any soil, but should be planted in full exposure to the sun. It will do well planted in the hardy borders or in front of shrubbery. Many of the best varieties produce small bulbs and the largest bulbs do not always give the

best results. It is essential that the bulb should be of blooming age rather than size. Soil should be well prepared in the early spring, with a good coating of agricultural lime and bone meal thoroughly worked into the soil, but fresh stable manure should never be used, except where the ground may be manured the previous fall and well worked over in the spring before planting.

The various ways in which the Gladiolus can be planted make it one of the most showy and attractive garden flowers. Planted in round, oblong or square beds, planting bulbs from four to six inches apart, so that they may be weeded and hand-hoed, they will give a wealth of color not equaled by any other flower.

Plantings for cut flowers should be made in rows eighteen inches apart, with bulbs three inches apart in the row, covering from four to six inches, according to the size of the bulbs; press the earth firmly around each bulb. Care should be taken to plant the bulbs right side up, so that the new bulb, which forms on top will not be pushed too near the surface. For succession of bloom, plant from the time the ground can be worked until July 1.

After the spike begins to show, all weeds should be removed, and if the soil is kept thoroughly worked, watering will hardly be necessary; they are great drinkers, however, and respond quickly to water. Always water after sundown.

The lower bulb, the one you plant, dies away and a new one forms on top, before blossoming, and if not planted deep, it will be so close to the top of the ground, after forming, that there will be no ground support for the bloom spike. Because of this lack of support, it is easily blown over and the roots loosened or broken off. By deep planting you do away with staking.

## Growing Begonia Glorie De Lorraine

**T**HIS invaluable plant, Begonia de Lorraine, can be grown in pots, suspended in pans or wire baskets.

It is one of the best winter subjects for decorative purposes, used largely as pot plants because the beautiful pink flowers make a charming table decoration.

I have used small plants, grown in three-inch pots, with cut flowers in vases, and maidenhair fern and smilax, with splendid effect.

To grow it successfully, a good start should be made in early spring, as soon as cuttings are obtainable. These should be taken from plants that have previously been pruned, and given rest after their flowering period. Young shoots taken from the base of the parent plant make the best cuttings. Insert three of these around the sides of three-inch pots, in a compost of sifted leaf mould and sand. The pots should then be plunged in a hotbed of about 75 degrees, and when rooted should be allowed to keep growing, as the young rooted cuttings should not be disturbed.

Propagation by leaf cuttings is another method, and I have found from experience that these latter make better plants than those obtained from cuttings taken from young shoots.

Select the healthiest leaves, and take them from plants that have done flowering, and before they have been pruned. Insert them around the sides of pans filled with equal parts of fine leaf mould and sand and place in a warm propagating case. From the leaf stalk roots will soon form, and young plants will spring up from the stalk section of the leaf. When large enough they may be transplanted into three-inch pots and grown as advised for ordinary cuttings. But great care must be exercised

that the young plants do not receive a check through cold draughts or by reason of insufficient heat or by allowing them to become dry.

When well rooted pot the young plants, and place them in a greenhouse, having a genial temperature until established. When the weather is warm enough remove them to a cold frame having glass lights and keep well shaded. Syringe the plants every afternoon, and close the frame so as to conserve the moisture.

The final potting should not be later than the early part of July, using on this occasion loamy soil and leaf mould in equal proportion, pulverized sheep manure, adding charcoal and fine sand. This composition will tempt the plants to fill the pots with roots before the winter season begins.

The points of the shoots must now be pinched out, and all flowers removed, so as to ensure a bushy habit of growth. I would even advise removing flowers until within six weeks or two months previous to the time when the plants are wanted in bloom. On the approach of cold nights the plants must be brought back to the greenhouse and given a temperature of 60 degrees, then commence feeding, by occasional applications of diluted liquid cow manure, until the plants are in full flower. A very pretty effect can be had by growing plants in orchid pans, suspended over the pot grown plants, and allowed to hang gracefully.

By following out these cultural details, those who have at their disposal a warm greenhouse should find no great difficulty in growing these beautiful begonias.—*James Taylor in Suburban California.*

# Notes on the Cultivation of *Lilium Speciosum*

By John Scheepers, New York

**S**ELECT the finest, plumpest, heaviest and most solid bulbs with conspicuous crowns. Japanese bulbs, freshly imported annually, give larger, more brilliant flowers and finer heads, than either Dutch or "home" grown bulbs. These latter can be used for early flowers if desired (they flower earlier naturally than the Japanese), but "retarded" Japanese bulbs really render them superfluous for the best work. The bulbs should, of course, show high full crowns, and for forcing, the bulbs showing weak crowns are discarded. Those may be planted, successfully outside.

Some people prefer bulbs with a single crown, others two or three, when the bulbs are potted up singly. It depends on the point of view: for a large single spike choose the single crown, but for a balanced full plant of several spikes the two or three crowns are better.

Large pots, one bulb per pot, is the best practice. Even market-growers often avoid boxes for *speciosum* as pots are warmer, better drained and so more under control. Pots should be at least 8" diameter, 10" is better and

they should be of good depth so that the bulb can be placed low in the pot. *Speciosum* depends for its flowers largely upon the surface roots emitted from the flower stem, quite apart from the basal roots of the bulb, so that the best results are obtained by first potting up the bulb, not much more than covering it with soil, and leaving three or four inches at the top of the pot empty. Then, when growth is active, fresh soil is added to within an inch of the rim, which, being fresh and sweet, the stem roots at once romp into. The bulbs should be potted firmly.

Do not plant more than one bulb in a pot, but have the pot large enough, as the bulb *must not rest on the inside of the pot, but on the soil*. There are several good reasons for not planting more than one bulb in a pot; one of them is that the pot, in which the Lily is planted, should dry out every day, otherwise the soil gets stagnant and the larger the receptacle used, the longer it takes to dry out; then again, one of the bulbs, planted together with others in a large pan, may not come as well as the others, giving an undesirable appearance to the plant; the inferior bulb cannot be removed without disturbing the roots of the others, which is fatal.

In case you want to have large receptacles full of Lilies to use for exhibition or decoration purposes, then take the entire plants, with soil and all, and set them together that way, as many as you want, in the larger receptacle, with-

out disturbing the roots; this must be done *very carefully*, as a disturbance of the roots will cause the flowers to flop down.

A good loam with sufficient sand to insure rapid drainage—a little bonemeal and soot can be added. Under the bulb itself put a piece of peat, as the first roots run quickly into this and the bulb itself is best kept from direct contact with the soil by a coating of sand which assists in keeping grubs from it. Raw manures should not be added but in the later stages the buds will be helped by small and regular doses of weak liquid manure.

*Fresh* bulbs should be potted immediately they are in from Japan, the earlier the better, though they lie about for two or three months without injury, but it is better to wait for the best types of bulb, which rarely arrive before December, rather than use the first bulbs that come in regardless of quality. For earlier work use "retarded" bulbs. Those, of course, will be taken out of cold storage as wanted and potted up at once. Cases containing cold storage or "retarded" Lily bulbs should be *opened upon receipt* and immediately potted, thereafter allowing the natural heat (in summer) to draw out the cold in the bulb. Twenty-four hours outside for that

purpose is sufficient. These newly potted bulbs should be kept in cold frame or under a frame in the open—sheltered from storms and frost, but otherwise kept cool. It is the greatest mistake to hurry bulbs *at the start* and they must be *strongly* rooted and must have stout stems *before* introduced to forcing temperatures. Early forcing leads to weak stems which cannot support the flowers, as well as poor flowers and disease.

"Retarded" bulbs should be kept cool even longer than the natural bulbs as once

introduced to heat they respond quicker than the fresh and are in flower quicker; in other words "retarders" should be grown *slower* and *then forced harder*.

To be kept healthy the bulbs must have all sun and air possible. Sunshine is a great factor.

The mistake is often made of treating bulbs in this country as they do in Europe, forgetting that we have to contend in Europe with entirely different climatic conditions; in the case of growing Lilies, for instance, we get much finer flowers here and quicker results, especially in winter, than are obtained in the moister, cloud-laden air of the British Isles.

The bulbs can be introduced to the forcing house when stems are 1½ to 2 feet long; 60 F. is enough at the start; 60 to 70 F. is a good average, though in the last stages



*Lilium Speciosum.*



*Lilium Speciosum, album.*

higher temperatures can be employed. With market-growers, waiting for the flowers to cut them as soon as they open, we have known temperatures of over 100 used with success, but the amateur should avoid anything of the kind. *The slowest grown flowers last longest.* About five or six months should be allowed for full development from time of potting—that is “retarded” bulbs would be potted at the end of June for Christmas and New Year work and freshly potted bulbs in December would flower in July and August. Of course only the broadest rules can be laid down, so much depends on seasonal variations. Bulbs naturally start much quicker in summer than in winter and yet the summer started bulbs have the difficult lighting and temperature conditions to contend with when coming into flower. The best growers fumigate their houses every week and the amateur should at least fumigate every two or three weeks to keep down fly and other insect pests.

Throughout their cultivation *watering must be done with intelligence.* In early stages, when there is little root activity, little watering will be needed. Later on, with the soil a mass of roots, a large quantity of water will be needed. Never allow the pots to run dry. Regular spraying should also be adopted to keep the foliage clean and vigorous and the air from becoming too arid. Water over the pots; wet *the soil, the plant*, excepting when they are in greater heat, then spray on cloudy days or in the evening.

In Japan where these Lilies are at home, the hot days are followed by damp nights, generally speaking; under those conditions Lilies do wonderfully well and it is therefore that we recommend “spraying” with a fine hose at night just before closing up your greenhouses; try it and you will note wonderful results. This pertains to Japanese Lilies of all sorts.

When the buds are ready to develop, they can, if desired, be given cooler temperatures, as slower development at this stage gives finer flowers. The best artistic effects are obtained by keeping the anthers on the plant. Market growers, of course, remove the anthers to keep the flowers clean.

While Lilies may be shifted gradually from one temperature into a higher one, they should never be shifted back from heat into the lower temperature until they are in bud; then they can be shifted at will.

Some growers have the habit of turning pots around if the plant is growing to one side; this has a tendency of checking the growth and should not be done.

### THE MANURE HEAP.

A GARDENER has no need to be a chemist in order to realize that remarkable and far-reaching changes occur in farmyard manure during its storage in heaps. He knows, moreover, that many of these changes are useful—that is, they increase the value of the manure—and he may infer from the state of a heap which has been left unused for a very long time that other of the changes are of a kind which reduce the manurial value of the heap.

Garden practice shows, moreover, that the series of chemical changes summed up in the word “fermentation” may be controlled to some extent by manipulation. For example, the “fire” may be taken out of the heap by constant turning, and so letting in air to facilitate oxidation. Thus in preparing a mushroom bed the manure is kept loose and turned frequently, with the result that the fermentation processes are increased and the temperature rises. Presently, however, when the bed has been made firm the temperature inside it begins to fall and the bed is ready for spawning.

One reason why manure from a spent mushroom bed, or manure which by turning has had the fire taken out of it, is recommended so frequently for certain garden purposes resides in the fact that it is free from an excess of ammonia, which, if present, might do considerable damage to the roots of plants. But this loss of ammonia is, from another point of view, a very serious matter to farmer or gardener. How considerable may be the loss from manure heaps of ammonia and other nitrogen compounds has been demonstrated again and again. In the most recent experiments by Russell and Richards, this loss of nitrogen during storage was found to be from 25 to 33 per cent.

The nitrogen lost in this way means, of course, a considerable reduction in value—for in the commerce of the garden nitrogen is money. One mode by which the heap sustains this loss of nitrogen is as follows: Urea, one of the nitrogenous constituents derived from the liquid excreta of the farm animals which made the manure, is converted by one, and possibly more than one, specific micro-organism into ammonium carbonate—a substance which readily liberates its ammonia to the air. Russell and Richards, in their work just cited, indicate another method whereby loss of nitrogen is sustained. These observers state that a formation of nitrates goes on on the outside of the heap; but these nitrates if washed into the body of the heap undergo a sort of denitrifying process, as a result of which nitrogen is formed, and escapes into the air.

Many attempts have been made to prevent the loss of ammonia by the addition of fixers; that is, substances which interact with the volatile ammonium carbonate to form a more stable compound. Gypsum, calcium sulphate, kainit (potassium and magnesium chloride), superphosphate (acid calcium phosphate) have all been tried, though without much success. Gardening books in particular often insist that gypsum is efficacious, but as a matter of fact, for it to do its work effectually about one cwt. of gypsum would be required for every ton of farmyard manure; and, furthermore, the use of gypsum is open to the objection that some of it, as Mr. Hall points out, in his valuable work on Fertilizers and Manures, may become reduced to the form of calcium sulphide, a substance injurious to plants.

A practice which does result in a reduction of the loss of nitrogen from the manure heap consists in using a layer of old and well-rotted manure as the basis for a new heap, and this simple and effective device should be followed by all gardeners who have to make manure heaps.

From what has been written it follows that the absence of that wasteful dark brown liquid from the foot of the heap is no guarantee that loss of nitrogen is not occurring; for the nitrates washed from the surface into the depth of the heap may, and certainly will, undergo decomposition, and thus give rise to nitrogen, which escapes into the air.

This loss may be reduced if the heap be made thoroughly firm, and if it be possible while making it firm, to protect the manure heap from rain, the escape of nitrogen from it may be checked almost entirely.

There is room for further experiment as to the best means of protecting the manure heap from rain—a protection which, as we have shown, is of the greatest importance. Possibly a thin layer of peat moss litter with a covering of earth might serve the purpose; or in the garden a layer of leaves covered with earth; but in any case if the nitrogen is not to be lost some protection must be given, and the heap must be made as compact as possible.—*Gardener's Chronicle* (English).



# A Treatise on the Behavior to Gardeners

(Some years ago the London (England) Times published the collected essays on gardening in book form that had appeared in its columns weekly during the previous year and a half. These weekly essays had attracted wide publicity owing to their very entertaining and informative, not to say learned, character. Not only did they betoken an author who was imbued with consuming love of gardening, but one who had traveled much and found the plants to write of in their native habits and who had seen many of the finest gardens in all parts of Europe. He remained anonymous, but in inner gardening circles it was freely rumored that the writer was none other than Lord Redesdale, formerly A. B. Freeman-Mitford, heritor of one of England's famous estates and gardens, namely, that of Batsford in Gloucestershire. When Lord Redesdale found it incumbent upon him to offer his estate for rent, it was even said that this was necessitated by the fact that he had burdened his finances by over-elaborate gardening. Possibly that may not be true; but that the gardens at Batsford, among the Malvern Hills, are beautiful and extensive, is a fact. Lord Redesdale was euphemistically called King Edward VII's "head gardener," and he certainly was a close intimate friend of King Edward, who carried out many alterations in the gardens at Windsor and Sandringham during his reign. Redesdale also took an active part in more than one delegation of British horticulturists in events on the continent and has drawn plaudits from the French and Belgian growers and gardeners because of the richness of his oratory, his French being faultlessly spoken and as literary and learned as his "Studies in Gardening." It is a pity that these latter are only obtainable secondhand now, the edition having sold out quickly. When he was Freeman-Mitford, before receiving his title, his lordship was known as the author of "The Bamboo Garden." Bamboo gardens thereafter became favorite features of many English places.

The following is a chapter on "Behavior to Gardeners," from his book "Studies in Gardening," and regarded by many as one of the best books ever published on gardening.)

THE relation between gardener and employer is not an easy one, especially if the employer is a gardener himself. There is apt to be a conflict of tastes; and the better the gardener the more acute that conflict is likely to be. Every good gardener is sure to have his own taste in flowers and their arrangement, and in these days it is not often the taste of his employer. The amateur in gardening is a revolutionary; the professional a conservative. He has learned it well; it has brought him triumphs plain for everyone to see. His ribbon borders have been the talk of the place, and he has won many prizes at the local flower show, the certificates of which he nails up in his conservatory. Naturally he wishes to persist in his ribbon borders and his prize winning. But his employer, if he is a gardener himself, has other ideas which, to the professional, seem merely the result of ignorance. The consequence of this conflict in tastes may be some real unhappiness to the gardener. He has his duty to his employer, of course, and he can only keep his place by doing it. But he has also his artistic conscience. This he cannot satisfy on herbaceous borders or bulbs in the grass or rock gardens. Other gardeners have been accustomed to admire the florid health of his begonias, the contrasting glare of his geraniums and lobelias, the precision of his carpet bedding, and the enormity of his chrysanthemums. The revolution takes place, and instead of these proofs of his skill what has he to show his friends? Daffodils in the grass which, they know, will grow of themselves. Great lumbering larkspurs and phloxes fit only for cottage gardens, not for a gentleman's place.

His employer takes no pride in his flower-show triumphs; but rather discourages them, grudging the time that is necessary for their achievement. Indeed, he takes no pride in anything that is worth doing; and has no appreciation of real knowledge and skill. He is all for experiment and for growing weeds where there ought to be flowers, and flowers where there ought to be weeds. In fact, he seems not to know the difference between a weed and a flower. Very likely he will waste good ground and manure upon single roses, and will have no eye for the perfections of Frau Karl Druschki. In taste he is a mere anarchist. In knowledge he is altogether wanting; at least, whatever he knows he has got from books written by people like himself. Yet he presumes to have opinions and, what is worse, to enforce them. He ravages the garden and no one can stop him, because it is his own according to the law. Even the gardener who has been a conservative all

his life, in politics as well as gardening, must feel the iniquity of this. He must feel that there is a higher law which gives him some property in what he has made beautiful; and the less he reasons about it the more deeply he will feel it.

But to the employer who is an enthusiast for the new horticulture these tastes and ideas of his gardener will seem the result of mere arrogant stupidity. He will assume that the gardener wants to grow geraniums and calceolarias, because he can grow nothing else. It is his business, as a gardener, to produce whatever his employer asks for. He has been gardening all his life, yet he knows nothing about Alpines, not even their names, and refuses to take an interest in them. "The worst of him is," cries the employer, "that he will not learn. He thinks he knows everything and he knows nothing." And all the while that is what the gardener is whispering to himself about the employer. It would not matter if the employer would attend to his own business, whatever it may be, and leave the garden to its proper master. But this he will not do. For some unknown reason he must try his hand at a business for which he is constitutionally unfitted. He blunders about the garden, botching jobs which he has paid others to do for him, and demoralizing the under-gardeners with his messy habits. It is impossible to see him at work without despising him in your heart; and then precious time has to be spent in repairing the damage which he does. Meanwhile the employer is also watching his gardener at work and despising him in his heart. He is the slave of a brainless routine.

Gardeners have a great power of passive rebellion. They take your orders and seem to be carrying them out, and yet nothing comes of it. You may have a fanatical dislike of bedding plants, and think that you have extirpated them, yet all the while there are geraniums and calceolarias and even echeverias lurking through the winter in some secret frame; and in due season they will appear in the garden again, and the gardener will say that he had to fill up with something. If you are a ruthless man, perhaps you will have them pulled up. But you will find that for some reason nothing else will grow where the gardener thinks they ought to be. It is a place ordained by nature for bedding plants; year after year they will come there unless you turf it up; and if you do that they will break out somewhere else. There is also a curious difficulty about the planting of bulbs in the grass. You tell your gardener that he is to arrange them in a natural disorder, you may even make a plan for him with dots for the bulbs on a piece of paper, and he will seem to listen and observe, and will say that he

understands. But in the spring the bulbs will come up in orderly rows, or, worse still, in geometrical patterns. Perhaps the gardener does not listen. Perhaps he thinks you cannot be really so foolish as you seem; or, perhaps—and this is the most probable explanation—the habits of a lifetime are too strong for him, and as he plants he obeys unconsciously his instinct for symmetry and order.

Whatever the explanation may be, these incidents make pleasant relations difficult; and, for the enthusiast, unpleasant relations with his gardener are intolerable. They must be even worse for the gardener, since he cannot openly rebel except at the risk of losing his livelihood. It is his business, you may say, to please his employer; but he is human, and the more his heart is in his work the more eager he will be to do work after his own heart. Every good gardener is something of an artist, however perverse his taste may seem, and he needs to be humored like an artist. But then his employer too, if he is an enthusiast, is also something of an artist, and probably not content with mere humoring. It may be a point of honor with him to have no bedding plants in his garden. It may be a point of honor with the gardener to have some. When this is the case the humane employer usually makes some concession. He sees that if there were no bedding plants his gardener would lose all interest in his work and pine away. Therefore he gives him a piece of the garden to play with and does not grudge the time he spends upon it, provided he will do as he is bid elsewhere. This compromise is not perfectly satisfactory to either party. The employer has to explain to his friends that the bedding plants are not his taste. The gardener has to explain to his friends that only in one little part of the garden has he been given a fair chance. Some employers, perhaps, will say that they see no reason for a compromise at all. The garden is theirs to do what they like with. But the gardener, though they pay his wages, is not altogether theirs. They can, of course, get rid of him, and look for one who will do exactly as they like; but they will find it difficult to get him. The good gardener always has tastes of his own; if he had not he would not be a good gardener; and his tastes are usually conservative, not merely because he has been trained in an old-fashioned school, but also because all men, except the most able, are apt to fall into routine in any difficult work that is the main business of their lives. In the difficult work of a government office this tendency produces red tape. In the difficult work of the gardener it produces the bedding-out system; for gardening is very difficult work, much more difficult than the irresponsible amateur is apt to suppose. He plays with just the parts of it which amuse him, and he finds them easy and delightful. He forgets that the gardener has to do many things which are not amusing—that he has to produce fruit and vegetables as well as flowers; and, above all, that he is expected not to fail in what he attempts. It is this consciousness that he must not fail which makes the professional averse from experiment. It is the consciousness that he can fail if he chooses which makes the amateur so eager for experiment. We wonder why the presentation portraits which we see in the Academy are so dull and unadventurous. We should remember that the artist who paints portraits for a living has to produce good likenesses. If he does not, he is held by his customer to have failed. He cannot begin on the portrait of an alderman, and then, if the whim seizes him, turn it into a picture of light. If he does, the alderman will not buy it. So a gardener has to produce a certain amount of cabbages in the year and a certain amount of flowers; and if he knows one sure way of producing them, he sees no reason for trying another. Thus, there

is a cause, much deeper than mere perversity of taste, for horticultural routine; and many an eager amateur who rails at it would soon slip into it if he were in his gardener's place. The free play of the intelligence and the consideration of first principles are excellent things; but very few of us have enough energy to combine them with practice, and this is the reason why practice is usually so much less clever than criticism. It is the business of criticism to be clever. It is the business of practice to produce results; and practice will usually take the line of least resistance towards that object.

These are general considerations; but they have a very particular application to gardeners, who have much more difficult work to do than most men of so little general education. It is only genius that can combine efficient practice with a free play of the intelligence and a consideration of first principles; and even genius must be educated before it can do this. Genius, of course, is as rare among gardeners as among other men, and educated genius still rarer. Even the most accomplished amateur, if he has the luck to catch an intelligent gardener young, if he can teach him all that he knows himself and train him in his own taste, will yet probably fail to teach him that certainty of practice which is required of most gardeners. His pupil may know a good deal about Alpines; he may be able to plant and maintain a beautiful herbaceous border; but the chances are he will be rather disappointing with his spring greens, and no good at all at grapes. Men trained in this way may be invaluable in very large gardens, where there is much division of labor; but they are not so useful as the ordinary routine-trained gardener in a place where they have to do or supervise everything. Amateurs often wonder at the certainty of the results produced by the great florists. That certainty comes from a division of labor impossible in the ordinary garden. The man who has only one thing to do learns to do it excellently, not only because he is always doing it, but because he has nothing else to think of. The ordinary gardener has a great many different things both to do and to think of. He has to plan as well as to execute; and it is only natural that he should plan according to a routine and should be very unwilling to break through it. Thus, it is not sheer vice in the gardener that he likes bedding out, but the natural tendency of even conscientious men to simplify their tasks. Their minds flinch from the insecurity and bewilderment that await them as soon as they leave their routine, and the more conscientious they are the more they prefer a narrow and obvious success to an ambitious failure.

These reflections are not intended to dishearten the enthusiast. Their purpose is that he shall make the best of his gardener by first learning to understand him. When he does that he may teach his gardener to understand his own aims and to see that they are not merely the results of ignorance. Gardeners are apt to think meanly of all information got from books, for they know that books are usually written by amateurs. It is no use, therefore, to try to impress your gardener with your knowledge for he will assume that you have got it from a book written by some one who has never grown a cabbage. The only way to convince him that you know something is to prove it by results. Then he will respect you, even if he disagrees with you. You may, by persuasion and artifice, even induce him to agree with you to some extent in time. At any rate, that is the object to aim at; otherwise you must be always at odds with your gardener, or else always changing him until you find a paragon; an event which may never happen.

\* From *Studies in Gardening*, a series of articles reprinted from the *London Times*.

## AMERICAN ASSOCIATION OF PARK SUPERINTENDENTS.

(Continued from page 135)

"It is wholly possible to sufficiently ornament playground areas so that they will not become barren wastes, but it is not possible to place play features in purely ornamental sections, without utterly destroying the beautiful effects of the lawns, shrubbery and flowers, so essential if we are to keep our present reputation of having beautiful parks." This is an observation that would have application at other places as well as Fall River.

Massachusetts.—The twenty-fourth annual report of the Trustees of Public Reservations of Massachusetts shows that body to have 556 acres of area, in eight tracts, under its control. Prevalence of the Gypsy Moth has been giving them considerable trouble. A reiteration from a previous report explains that a larger permanent fund is desirable and without it no gift can be considered that is not accompanied by a special fund, the income of which will be sufficient to provide maintenance expense. A present fund of less than \$25,000 seems too meager to do other than such tasks as are imperatively necessary. Boston is surely too keenly alive to the work of the trustees and the personnel of the corporation is such that it is unthinkable to presume that the good work will be stayed by lack of funds.

Utica, N. Y.—The 1914 annual report of the Department of Parks and Boulevards of Utica gives illustration of that city being in the initial stage of park development, also that the necessary courage to proceed is clearly the attitude assumed by the present officials. About a quarter of a million dollars has been spent upon a parkway, and further sums will be needed to bring the work to completion. A paragraph in the report of Superintendent E. M. Swiggett recites the determination to leave the benches out of doors during the winter, rather than incur the expense and wear and tear of removing them to shelter each autumn and then back to the park again in the spring. Evidently no permanent or fixed benches are used. It would enhance the report were it to list the separate park properties, giving their acreage, location, etc., and still better if the distribution of the tracts were shown on a city map or plan.

Niagara Falls.—The twenty-ninth annual report of the Commissioners of Queen Victoria Park, Niagara Falls, Canada, speaks throughout that the Canadian side of the Niagara Park is in the hands of large caliber men from the commissioners and superintendent to the chief gardener.

Hardly anything which could be done to the land in fitting it for park use, compares to the importance of the Falls. A discussion of the negotiations with this country looking to a satisfactory, amicable and just settlement of the power regulations and setting up a policy for the future, conveys the idea that it has not yet been settled, but that the commercial and aesthetic features of the task are appreciated.

Intimation is that the heat, aspersion and untempered passion shown by champions of conducting the waters of the river over the Falls, rather than through power plants, is settling into a calm where the whole problem may be considered in proper proportion to its real value.

The whole country will continue to look upon the work of the commissioners and both federal governments with keen interest.

Declaring the general public sentiment to be lax in realizing the intercommunication between commercial and aesthetic features, the commissioners state that "there is no doubt but what it was over-zealous in seeking to protect Niagara as a spectacle, etc." After noting the ludicrous extremes portrayed by advocates of scenery preservation, the report continues, "Time has followed on, however, and very few of the evil results have materialized from the use of the water, although in low water stages there is reason to believe that the effect may be detected by close observation." Again the reports says: "Electrical energy is becoming scarce, and the time is approaching when the demands will exceed the limitations placed by the International Boundary Waters Treaty. The five-year period mentioned in the treaty will expire this year, and a twelve months' notice by either party will serve to terminate its provisions. The Burton bill limitation has expired for want of re-enactment, although its limitations have not been exceeded materially, if at all."

Park Institutes.—There will always be need of a national society which concerns itself with topics and affairs of nation-wide scope, and yet there is good reason for more intensive study and closer co-operation between those of particular sections of the country.

Such a need is met by the Park Institute of New England, and a more complete report of its activities during its frequent sessions would be of general interest. Perhaps Secretary John W. Kernan, of Lowell, will oblige with a report or contribution.

## GROWING STRING BEANS UNDER GLASS.

Beans are not very easily forced. To produce pods, not plants, depends less on the grower's skill than on the condition of the house. The latter must have a great deal of light and air, and the indoor temperature must be watched closely, never being allowed to fall below sixty at night or to go higher than seventy degrees in the daytime.

Sowings may be made every two weeks if a succession of beans is wanted. The seed pots should be specially prepared. In the bottom of each pot put a few leaves, then fill the pot half full with a mixture of loam, sand and leaf mold; firm this and then sow five or six beans, not too close to one another, and fill the pot up with good soil. Place the pots in the forcing house and give them no further attention until the sprouts push through.

From that time on, water the pots whenever the soil gets dry or cracked. Beans must have a moist soil in order to push forward to rapid growth.

When the plants have attained a height of four inches transplant them into the larger fruiting pots. For fruiting, eight or nine-inch pots are used. They should be well drained. To facilitate this, place a layer of leaves over the drainage holes. A very rich soil is required for the plants if they are to bear pods. A mixture of the very richest loam and well-rotted manure, half and half, is used instead of sand and leaf mold to fill up the larger pots. Care should be taken with this re-potting. Water the pot very liberally at first, so that the soil is soaked clear down to the bottom; then with a garden trowel carefully take up each plant with plenty of soil adhering to the roots and place it in a cavity previously made in the soil of the fruiting pot by the use of a trowel. Repeat this three or four times so that the contents of three or four seeding pots are transferred to one fruiting pot.

The fruiting pot contains now, in a circle eight inches in diameter, a cluster of twelve to fifteen sturdy plants. Full-grown beans are worthless as a high-class product, and if left to ripen fully on the vines retard the formation and growth of new pods, thus decreasing the bearing of the plant and exhausting its vitality very rapidly.

The number of potfuls of seedlings used in filling one fruiting pot depends on the condition of the seedlings. When the potting is finished make the soil of the fruiting pots very firm; this will push forward the growth, flowering and podding of the plants. The plants growing steadily from now on will soon fill the pots with a network of roots. Apply plenty of water at short intervals so as to create a moist atmosphere, which is essential in forcing this vegetable.

If the proper condition of the house is maintained and the cultural requirements are skillfully executed, bean vines will be in bloom in five to six weeks from time of sowing.

In about two weeks after blooming the pods will commence to swell. Give plenty of water and continue this during the entire fruiting period. While the vines are in bloom take great care to keep the blossoms as dry as possible. Also be very careful not to permit the growing vines to fall over the sides of the pots, as this checks growth.

Gathering the pods at the proper time is the most important feature of the forcing operations. The beans must be gathered young while the pods are perfectly smooth.—*Exchange.*

# Work for the Month of April

## The Flower Garden and Grounds

**D**URING April, the proverbial month of showers, the planting of hardy trees, shrubs and flowers may be made. After a winter of more or less activity one feels glad of the opportunity to again dig and delve into the soil.

Emerson, reflecting upon the discontent of the gardener during the winter months, says:

*"The cure for this ill is not to sit still,  
And frozest with a book by the fire,  
But to take a large hoe, and a shovel also,  
And dig till you gently perspire."*

The first essential to successful planting is making the soil right; the elements of fertility must be there before the plants will grow.

This is realized to a great extent in the cultivation of vegetables and flowers of an annual character, but when it comes to permanent plantings the question of fertility is often ignored. A poor growing medium can often be found to be the cause of many unsuccessful efforts at permanent planting. This is true not only of shrubberies and hedges, but herbaceous borders as well. So do not overlook the manure. On heavy soils commercial fertilizers will produce good results since humus is more abundant in this kind of soil than in a light one, which should have the barn-yard manure on account of the humus it supplies.

### EARLY FLOWERING SHRUBS.

When planting is in progress it is well to heed past observations and experience. Not infrequently one finds shrubs that bloom very early in the spring that lose their flowers. This is in the majority of instances due to an unfavorable location rather than climatic conditions. The mild sunny days of early winter advance the buds to such an extent that they are killed by the Zero weather of February. These early flowering shrubs would cause less disappointment if they were planted on the east, or north side of a house, bank, or wall. Here they will be more or less retarded by having less sun and will be better able to withstand late frosts.

In planting shrubs in the spring it is always advisable to start with those of a deciduous nature first, and particularly such as the Willows that break into leaf early. Then come the evergreens. While it is generally conceded that these may be successfully transplanted almost any month of the year when care is exercised, yet almost every gardener has his own particular time for it. As with all other spring planting there is always a desire to get this work done as early as possible, yet with some of the evergreens it is desirable to wait until the ground warms up a little. When the plants to be set out are small the roots may be puddled with clay and water mixed to a consistency that will best cling to the roots, as they are lifted out of the bucket or barrel wherein the puddle is made and set in the holes.

With large evergreens puddling is not practical, but filling the hole with water after the roots are lightly covered with soil serves the same purpose and settles it round the roots the same as would a good tramping.

Uncover the tender roses, and prune them; leave two or three eyes on the hybrids and thin out any weak growth. The teas do not require such heavy pruning and we like to leave the pruning of these a week or two

after the hybrids as they start into growth sooner when pruned and may be caught by a late frost.

The protective material can be removed from the beds of bulbs, the rhododendrons and other tender evergreens, selecting a rather dull day for the work. Any new flower beds that are being contemplated can be made now and if roses are to be included don't overlook some of the newer teas.

### THE LAWN.

The mulch of manure that has been on the lawn all winter may now be raked off and carted away. The first impression that one gets on seeing a really good green luxuriant lawn is that the man in charge of it is no idler for it takes hard work and eternal vigilance to keep a lawn good all through the season. Although the lawn forms the greater part of many places yet it is remarkable what little attention it gets beyond that of the necessary cutting, and an occasional rolling. Constant cutting throughout the season entails the removal of large quantities of grass which is produced at the expense of the plant foods the soil contains. Repetition of this year after year is bound to rob the soil of its feeding properties, thus making it difficult to produce an healthy greensward.

Animal manures are rich in plant foods but unfortunately contain countless numbers of weed seeds. Specially prepared lawn manures are good up to a certain point, but the manufacturers of these, wishing to create a good impression, usually add a large percentage of sulphate of ammonia or nitrate of soda to these mixtures. These certainly make the lawn look green in a very short time yet without some other lasting plant food to follow up with, the effect is not lasting. These two ingredients are stimulants rather than real foods and their effect upon the lawn may be likened to a whip upon a tired and hungry horse; it makes him go faster for the time being, but it does not appease the hunger. Basic slag is one of the most lasting of fertilizers and one that can be highly recommended for use upon the lawn. Its effect is slow but lasting; it may be applied at once in quantities varying from 800-1,500 pounds per acre. It is, however, sold at varying strengths and any general instructions as to its application would perhaps prove misleading, hence it would be better to follow the maker's directions. It is claimed by many that this fertilizer is bad for lawns, insomuch as it creates such a rampant growth of clover. This is not the fault of the Basic Slag, however, for by no stretch of imagination could it be proved that it will produce clover by spontaneous generation.

Nevertheless the effect of this fertilizer upon clover is little short of magical, and lawns that show a tendency to grow clover should not be treated with it if no more clover is wanted. The presence of moss upon the lawn is a sure indication of poverty of soil or poor drainage. The latter effect is a serious matter as the laying down of drains makes a sorry mess of any lawn. A top-dressing of four parts soil to one of lime will eradicate moss, and ten loads of this mixture will do an acre.

### THE VEGETABLE GARDEN.

The work in this department this month is very important. If the weather is normal, sowing should be made of the more hardy vegetables, as the ground gets

into condition to work. Parsnips require a long season of growth and as they are extremely hardy there need be no hesitation about getting them into the ground. The ground for this crop should be deeply dug and well manured, but if a part of last year's celery patch can be utilized no manure will be needed. The question of economy is an important one with manure when all the supply has to be purchased. Apropos of this it is well to bear in mind that Brussel sprouts will produce a better crop upon last year's celery ground or potato patch than upon a newly manured piece of ground. On rich land Brussel sprouts grow tall and strong, but do not give the crop of "buttons." As a rule the strongest plants produce "rosettes" instead of solid sprouts.

When sowing the various vegetable seeds be careful to label everything you sow, and make note at the time the different crops mature. This will be a wonderful aid in future seasons when you want to have a certain thing at a fixed date.

Tomato trellises should be fixed up ready to use; poles for the lima beans are also to be got ready and in to place if possible. Then there is the pea-brush; is it ready for use when needed?

#### THE FRUIT GARDEN.

This is an excellent time to set out new fruit trees and plants. How about your raspberries, gooseberries and currants? Then there is that row of trained fruit trees that you proposed setting out last fall but did not get the time. Do it now! Uncover the strawberry bed, and dig the mulch of manure under. A good coating of lime is very beneficial. This may not be in accordance with the training that some of us received, yet the writer is convinced that on land that is carrying strawberries and is in any way inclined to be sour lime is the antidote.

#### THE GREEN-HOUSES.

Continue to care for the seedling as suggested in our last notes, the sun is gaining power every day, and the flats and pots will dry out rapidly; hence the necessity of going over them several times a day. Place them well up to the glass or they will become drawn and spindly. There is yet plenty of time to sow Asters, Balsams, coreopsis ricinus, scabiosus, tropaeolums Zinnias, etc.

#### ALLAMANDAS.

Allamandas are among the best of summer-flowering pot plants, and with the rush of other work they are likely to become neglected, and maybe crowded up into one corner out of the way. Spread them out, if this is the case and give any that need it a short stake or two to support the growths. They will need water every day now, and liquid manure once or twice a week will be of great assistance to them. Don't forget the syringing; and damp down the house two or three times a day to keep the atmosphere moist. The temperature may go up to 85-90 during the day with sun heat, dropping at night to not lower than 70 degrees. Give ventilation on all favorable occasions, but avoid wide fluctuations in the temperature. Cuttings of Allamandas root readily in sand over a bottom heat of 75 degrees. Another method is to put the softwood cuttings singly into flumb pots, in a mixture of sand and peat, and plunging the pots in a propagating case. Shading is necessary for a while.

#### SHADING THE PALMS.

A sharp watch should be kept for defective glass on the palm and orchid houses. If this is not shaded valuable plants may be burned. Nothing will make one lookout for this better than having a real fine specimen spoiled, but it is better to avoid this if possible. The sun is getting more power each day, and even if it is cold over-

night yet it can be mighty uncomfortable under glass at noontime. All the white wash that was ever on the glass has been taken off by the frosts and rain and another dose is necessary now. Boston ferns are very obliging and will stand a whole lot of sun, but a little shade gives darker fronds.

A little shade on the carnation will help them to retain their color, especially the Ward variety.

#### CUCUMBERS.

Continue to top-dress these subjects as the roots show through the surface. Periodical stopping and tying of the young growths must have attention, at the same time cutting away any worn-out foliage to make room for the younger growth. Syringe the plants freely twice a day, and keep on the lookout for green-fly and other pests of this nature. Copious supplies of water will be needed right along now; manure water at frequent intervals will be of some assistance to them. Shade is necessary for them, but it should not be put on too soon; when the plants show visible signs of needing it is time enough to put in on.

#### NEW HYBRID CALCEOLARIA.

LOVERS of Calceolarias will welcome this newcomer as gladly as they have done C. Clibrani and others of like character. C. Cotswold Hybrid was raised by crossing C. Clibrani with a herbaceous variety, and the result of this cross is a race bearing flowers considerably larger than those of C. Clibrani, but of rounded rather than of elongated shape, and with a color range running through a series of delightful shades from creamy-white, clear lemon, yellow, and pure gold, to light and deep bronze and brown, while in many cases



*New Hybrid Calceolaria Cotswold.*

the elegant flowers are beautifully and lightly spotted with rich colors, as in the herbaceous varieties.

In habit the new hybrid is similar to C. Clibrani, and the plants are about 2½ ft. high. Continuity of flowering is a great point in favor of the hybrid, and if fading flowers are regularly removed, the flowering period may be extended quite easily from April to September, and during that period the new spikes that arise regularly from the base will keep the specimens fully furnished with effective flowers.

## CULTIVATION OF PLANTS IN TUBS

THERE are places in most gardens where it is impossible to introduce flower-beds or borders, but where the presence of growing plants is desirable. Thus suitable plants are grown in tubs, ornamental vases, or other receptacles for this and similar purposes. May and June are good times to begin tub-gardening. In some cases it may be found that only the hardier subjects will be suitable, such as Sweet Bay, Camellia, Aucuba, or Arbutus, but a wider selection is desirable wherever possible. The horticultural sundriesmen supply tubs of many descriptions, from the most elaborate and ornate receptacle to the plainest of Oak tubs. The next consideration is to prepare a compost of rich soil. For the majority of subjects the best soil will be found in a mixture of turfy loam, leaf-mould, and well-decayed manure in equal parts, with charcoal and sand added, but in special cases a little variation in the ingredients may be necessary. When preparing the soil for tubs it must be remembered that most of the plants will improve with age, and provision should be made for them remaining in the tubs for some years. Several fair-sized holes having been bored in the bottom of the tub, sufficient crocks or clinkers should be placed at the base to ensure free passage of the drainage water. A layer of rough turf or leaf-soil should be placed over the crocks before putting in any of the compost. Never use the soil when wet; it should be in a friable condition, and the rammer used to make the whole firm. Do not fill the tubs too full, but leave ample room for top-dressings. One of the most popular plants for use in tubs is *Agapanthus umbellatus*. This plant flowers best when thoroughly well established in the tub, and can be kept in good health for years by judicious feeding. Hydrangeas are also favorites, and produce an excellent effect, especially near water. Established plants often measure over six feet in height, and as much through, remaining in bloom until the end of the season. *Aloysia citriodora* (Lemon-scented Verbena), and the stronger growing varieties of scented-leaved *Pelargonium* are general favorites, and may be used on verandahs and outside windows, especially where fragrance is of more importance than display. *Plumbago capensis* and *Streptosolen Jamesonii* are two striking plants, the light blue of the former contrasting effectively with the orange-scarlet of the latter. A few tubs of white Marguerites are often useful to separate decided colors. These will not last so long as many of the subjects mentioned above, but will do well for two years. Both Ivy-leaved and zonal *Pelargoniums* are very bright, and can be procured in a wide range of color. They are particularly well suited for very hot and dry positions. In these conditions they will revel, where many subjects will not thrive. *Heliotropes* and *Fuchsias*, trained either as pyramids or as standards, are effective. When used in the latter style, a suitable groundwork must be provided. Tubbs of Lilies may also be introduced in suitable positions. These will only last for a limited period, but if required for a special season or purpose, they make a charming display. Sweet Peas can be grown in tubs, but are not specially recommended for this purpose, unless space for their cultivation in the open ground is extremely limited.

Besides the flowering subjects mentioned, *Cordyline indivisa*, the hardier Palms, Orangetrees, Myrtles, Bamboos, Agave, Yuccas, and the hardier Tree Ferns, give a wide selection of interesting foliage plants. These are often grown in tubs for conservatory decoration, and would benefit considerably by being placed out-of-doors for the summer. When the plants are

first placed in the tubs, great caution is necessary to avoid making the soil sour by over-watering. Very little moisture is required by the roots at first, a syringing in the afternoons during hot weather being almost all that is needed. When the plants are in full growth the amount of water given must be gradually increased, till during the hottest months they may require moistening two or three times a day.

The regular application of stimulants plays an important part in keeping the plants in vigorous health. The best way is to mix some artificial plant food with finely sifted soil, and apply a small quantity to each tub every ten or fourteen days; or it can be used alternately with manure water. In cases, however, where the tubs are standing on stone or marble, the use of manure water is not advised, as the drainage from the tubs is apt to become offensive.—*The Gardeners' Chronicle* (English).

Never allow old leaves or faded blooms to remain on the plants.

## A NEW PRIMULA.

A NEW variety of *Primula malacoides* named *Townsendi* has been produced by James Duthie, Oyster Bay, L. I. This is so distinct from the well-known form of *malacoides* and so notably meritorious as to deserve special mention.

It is remarkably stocky, upright growing, free in flower, the flowers two-thirds as large as those of *P. obconica*, but with the characteristic notching of *malacoides*. They are in close-set, yet graceful, tiers, and the color is a bright warm salmon-pink or rosy-salmon. The leaves are somewhat crenulated or crisped. Altogether it is an admirable introduction, and if it becomes a commercial plant will very likely be called "the Townsend Primrose."

Mr. Duthie records that it originated with him in the Winter of 1913-1914 as a sport from *malacoides*, one plant only in a large batch of this latter. The plant was saved and seed got from it, and from the resulting seedlings a large percentage came true to the new type. Eight of the finest plants from the batch were saved, and these were divided, as well as seed being saved from them. During the present Winter from 183 seedlings there were only six plants that reverted to *malacoides*, which would seem to prove that *Townsendi* will come pretty true from seed.—

## REPRODUCTION IN TREES.

ALTHOUGH the nurseryman makes use of suckers and cuttings for the quicker multiplication of certain species, every tree in its natural habitat produces seeds and is reproduced by them, says Wesley B. Leach in *Tree Talk*. The flowering of our forest trees is a phenomenon that does not, as a rule, attract attention, but their fruiting or seed bearing becomes patent to all who visit the woods in autumn. A tree has lived many years before it is capable of producing seed. The seed bearing age is different in each species; thus the oak begins to bear when it is between sixty and seventy years old; the ash, between forty and fifty; the birch and sweet chestnut, at twenty-five years. Some produce seed every year after that period is reached, others every second, third or fifth year; others, again, bear fitfully except at intervals of from six to nine years, when they produce an enormous crop. Most tree seeds germinate in the spring following their maturity but they are not all distributed when ripe. The birch and elm and the aspen, for example, retain their seeds until spring and these germinate soon after they have been dispersed.

The seeds contain sufficient nutriment to feed the

seedling while it is developing its roots and first leaves. We can, of course, go further back in starting our observations of the life progress of the monarch of the forest. We can dissect the insignificant greenish flower of the oak when the future seed (acorn) is but a single cell, a tiny bag filled with protoplasm. From that early stage to the period when the tree is first ripe for conversion into timber we span a century and a half, equal to two good human lives, and the oak is but at the point where a man attains his majority. The oak is built up after the fashion by which man attains his full stature. It is a process of multiplication of weak, minute cells, which become specialized for distinct offices in the economy of the vegetable community we call tree. Some go to renew and enlarge the roots, others to the perfecting of that system of vessels through which the crude fluid from the roots is carried up to the topmost leaf, whence, after undergoing chemical transformation in the leaf laboratory, it is circulated to all parts of the organism to make possible the production of more cells. Each of these has a special task, and it becomes invested with cork or wood to enable it to become part of the bark or the timber, or it remains soft and develops the green coloring matter which enables it, when exposed to sunlight, to manufacture starch from carbon and water.

The tree, as we indicated, gets its food from the air and the soil. The rootlets have the power of dissolving the mineral salts in the soil in which they ramify, some authorities believing that they are materially helped in this respect, so far as organic matter is concerned, by a fungus that invests them with a mantle of delicate threads. However that may be, the fluid that is taken up by the roots is not merely water, but water plus dissolved mineral matter and nitrogen.

At the same time that the roots are thus absorbing liquid nutriment, the leaves pierced with the thousands of little stomata or mouths take in atmospheric air, which is compounded chiefly of the gases, oxygen and carbon. The leaf cells containing the green coloring matter (chlorophyll) seize hold of the carbon and release the oxygen. The carbon is then combined with the fluid from the roots by the vital chemistry of the leaves and is circulated all over the system for the sustenance of all the organs and tissues.

The flowering of the trees varies so greatly that it can only be dealt with satisfactorily as each species is described. It may be stated, however, that all the true forest trees are wind fertilized and therefore have inconspicuous greenish blossoms. By true forest trees we mean those that alone or slightly mixed are capable of forming high forests.

The small trees, such as crab, rowan, cherry, black-thorn, hawthorn, buckthorn, etc., belong more to the open woodland, to the common and hedge-row. These, from their habitat, can be seen singly and therefore can make use of the conspicuous flowers that are fertilized by insects.

#### LIME IN SOILS.

MOST of the carbonate of lime present in ordinary garden soil has been derived either from the natural chalk formation of the district or from artificial application; and the regular loss of lime to which garden earth is subject presents every gardener with a problem worthy of deliberation. To what extent the soil becomes impoverished of this valuable element depends upon the attending management. It is generally understood that the action of carbonic acid present in rain water and that set free by the micro-organisms during ordinary root growth is

responsible for much of the lime carbonate which passes away in the drainage water. Acid manures also act as a solvent to greatly increase the loss of lime and these should not, therefore, be applied to soils which are known to be deficient in lime. While, on the other hand, applications of such organic manures as dried blood, bone, sheep, stable manure, or even nitrate of soda or basic slag diminish the loss. The turning of an old pasture land, the growth of all leguminous crops as peas, beans and clover, which leave a considerable residue of oxalate of lime, tend to maintain the stock of lime carbonate in the soil. This, however, in turn is being constantly drawn upon for nitrification as well as for the neutralization of the acids produced during bacterial decay.

Soils to which for many years heavy dressings of organic and acid manures have been given are apt to become sour provided little or no lime exists in them. In this case an application of pulverized limestone at the rate of one ton per acre, or half that quantity of quick lime applied in winter or very early spring is to be recommended. Failing either of these basic slag given at the rate of one-quarter ton per acre would prove beneficial. The lime combines with the organic matter and rapid decomposition ensues, setting free much plant food that previously was not available and thus restoring the whole mass to a productive condition.

All leguminous crops, together with potatoes, benefit by the presence of lime in the soil and while the value of lime to the horticulturalist can scarcely be over-estimated, great care is needed in its application or more harm than good may result. Be it remembered that—"too much of anything is good for nothing." In short, lime is beneficial on heavy and freely manured land and that containing much humus, but it is of little value on poor light soils. In fact, it is about the worse dressing that could be given. The well known club-foot disease is more often than not indicative of a soil wanting in lime and an early application should not be withheld.

#### TRAPS TO CATCH SUNBEAMS.

COMPARATIVELY few gardeners appreciate the results obtained by the proper use of glass. Unprotected flower and vegetable crops are subject to weather conditions, while with the intelligent use of glass the plants will mature quickly and the number of crops grown on a given space can be increased considerably and the vegetables will be tender and juicy.

Until recently the sashlight and the bell glass have been the only practical devices suitable for the purpose, but French gardeners now use what they call the continuous cloche. It is a very simple and clever adaptation of ordinary panes of window glass, held together firmly by a patented system of bent wires. The wire grips the glass firmly in a manner that makes the former absolutely rigid, in the form of an inverted letter V. The two panes of glass do not quite meet at the top, leaving a small space at the apex which affords proper ventilation, allowing excessive heat and moisture to escape. When the bell glass is used it is necessary to plant in small round patches, but with the new system the planting may be in long rows as is common in ordinary gardening, economizing in space and labor.

Various sizes of glass can be used to hasten growth in the spring and for protecting all kinds of plants in the fall, extending the length of the season considerably, making it possible to start the garden earlier than usual and keep it going until late in the fall.

When not in use the glass can be removed from the wire frames and stored away and the wires packed away until wanted the following season.



OUR SOUTHERN PACIFIC STEAMER.

LOADING COTTON AT NEW ORLEANS.

## By Sea to New Orleans

Are you fond of travel—do you sometimes get that irresistible desire to see new lands and new cities, to put many miles between yourself and the scenes which time has rendered stale and of fading interest? This feeling must be a heritage from our nomadic ancestors, but whatever its source, it is not to be denied. One *must* go: there remains to be decided only the when and the where.

Those of you who are suffering from the "Wanderlust" or "Itching Foot" as it is sometimes called, will read with keen appreciation how this traveler solved his problem by a steamer trip to New Orleans.

"It was a bright day, with feathery white clouds festooned from the great expanse of blue that away in the West met the New Jersey horizon. As we stood on the deck of our Southern Pacific steamer, waving adieux to friends on the dock, we felt the smell of the sea in our nostrils and already were buoyed by the bracing air. The spell of the ocean would soon be upon us.

"Now we were sitting on the deck of an Atlantic Ocean steamship watching the occasional glimpses of the shore-line and reading about the quaint South from the books which we had brought along.

"We passed every possible moment in delightful idling on the spacious decks. There were days when we sat fascinated, feeling the breath of the Gulf Stream, along whose course we traveled, and watching the rapidly changing vistas of the shore; there were nights when we sat on a moonlit deck and gazed at the panorama of towns and cities throwing their lights into the ocean.

"We passed Virginia, the Carolinas, and Georgia, noting the increasing richness of the vegetation as we journeyed southward. Then came Florida, with the many beaches, palm groves, and superb hotels on the east coast, and next the Florida Keys, a group of gorgeously arrayed islands set like cameos in the deep-tinted waters where the Atlantic meets the Mexican Gulf.

"Another day and we sailed by the South Pass Light and were at the mouth of the 'Father of Waters.' Already in view were the vast rich lands of fertile Louisiana. The steamer slowly wended its way up the Mississippi River for one hundred miles from the mouth to New Orleans, between banks profusely decked

with ferns. Farther back were palms and great trees draped with low-hanging moss; and beyond, here and there, were old plantation mansions, great white-pillared houses of ante-bellum architecture.

"We stood upon the deck and watched the changing scenes with unabated interest. Now the steeples and roof tops of New Orleans were coming into view. An hour more and we were approaching the dock. The old French section of the city lay nearest us. In the distance we could see the spire of St. Louis Cathedral. On the dock thousands of bales of cotton were being carted about by negro roustabouts. And then we landed.

"New Orleans is a city of abandon. Several days we passed in seeing the sights of this old-new city. First we drove along St. Charles Avenue, flanked by large white mansions sitting behind tall palm trees, and through Audubon and City Parks. But our chief pleasure was drawn from Old New Orleans, lying north of Canal Street. Here we found all the charm of an old European town—quaint shops, picturesque houses with patios, impressive French mansions gray with age. We entered the *vieux carré* through Royal Street. Passers-by spoke French; occasionally Spanish was heard.

"We passed hours in going through 'Little Italy' and other foreign sections lying off the *vieux carré*—fascinating places that one could ramble among for weeks without tiring."

Thus one happy traveler expresses himself about this trip. It is an experience which many of us will wish to duplicate—five and one-half days of delightful steamer life—then quaint old New Orleans, most romantic city of the South. Then the return by steamer, or by rail if you would prefer, for the "Circle Tour" now provides a variety of routings from which to choose.

Those who plan to attend the Convention of the Society of American Florists and Ornamental Horticulturists at Houston in August, or the Convention of the American Association of Park Superintendents in New Orleans in October, will add greatly to the enjoyment of their trips if they include this interesting voyage in their itinerary.

For beautiful illustrated literature and full information regarding this service, write L. H. Nutting, General Passenger Agent, Southern Pacific Co., 366 Broadway, New York.



THE CONSERVATORY, AUDUBON PARK.



AN OLD FRENCH COURTYARD.



A VIEW IN THE CITY PARK.



## HERE, THERE AND EVERYWHERE

### TREE PLANTING AND ITS REWARDS.

These are the days when the trees are appreciated. During this period of the year especially they repay with good interest all the cost of their planting and care. As we rest from the noonday heat under the spreading branches of these "Green tents of the Almighty," enjoying their cooling shade and refreshing protection, we cannot more fittingly express our appreciation than by making a resolution to devote more time to tree planting and to exercise greater vigilance in protecting our friends, the trees.

Dr. Van Dyke in one of his poems says: "He who plants a tree is a servant of God." Certain it is that the planter of trees does something of lasting benefit to his fellow men. His work is not for his day and generation only but for many generations following. Very likely the man who set out the tender saplings now grown to full "trethood"—the trees under whose grateful shade we now find comfort and solace, received little personal benefit from them. His was the joy of seeing things grow and that was his sufficient reward. Let us plant and tend with the same broad vision and unselfish spirit.

He who beautifies his home in town or country by the judicious planting of trees and shrubs exerts a beneficent and refining influence on the community. His example stimulates others and cultivates a wholesome love for nature which is an essential of right living. Such a man is a public benefactor in the best sense of the term.—*Tree Talk*.

### OLD ENGLISH GARDENS.

The subject of gardens is one that never fails to enchant the lover of outdoors, and Mr. Carew Hazlitt masters such a charming and out-of-the-way bundle of facts about the gardens of England, centuries ago, that we quote the following from his "Gleanings in Old Garden Literature":

"In Alfric's tenth century vocabulary, under the Names of Trees, we have various kinds of oak, two sorts of hazel, the nut, the beech, the laurel, the apple (probably a crab), the pear, the medlar, the pine, the yew, the plum, the fig, the palm, the fir, the elm, the broom, the maple, the poplar, the heath, and many others. The list is extremely curious, and from the absence of any attempt at classification we may be entitled to form some idea of the want of any settled principles for laying out shrubberies, plantations, and gardens. It is much the same in the passage where Johannes de Garlandia is communicating to us what grew in his own grounds; he adds, by the way, the vines, the chestnut and others. The plum mentioned above was apparently not the sloe, as the latter also occurs lower down in the catalogue; the palm was, of course, the common plant which is popularly so christened, and does duty for the real kind; and the pear, like the plum, must have been at this time very imperfectly cultivated here. It may be added that in the two eleventh-century vocabularies there are other plants and herbs, such as mint, white clover, fern, foxglove, two or three sorts of thistle, and mugwort, and among trees box and ash. But as regards many of the names the compiler seems not infrequently to have had confused and erroneous notions of the Saxon equivalents for the Latin denominations. The virtues of mint were understood very early; it is said that in the time of Edward I it was in vogue as a condiment, much in the same way that it is now, under the name of aigre douce.

"The anonymous vocabulary of the succeeding century adds southern-wood, the rose, the peony, linseed gorse, the nettle, the knee-holly, and many others, sufficient to show that our Saxon ancestors were abundantly supplied in, or not much later than, the age of Alfred with the means of forming gardens and ornamental enclosures.

"We may also judge that at this distant time our moors and commons were already clothed with that exquisite and brilliant gorse which is yet so luxuriant among us, but, singularly enough, unknown in climates similar to our own. What accident or agency brought it hither? What prevented it from making other northerly regions sharers with ourselves in its unique nature and beauty?

"The story of the great Swedish naturalist, when he visited England and beheld the bush for the first time, is too familiar for repetition.

"Even in the list of trees which we find in the fourteenth century treatise of Walter de Bibbesworth the various kinds are mingled together without effort to discriminate: the apple, pear, cherry, ash, broom, plum, and hawthorn occur in consecutive order; and as they are connected, so probably they grew in the gardens of our forefathers.

"Among the flora of the fifteenth century occur the lily, the water-lily (of two varieties), the cowslip, the poppy, the pimpernel, the violet, the primrose, the wild thyme of Shakespeare, the columbine, and many more—some disguised by obscure and obsolete designations.

"In Worlidge's work the tulip engrosses a section. He places it at the head of the bulbs, and says that there was then (1677) so great a variety that they were not to be enumerated. 'Nor is it,' he continues, 'all the words I can invent can convince you of the beauty of these glories of Nature, but must refer you to the choice yourself or friend for you can make out of that Magazine of varieties that are collected for the ingenious Florist.'

"The example and encouragement of men like Evelyn in his day, and Worlidge in his, contributed to the formation of a public taste, which in the succeeding generations received further expansion and refinement at the hands of the friends and contemporaries of Pope; and, later again, of those who directed these matters for George III, and his surroundings.

"Worlidge considered that the rose should be placed between the tulip and the gilly flower, and he preferred the yellow Provence rose. How the latter was obtained he thus explains—'It had been obtained by budding a single yellow rose to the stock of a flourishing Frankfort rose, near the ground; when that single yellow is well known in that branch, inoculate your double yellow rose; then cut off all suckers and shoots from the first and second leaving only your last which must be pruned very near leaving but few buds.'—*Monitor*.

### TRANSPLANTING WISTARIAS.

These plants when planted often disappoint because of the little growth they make for some time afterward. This is natural to the Wistaria; it taking unkindly all transplantings from the open ground.

The reason is there are so few roots to the vines. A plant makes but one or two long, thick ones, and these penetrate to a great depth, and being as tough as leather are difficult to dig. The digger usually crops off the roots not far from the plant, leaving say two to three feet of length, which lengths are quite devoid of fibrous roots. These roots are very slow to form fibres, hence there is nothing to urge on growth above ground, the plant standing almost or quite still for a long time, hence the dissatisfaction of the buyers aforementioned. There is this, however, to be said to the purchasers of plants. Do not despair if your plant is slow, for the Wistaria is most tenacious of life. Cases of plants remaining a whole year, from Spring to Spring, without making a single leaf are by no means uncommon. They grow ultimately.

Nurserymen adopt two ways to make safe transplantings. One is to shift the plants frequently from place to place in the nursery when young, the other is to grow them in pots. The latter plan is of most merit. A small pot plant is much more valuable to the purchaser than one freshly dug. Then good soil is essential to growth, and given to a transplanted one will always help along the growth so much desired.—*Florist's Exchange*.

### EVERGREEN WINDBREAKS.

After a careful estimate and investigation of the rapid increase in evergreen tree planting for windbreak purposes, one must come to the conclusion that an evergreen windbreak is not only a paying proposition, but in some cases an absolute necessity where the need for some object to act as an obstruction to the wind is felt.

Evergreen trees are especially desirable for windbreak purposes for several good reasons. When compared with deciduous or leaf dropping trees, they do double duty because of the fact that they retain their foliage throughout the entire year, while the deciduous trees drop their leaves right at a time when they are most needed to give protection against winter storms. Two rows will lodge more snow and check more wind than several rows of deciduous trees, and in addition to their value as windbreaks are a thing of beauty the year around, carrying the freshness and verdure of summer all through the cold winter.

A home surrounded by evergreens will put the place a hundred miles south in mildness and salubrity of climate, without the mud and chill that is common to those sections on the border line of frost. A belt of evergreen trees affords shelter earlier in life than any of the leaf-shedding trees.

From statistics compiled by some of the most eminent authorities in the country, it has been shown that the windbreak lessens the evaporation of moisture to a considerable extent, and by the interception of air currents over a much wider zone, reduces the mechanical force of the wind and influences the growth of crops, which is a matter worthy of serious thought among farmers whose lands are exposed to all elements such as named above.—*Exchange*.

# DIRECTORY

NATIONAL ASSOCIATIONS, LOCAL SOCIETIES  
AND GARDEN CLUBS WILL BE FOUND IN  
JANUARY, APRIL, JULY, OCTOBER, NUMBERS.

## HORTICULTURAL EVENTS

**Fourth National Flower Show**, under the auspices of the Society of American Florists and Ornamental Horticulturists, Philadelphia, Pa., March 25 to April 2, 1916.

**International Flower Show**, Grand Central Palace, New York, April 5-12, 1916.

**American Sweet Pea Society Show**, Bar Harbor, Me., June.

**American Gladioli Society Show**, Boston, Mass., August 10-12.

**Garden Club of America Meeting**, Lenox, Mass., June 27-28.

**International Garden Club Summer Show**, clubhouse, Pelham Manor, New York, June.

**Lenox Horticultural Society Summer Show**, Lenox, Mass., June 27-28.

**Newport, R. I., Summer Show**, Newport Garden Club and Newport Horticultural Society, June.

**Newport, R. I., Mid-Summer Show**, Newport Garden Club and New York Horticultural Society, August 10-12.

**Cyster Bay Horticultural Society Rose Show**, June 13. Dahlia Show August 3.

**Westchester and Fairfield Horticultural Society Summer Show**, Greenwich, Conn.

**Women's National Agricultural and Horticultural Association Conference**, Horticultural Hall, Boston, Mass., May 18-19.

## CONNECTICUT HORTICULTURAL SOCIETY.

March 13, 1916.

The regular meeting of this society was held in the County Building, Hartford, on

Friday evening, March 10. The members had been notified that Cinerarias would be the flowers of the evening, and John F. Huss, superintendent for Mrs. James J. Goodwin, exhibited some twenty-four varieties, comprising every shade and hue of an April rainbow. Such colors as maroon, violet, scarlet, lavender, pink and royal purple were in the collection. Alfred Cebelius, head gardener for Professor N. W. Jacobus, displayed two pots of Cineraria Stellata, which came in for their share of praise. President Hollister appointed Nels Nelson, H. R. Hurd and George D. Baker judges. The collection of Cineraria exhibited by Mr. Huss was awarded a first-class certificate, and that of Mr. Cebelius a certificate of merit, which was duly ratified by vote of the members.

Mr. Huss dilated on the merits of the Cineraria and how readily they grow from seed to maturity and bloom, mentioning the fact that the best strain must be secured in England.

Mr. James M. Adams asked if it made any difference with the flavor of pears if they were grafted to some other kind of tree from the variety of the graft, as some he recalled were particularly sweet and good eating. It was stated by experts that it made no difference on what kind of a tree the graft was made, that is, the flavor of the fruit was not regulated in any way by the stump on which the graft was made.

A most interesting talk was given by E. A. Brassill of his trip to Cuba, New Orleans, Chicago, Cleveland and Niagara Falls. The attendance at this meeting was better than usual. The next meeting will be held March 24, and a demonstration will be given in the art of pruning and grafting.

ALFRED DIXON, Secretary.

## TUXEDO HORTICULTURAL SOCIETY.

The usual monthly meeting of the Tuxedo Horticultural Society was held in the Parish House on Wednesday, March 1. President C. Davidson in the chair. The executive committee reported progress in arrangements for the ladies' evening, which is to be held on April 26, and the annual ball which is to be held on May 24. These two occasions are always looked forward to with pleasure with the members and their friends. The secretary read Mr. W. W. Oldweiler's paper on "Is Gardening a Profession?" which was read before the convention of the N. A. G. at Boston. The paper was very well received by the members of our society and raised quite a discussion. At our April meeting, which is to be held on April 4, owing to the New York Show opening on our usual meeting day, Mr. D. MacGregor will read a paper on Carnations. The executive committee will have made a start on the preliminary schedule for our fall show.

THOS. WILSON, Secretary.

## NASSAU COUNTY HORTICULTURAL SOCIETY.

A very severe snowstorm was in progress on March 8, the meeting day of the above society, and the attendance was considerably smaller than usual in consequence. The regular meeting of the Nassau County Horticultural Society was held in Pembroke Hall, Glen Cove, on March 8. Notwithstanding the very inclement weather and reduced attendance a goodly array of flowers and plants adorned the exhibition table and all were of first class quality. John Everett, Ernest Westlake and James Duthie acted as judges and turned in the following report. For best 6 spikes of Antirrhinum—1st, Robert Jones. Best plant of Cyclamen—1st, Robert Jones. Special prize offered by Robert Jones



Members and Guests of the Nassau County Horticultural Society Assembled at the Annual Banquet, Glen Cove, New York.

for best 12 Carnations—1st, James McDonald; 2nd, James McCarthy. Robert Jones exhibited a bunch of Violets which were of exceptional quality and for which he was awarded a Certificate of Culture. A vase of Gardenia exhibited by Harry Jones was Highly Commended. By request Mr. Robert Jones gave an account of his method of growing Violets which was followed by an interesting discussion on the same subject.

James Holloway favored us with an essay on the subject of "Outdoor Fruit," and as he is a keen enthusiast on the subject of fruit culture and is constantly carrying on various experiments in the world of fruit his treatise proved to be of more than ordinary interest. An animated discussion followed and Mr. Holloway was questioned at considerable length in regard to different points about fruit growing which he had spoken of.

M. C. Ebel, for the National Association of Gardeners, sent in an admirable essay to be read at this meeting, the title of which was "The Use of Native Plants for Ornamental Planting" by Mr. L. P. Jenson of Missouri. The essay was very instructive and was listened to with great interest by the members present.

Arthur Herrington was a welcome visitor at the meeting and spoke on the coming International Flower Show to be held in New York.

Beginning next month, April, our meetings will be held in the evening at 7 p. m. instead of in the afternoon.

JAMES MCCARTHY,  
Cor. Secretary.

#### KEWITES REUNION

A reunion and banquet is being arranged for Kew men and their ladies, to be held in New York, April 5, 1916, during the week of the flower show. It is hoped that all Kew men will make a special effort to attend, as this is the first reunion of this character held in the United States. For full particulars apply to M. M. Tree, head gardener, Brooklyn Botanic Gardens, Brooklyn, N. Y.

#### WESTCHESTER AND FAIRFIELD HORTICULTURAL SOCIETY.

A very important and interesting session of this society was held in the society's rooms at Greenwich, Conn., Friday evening, March 10, the occasion being the regular monthly meeting; President W. J. Sceley presiding. Interesting features were the splendid exhibits of plants and flowers, and the competition for the prizes offered by Mr. A. J. Richards for the best essay from an assistant gardener, entitled "How Can the W. & F. Society Increase Its Usefulness from the Assistant's Point of View." Alex. Clarkson won the first prize, second honors went to J. Fremd. Some valuable suggestions were offered and our society will be benefitted by the adoption of many of them.

Mr. Arthur Herrington, of Madison, N. J., was a visitor and addressed the members present in behalf of the management of the Spring Flower Show to be held in New York City, April 5-12. This will undoubtedly be the greatest horticultural exhibition ever held in New York City and considerable support may be expected from our large membership of up to date gardeners.

Three new members were enrolled at this meeting and several proposals were received and filed. The Fall Show Committee reported progress. Several offers of prizes for the Premium list were received and the offers accepted with thanks. It was unanimously voted to hold the annual summer exhibition at Mamaroneck, N. Y., in June;

dates will be announced later. Some valuable prizes are already in hand, and we anticipate having one of the best exhibitions ever held by our society.

The judges made the following awards for the exhibits at this meeting: Robert Grunnett, Cultural Certificate for Mignonette and Highly Commended for display of Sweet Peas. The following were Highly Commended: Primula Obconica from W. J. Sceley; Sweet Peas "Yarrowa" from Wm. Whitton; Celsia Cretica from J. B. Andrew; Buddleja Asiatica from Robert Williamson, vote of thanks; display of hardy English Primroses in variety from P. W. Popp. The following exhibits were tendered the thanks of the society: Myosotis from J. B. Andrew; Primula Obconica from Jas. Linane; Plate of Mushrooms from Wm. Whitton. Robert Allen received Honorable Mention for display of Cineraria Stellata. Next meeting, April 14, when a display of bulbous flowers will be in order.

P. W. POPP.

#### NEW LONDON HORTICULTURAL SOCIETY.

Members of the New London Horticultural Society listened to an interesting address by Professor Stevens, of the Connecticut Agricultural College, at Storrs, at its monthly meeting held in the Council Chamber, Thursday evening, March 9. "Pruning and Spraying" was the subject of Professor Stevens address, and it was very instructive and interesting. At the close of the address a short discussion took place in which several members took part.

Announcement was made that prizes of \$10 had been offered by Stummip & Walter Company; \$10 from B. A. Armstrong, Esq.; \$5 from G. M. Williams Company; piece of silverware, valued at \$10, by the W. M. Marshall Company, of New York. These prizes are to be given at the Chrysanthemum and Fruit Show next fall.

Two new members were elected. Secretary Jordan gave notice that Wm. Dawson, of Willimantic, would speak at the April meeting. Mr. Dawson is the originator of "Red Wing," the new scarlet Carnation now being disseminated.

Before the meeting closed an expression of regret was passed at losing a valuable member in the person of Alfred Flowers, former president of the society. Congratulations were given by rising to Mr. Flowers, who leaves to take charge of a large estate in New Jersey. STANLEY JORDAN, Sec.

#### THE LAKE GENEVA, WIS., GARDENERS AND FOREMENS ASSOCIATION.

At the meeting of the Lake Geneva, Wis., Gardeners and Foremens Association, held February 15, 1916, the following officers were elected: A. J. Smith, president; Wm. P. Longland, vice-president; Charles Lockwood, secretary; Axel Johnson, treasurer.

#### NEWPORT HORTICULTURAL SOCIETY.

At the February meetings of the Newport Horticultural Society papers were delivered on "Grafting and Budding," by E. Kempenaar; "The Culture of the Grape," by William Mackay, and on "Rock Gardens," by Arthur W. Potter, Jr. During the discussions which followed many questions were ably answered by the authors. At the first meeting in March Bruce Batterson will deliver a paper on the "Insects Injurious to Boxwood," with special reference to the leaf miner which has caused so much damage to the boxwood in this vicinity. Mr. Batterson is gardener to E. J. Berwind, Esq., on whose estate boxwood is a feature and is therefore well qualified to speak on this subject.

W. G.

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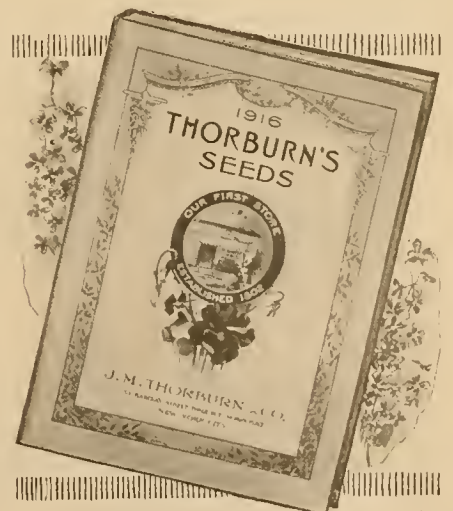
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#### HOLYOKE AND NORTHAMPTON FLORISTS' AND GARDENERS' CLUB.

The regular monthly meeting of this club was held on March 7. There was a good attendance of members, and in the absence of President Butler Vice President George Strugnell occupied the chair. After the business session James Whiting read the paper "Is Gardening a Profession?" sent by the National Association of Gardeners which met with hearty approval. K. B. Ullman presented a paper on "Advertising," which provoked a good discussion. Exhibits made a fine showing and, as usual, were of high quality. Mr. Schwartz, in charge of the Gallavain greenhouses, had arranged a bank of Murillo Tulips, a mixed group of Ericas, Azaleas and Ferns, and also staged plants of a crimson form of *Primula obconica*. G. H. Sinclair & Son had pans of a pretty lavender form of *Primula vulgaris*, and vases of Mignonette, Snapdragon, Sweet Peas and Carnations. White Wonder, Rosette and Princess Dagmar. F. D. Keyes & Son had Carnations White Wonder, Enchantress and an unnamed pink variety of good form. H. E. Downer showed a plant of *Dendrobium nobile* having one hundred and fifty open flowers. A specimen plant of *Banera rubioides*, a pot of *Hyacinth gigantea* and vases of *Schizanthus Wisetonensis* and *Tulip Flamingo*. Congratulations were in order to G. H. Sinclair, that day appointed a park commissioner for the city of Holyoke.

H. E. D.

#### FLORISTS' CLUB OF WASHINGTON, D. C.

A signal honor was paid George Wesley Hess, superintendent of the United States Botanic Garden, at the meeting of the Florists' Club of Washington, D. C., when in recognition of his services to the Florist's trade of the United States he was unanimously elected an honorary member of the club. Mr. Hess is the first one to be selected for this honor in ten years, such action on the part of the club only being taken in rare cases, and confined entirely to men who have accomplished something worthy of note in the production of flowers.

Another feature of the meeting, which was held on March 7, was the election of the following officers: R. Lloyd Jenkins, president; Adolph Gude, vice president; Clarence L. Linz, re-elected secretary, and William F. Gude, treasurer, an office he has held since the organization of the club.

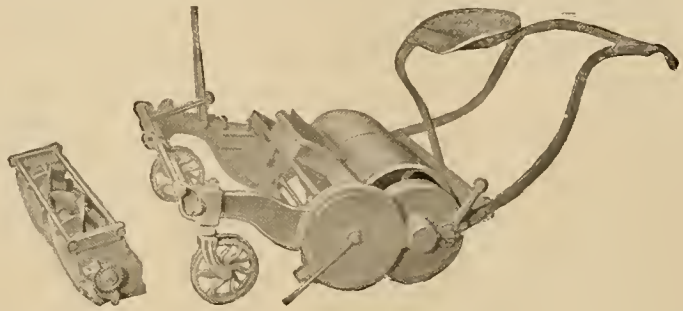
The executive committee elected is George Field, Theodore Diedrich, Adolph Gude, George H. Cooke, David Bissett, and William H. Ernest.

William B. Lewis, chairman of the transportation committee of the club, reported that he had already been informed of the names of more than one hundred who have signified their intention of becoming members of the Florists' Club party, which will leave Washington on March 27, for a three-day visit to the Philadelphia Flower Show and Convention.

The concluding feature of the evening was the presentation from the club, made by William F. Gude, of a handsome silver platter to George H. Cooke, retiring president.

#### NORTH SHORE HORTICULTURAL SOCIETY, MANCHESTER, MASS.

The North Shore Horticultural Society, Manchester, Mass., held its regular meeting in February, Vice-President Wetterlow presiding. Mr. Martin Eyberse was awarded a Certificate of Merit for collection of Carnation blooms. It was voted to appropriate \$50 for prizes in connection with



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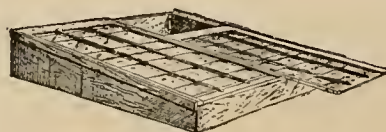
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the school gardens and to appoint a committee to instruct the children and carry on the work.

President W. N. Craig, of the N. A. G., was the guest of Vice-President Wetterlow.

Julius Huerlein, of the Blue Hill Nursery, was a visitor at the regular meeting of the society on February 18.

The Building Committee have inspected several halls in their search for an ideal and have practically decided on the type and size of hall required. At the last meeting it was voted to authorize the committee to have plans drawn and submit the same to the society for approval.

The Essay furnished by the N. A. G., "The Young Gardener's Opportunity in America," was read by the secretary.

It was also voted that the N. S. H. S. co-operate with the Independent Agricultural School of Essex County in their annual Farmer's day exercises on March 8 at the school grounds, Hathorne, Mass. Many of the boys are planning to attend the exercises.

WILLIAM TILL.

**NORTH WESTCHESTER HORTICULTURAL AND AGRICULTURAL SOCIETY.**

The regular monthly meeting of the North Westchester Horticultural and Agricultural Society was held in Firemen's Hall on the 17th inst., Mr. A. Thomson in the chair. Two were admitted to active membership—W. McDonald and A. G. Ross. Mr. A. F. Sims, the recently elected secretary, resigned as he is leaving for Detroit. It was moved and seconded that A. G. Ross succeed him; carried. A rising vote of thanks was given to Mr. Sims for his efficient services. Mr. Sims read a paper on "The Young Gardener's Opportunity in America," by Mr. Henry Gibson. It was moved and seconded that the secretary send a letter of thanks to Mr. Henry Gibson for his valuable paper; carried. Mr. James Aitchison exhibited four specimen Cyclamen for which he received 85 points. The chair appointed John Hall and A. F. Sims as judges. Mr. Aitchison also gives two prizes for 18 Carnation either in one or in mixed varieties for our next meeting. The chair appointed an executive committee consisting of the following: James Aitchison, John Hall, John Connoly, David Gordon and W. Will; also auditing committee: Mr. Heller Marshall Crisman and A. S. Keahs. The latter will give an essay on growing alfalfa at our next meeting. Adjournment carried.

ANGUS R. ROSS, Sec.

**NEW BEDFORD, MASS., HORTICULTURAL SOCIETY.**

At the regular monthly meeting of the New Bedford Horticultural Society held in the Public Library, the executive committee was instructed to make up a schedule for four flower shows this year, viz., "Pony Show," "Rose Show," "Dahlia Show," and "Chrysanthemum Show." Dr. Garry deN. Lough read a paper on "Young Gardeners' Opportunity in America" after which it was discussed by the members.

Thirty-seven new members were voted in as follows: George Schmler, William J.



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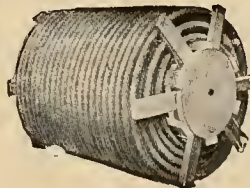
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The society is making a campaign to secure new members and is already meeting with good success. The society hopes to secure 200 new members in this campaign to assist in carrying out the plans of the organization to give bigger and better shows. The membership dues of a dollar a year are entirely spent for this purpose. J. M. Taber, 888 Rockdale avenue, is the secretary and Leonard J. Hathaway, Jr., is the president.

**LENOX HORTICULTURAL SOCIETY.**

The Lenox (Mass.) Horticultural Society held their regular monthly meeting on February 9. The committee submitted their schedule for the summer show to be held on June 28 and 29; this early date being arranged in connection with the visit of the Garden Club of America who are holding their annual convention in Lenox on these dates.

Sweet Peas will be a special feature of the show and amongst the many special prizes offered is a cup, valued at \$50, given by Messrs. Knight & Struck Company, for ten vases distinct varieties introduced in 1914, 1915 and 1916.

The sum of \$25 was appropriated for the destruction of the tent caterpillar in the Lenox district.

A good number of members were present and a lively discussion followed the reading of a paper entitled "Young Gardeners Opportunity in America."

The annual ball was held on February 18 and was a great success.

J. H. F., Asst. Sec.

**OYSTER BAY HORTICULTURAL SOCIETY.**

The regular monthly meeting of the Oyster Bay Horticultural Society was held in Fireman's Hall, February 26, 1916, at 7:30 p. m. President Alfred Walker was in the chair and called the meeting to order. In spite of the inclemency of the weather a large number of members were present and the tables were all filled with specimens of the gardener's handiwork. The president appointed the following gentlemen judges: William Richie, Arthur Patten, Charles Millburn, and their decision was as follows: Society's Prizes.—1 Cineraria, James Bell first; 6 Antirrhinums, James Bell, first; 12 Mushrooms, Jos. Robinson, first.

Exhibition Only. 3 Cineraria Cactus Flowered, James Bell, Cultural Certificate; 2 Cineraria Toreador, James Bell, Cultural Certificate; 1 Vase Gold Spur, James Bell, Honorable Mention; 1 Pot Gesnera Mlynsie, James Bell, Special Mention; 1 Vase Antirrhinums, Frank Kyle, Honorable Mention; 1 Vase Orchids, John T. Ingram, Special Mention; 1 Vase Nare G Spur, John T. Ingram, Special Mention; 1 Vase Calla Lilies, John T. Ingram, Cultural Certificate.

James Bell gave a very interesting talk on the culture of the Gesnera which was

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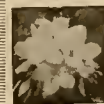
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greatly enjoyed by all. Mr. Bell was accorded a hearty vote of thanks for his trouble of bringing such a beautiful collection of pot plants.

James Duthie read a letter from M. C. Ebel in reference to the lectures the National Association of Gardeners is sending to all local societies. James Duthie, Jos. Robinson and John T. Ingram were appointed a committee of three to be known as the Local Co-operative Committee.

It was regularly moved and seconded that the Rose Show be held on the 13th of June and the Dahlia Show on the 3d of October, 1916.

Jos. Robinson very kindly offered to donate three sets of ribbons, 1st Blue, 2nd Yellow, 3rd Blue, to be given as prizes for the monthly meetings. Mr. Robinson was



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tendered a hearty vote of thanks for his generous donation.

James Duthie read the essays "Is Gardening a Profession?" and also "The Young Gardener's Opportunity in This Country." Votes of thanks were accorded to both the writers for the very able papers.

JOHN T. INGRAM,  
Secretary.

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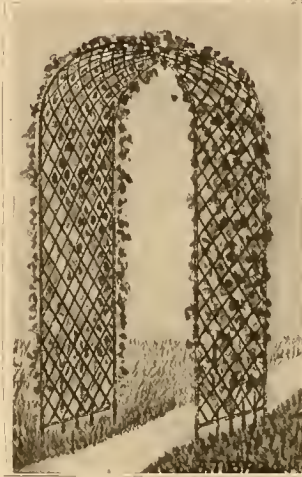
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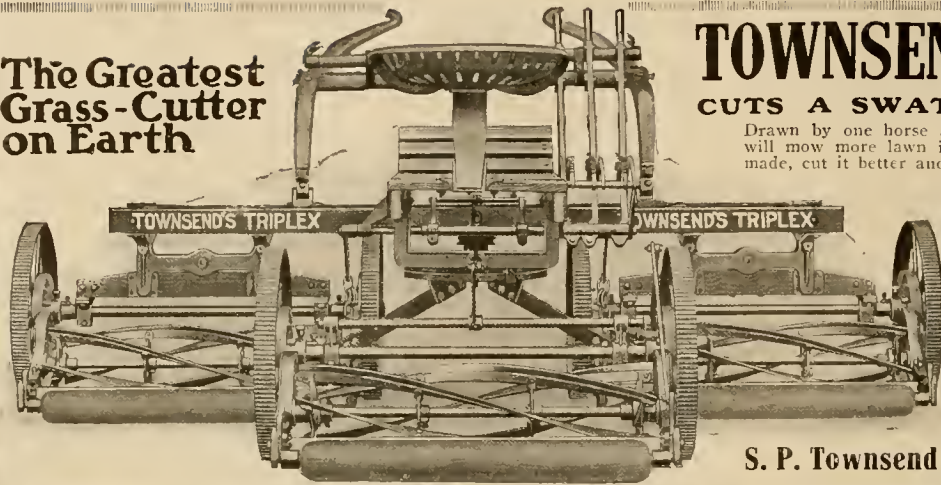
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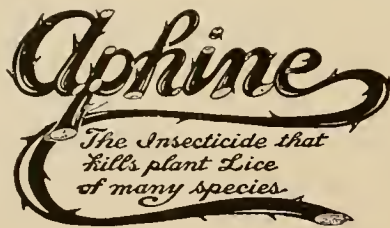
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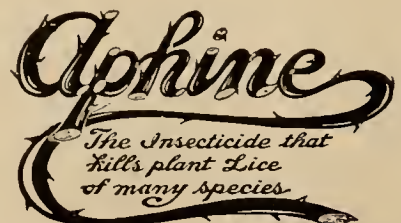
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Magic Humus is a pure plant food unleached and unburnt. It contains more Potash, Phosphoric Acid and Ammonia in available form to the ton than any commercial fertilizer, pulverized manure or plain burnt leached humus. These essentials, together with Compost, make a ready soil.

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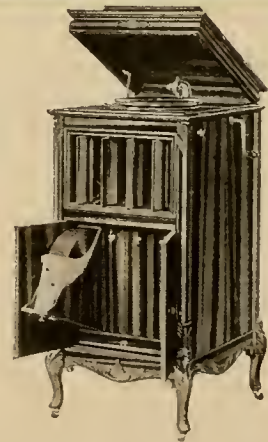
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**S**TART your lawn care *right* this season. Have the Ideal ready for the very first cutting.

The Ideal Power Lawn Mower meets every turf trimming requirement—insures a consistently beautiful sward. It eliminates the nuisance of a horse drawn contrivance on your lawn, or the expense of a squad of hand propelled machines. Gives *double* the care more *efficiently* and more *economically*.

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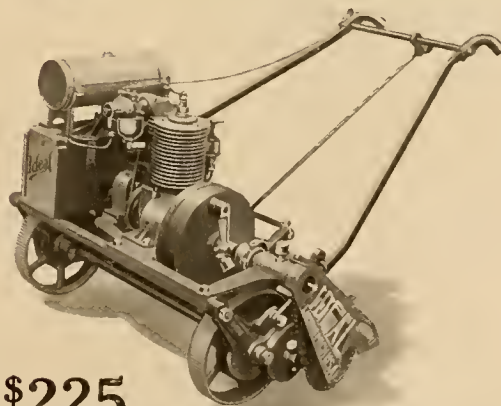
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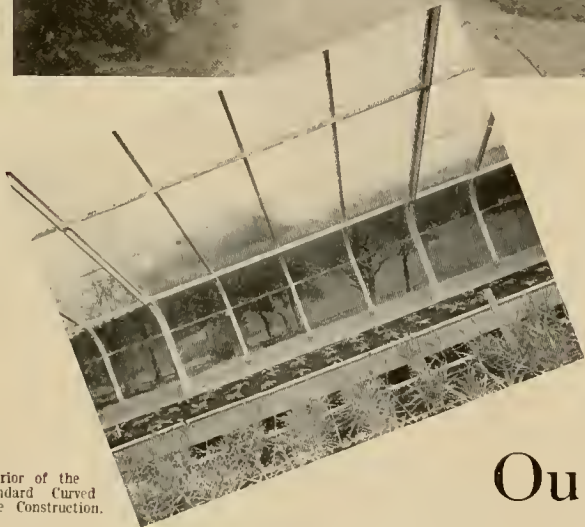
# Ideal

## Junior Power Lawn Mower

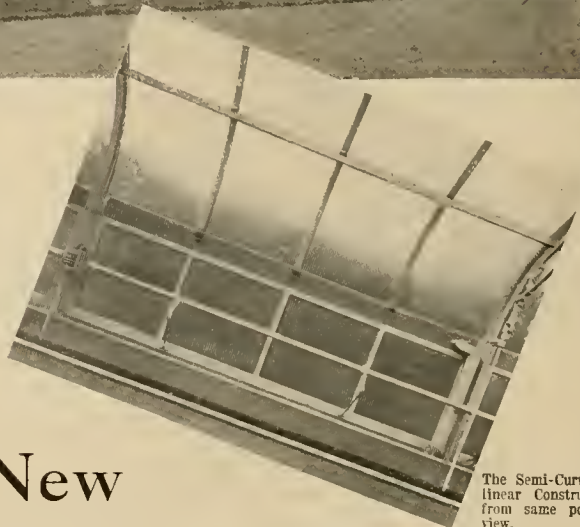


**\$225**

# Hitchings



Interior of the Standard Curved Eave Construction.



The Semi-Curvilinear Construction from same point of view.

## Our New Semi-Curvilinear Construction

**I**T'S a bit hard to meet in the one construction the requirements of the man who likes the curved eave; and yet for one reason or another prefers side ventilation to wall vents.

Seemingly they are an impossible combination, and still preserve the architectural beauty so desirable.

The only thing to do is compromise matters.

And so we give an eave curve swing similar to the curvilinear roof and then carry the bars up straight to the ridge after the manner of the Standard Curved Eave.

Like the curvilinear house, the gutter is at bottom of the curved portion and the ventilation sash are hinged

to it. This gives to you higher sides, which you will greatly welcome; also the ample over bench ventilation, which some of you feel has certain advantages.

We call it the Semi-Curvilinear Construction. Of course, we will gladly build for you the Standard Curved Eave house. We have no preference; what we seek is satisfaction for all concerned.

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# This tree seemed perfect —but *hidden* decay was ruining it

The wonderful beauty of this linden was famed for miles around. Scores of tree lovers who came to see it pronounced it a model of tree perfection. The magnificent spread of its luxuriant foliage, as well as the external appearance of its trunk and limbs (see photograph A) suggested to the casual observer nothing but health and sturdy strength.

But one day a Davey Tree Surgeon, at work on the place, stopped to examine it. He saw that its crotches were V-shaped—in practically every case a sure sign of hidden decay. And so it proved—the crotches had been split by wind strain, water had entered the crevices and decay had started. Nature had healed over the wounds *on the surface*, but decay continued to eat its way down through the trunk. The real condition of the tree—revealed by a little chiseling—is shown in photograph B. It was so utterly weakened that it would have been an easy victim for any severe storm! The marvel is that it had stood so long.

*What is the real condition of YOUR trees? Are they, unknown to you, rapidly succumbing to hidden agents of destruction? There is only one SAFE place to go to find out—to DAVEY TREE SURGEONS.*

### The SAFE Tree Surgeons

When you go to Davey you take the dependable and permanently satisfying course. It is the SAFE tree surgery because it is scientifically accurate and mechanically perfect; because it is backed by a responsible business house that requires *quality-first* work always; because it saves trees without guessing and experi-

menting; because it is practiced by a well organized body of men who are finished experts; because of a successful record of performance spanning a lifetime; and because the methods of vital importance are protected by U. S. patents and used exclusively by the Davey Tree Expert Co.

### Read what John R. Hegeman says:

"The work done by you at my place during the last several months has been in all respects satisfactory. You seem to have an unusual body of men in your service—in love with trees—fond of their work—very intelligent and industrious—courteous and exemplary in conduct—doing their work with rare skill and neatness—and altogether worthy of commendation."—JOHN R. HEGEMAN, President of The Metropolitan Life Insurance Co., New York.

In our files are hundreds of similarly enthusiastic letters from prominent estate owners everywhere. The United States Government, after exhaustive investigation, officially chose Davey experts as best.

### Have your trees examined now!

Learn their real condition and needs from this expert source without charge. Write today for free examination and booklet illustrating Davey Tree Surgery.

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Not one man in a thousand would realize the dangerous condition of this tree simply because the eye of the average man is not trained to see the signs of hidden trouble. And yet, its condition was not only dangerous but critical—the marvel is that it had stood so long! Another year of neglect may ruin some of your finest trees. Have them examined now.

Every year of neglect adds 10% to 25% to the cost of saving trees

# Davey Tree Surgeons



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**T**HE floral Show house in the front is conceded to be one of the largest under one roof.

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The work was executed from our Western factory at Des Plaines, just out of Chicago.



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# GARDENERS' CHRONICLE

OF AMERICA

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HORTICULTURAL DIGEST



PARKS & GARDENS

ILLUSTRATED



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No Odor—No Contagion—No Weed Seeds  
Nature's Own Balanced Soil Ration

The potatoes in the left hand pile were grown by C. W. Baines, in an Alphano enriched row of sandy soil, at Newport News, Va. Right hand pile is from a row alongside, enriched with chemical fertilizer which cost \$45 a ton. The Alphano cost but \$12 a ton. Like amount of fertilizer and Alphano was used. Swore affidavit to these facts on file at our office. Let us tell you about wonderful crops procured with Alphano in above celery field.

For Lawns, Alphano is ideal. No odor. No lumps and chunks. No unsightly litter to be raked off. No danger of burning by over-dosing. Its humus holds the moisture, forming a dry weather resistant. Use it among your flowers. Dig it around your Rhododendrons and Shrubs, and notice their increased growth and multiplied bloom.

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**A**LPHANO is an all around fertility producer. Its base is a rich, concentrated, dry, sweet soil humus, which in itself contains an abundance of plant foods. It is also lively with many of the soil building bacteria that make available the locked up minerals in the soil, such as potash.

This dry, granulated humus, from which 85% of the moisture has been driven, is balanced with additional nitrogen, phosphate, potash, lime and plant vitalizers. It is then inoculated liberally with our Alphano Inoculant, making it teem with countless billions of all the essential nitrogen gathering bacteria, for all the clovers, alfalfa, beans, peas and the like legumes.

Here, indeed, is a truly exceptionally valuable product. It is nature's richest product plus the experience of science. It contains all the advantages of a rich, concentrated humus; all the plant foods in the high grade chemical fertilizers; and all the essential legume bacteria. At present market prices, it is almost worth its cost in potash alone. If you were to buy by themselves the vari-

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In bulk for the carload, we will sell you this complete Alphano, nature's wonder worker, for \$8 a ton.

Does it sound too good to be good? Well, it's just so good that over half a million tons of Alphano have already been used.

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With its added inoculated advantage, it is going to sell as never before.

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Spread it on your lawn; rake it in and leave it there.

Being odorless, you can use it any time, anywhere. Being absolutely sanitary, you have no fear of the contagion carried by animal fertilizers.

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Please send me the Alphano Book and information about your soil tester.

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We have now on hand one hundred varieties of Hybrid Tea and Hybrid Perpetual Roses, all strong two-year-old plants.

*Write for our list of varieties.*

## W. E. MARSHALL & CO.

*Seeds, Plants and Bulbs*

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NEW YORK

A Large Stock  
of

SPLENDID field  
grown PLANTS

of

## Daphne Cneorum

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\$3.00 per dozen

\$20.00 per hundred

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Flowerfield, L. I.,  $\frac{1}{2}$ N. Y.

## Scheepers' <sup>Highest Quality</sup> Bulbs

Were exclusively used by the  
Principal Prize Winners

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New York

## Two Rhododendrons and An Azalea

### We Heartily Recommend

**I**F YOU want the two best dwarf rhododendrons for front row edging on your evergreen border planting, we unhesitatingly say, buy Punctatum; and Wilsoni. Punctatum has round foliage and exquisite pink blooms—18-inch plants, choice in every way—75 cents to \$1.00.

Wilsoni has pointed leaves and lovely lavender blooms—splendid plants, 15" to 18"—at 75c. to \$1.

When it comes to the one best azalea, we believe the new Chinese variety Kaemferi has the lead.

Arnold Arboretum in their bulletins recommend it highly. Its free flowering blooms are a cherry red. (Not magenta). It is perfectly hardy.

Plants 12" to 15" at \$1.50; 15" to 18" at \$2.25.

Just as a memory jogger, we have 32 of the most desirable of the 69 plants of Shakespeare's garden.

And now another thing—the Spring rush is on. If you want any of these *desirables* quickly, then the quicker you order, the quicker you get them.

**Julius Roehrs Co**

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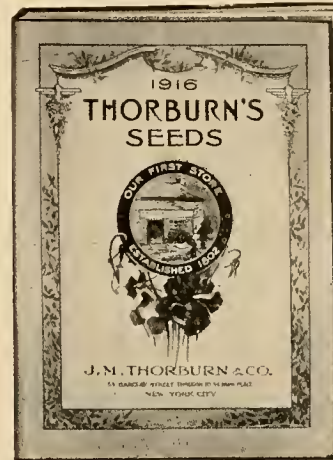
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# GARDENERS' CHRONICLE

## OF AMERICA

Devoted to the Science of Floriculture and Horticulture

Vol. XX.

APRIL, 1916.

No. 4.

### *A Story of Easter in Plants*

**A**LTHOUGH the lily is our Easter flower there is no Scriptural warrant for its especial use as the emblem of the resurrection. That it was regarded as a beautiful flower all references prove. Lilies and lilywork are mentioned three times in Kings, for forming patterns of carved ornaments for the pillars and other parts of Solomon's temple. Six times lilies are mentioned in the Song of Solomon as graceful flowers, emblematic of song and sweet perfume.

The lily-of-the-valley of the Bible is not the flower now known by that name, for our lily-of-the-valley does not grow in Palestine. But the jonquil, the *Narcissus Jonquilla*, our lovely white and yellow spring lilies, of several varieties, known familiarly as "Easter flowers," grow plentifully in the valleys of Palestine. Some authorities think that the lily to which Solomon was compared is the *Amaryllis*, that glorious flowering bulb with bright red and yellow flowers, which also grows abundantly in the vales of Palestine. The large anemone, iris and the water lily are all natives of Palestine and believed to come under the generic term of "lily," as used in the Bible.

Few people know that the United States Botanic Garden at Washington contains a unique collection of what may be termed "Scriptural plants." There are at least a dozen trees, shrubs and plants, which are mentioned in the Bible as having had close connection with Christ, and others of its leading characters and with Easter.

Holy week commences with Palm Sunday, and the date palm, the species used in church celebrations of that day, was the palm used in Christ's triumphal

entry into Jerusalem on that first Palm Sunday, before His crucifixion, when the people "took branches of palm trees and went forth to meet Him."

The date palm has attained a luxurious growth in the botanic garden. It is the tall, feathery specimen familiar to many through illustrated Bibles.

The olive, the most sacred of the trees of Palestine, especially those ancient specimens on the Mount of Olives, is not sufficiently hardy to grow well outdoors in this section of the country, although it flourishes in some warmer parts of the United States. It is, therefore, not adequately represented in the botanic garden. The one "olive branch" it possesses is a puny specimen, giving no idea of the tree of great growth and almost incredible age.

Good Friday is commemorated in the botanic garden by the Christ thorn, as well as by the reed, for on the day of Christ's crucifixion "they platted a crown of thorns and put it upon His head, and a reed in His right hand." The specimens of Christ thorn here are rather ungainly growths with long, irregular boughs and they rarely grow in graceful proportions. The little twig conforms in every detail to the spiked crown of thorns which Guido painted so realistically on the head of the famous "Nazarene."

This tree, somewhat rare in our country, grows plentifully, both as tree and shrub, all over Palestine. It is a tall, gaunt tree of sinister aspect, which weirdly fringes the brink of the Jordan river and the lake of Tiberius. Two shoots of the thorn tree from the botanic garden were set out some years ago in the grounds of the Capitol, southwest of the building. These have grown to be about



*Euphorbia splendens* (Crown of Thorns)



thirty feet in height. As marked in the botanic garden and in the Capitol grounds the tree is known as *Zizphus Vulgaris*, or Christ born.

The botanic garden also shows the reed, which was used in mockery as a scepter before Christ's crucifixion. It does not attain its full height in this climate until late summer. Botanically it is known as *Papy-*



*Varieties of Phoenix or Date Palms.*

*rus Antiquorum*, and it grows in the extensive marshes contiguous to the Lake of Galilee and in other parts of the Holy Land. The specimens in the botanic garden are very fine, and their waving plumes attain a height of about twenty-five feet. Last summer they formed the apex of the magnificent hundred-foot bed of grasses and reeds, which was one of the finest features of the garden.

It is not definitely known what wood composed the Saviour's cross, but there is a tradition to the effect that the aspen was the cruel agent. The aspen, or trembling poplar, is common in Palestine, and it is possible this was used. In a lovely poem, "The Aspen's Sorrow," J. Maclean Watt gives voice to the popular legend regarding the aspen's connection with the divine tragedy. He says:

While kindly slumber swatches the misty world,  
And all things sad are sleeping,  
What voice awakes  
And sorrowing breaks  
The stillness with her weeping?

Hush! 'tis the aspen trembling in the shade  
For Calvary's sorrow,  
Her anguished breast  
Can know no rest,  
Her night no morrow;  
Over the tide of her remorse comes sweeping,  
For Jesus weeping.

But, on a day, when Hate of the world was king,  
One that had walked beside him, basely sold  
His Lord for gold,

To base men's cruel will;  
And they who bought,  
Out of the woodlands green the graceful aspen sought,  
And from her body Christ's cross fashioning,  
They nailed Him there upon the wind-swept hill.

And there His agonizings entered her,  
And, for her doom, His pain  
Her heart must stir,  
In daylight, starlight, sun or shade or rain.

Nor can she find relief  
Through all earth's years;  
For ever sounds, across the gloom, her grief,  
With shuddering sighs, and sound of falling tears.

Another tree in the botanic garden suggestive of Christ's crucifixion is known as the Judas tree, tradition having it that the one who betrayed Christ hanged himself upon a tree of this variety. It is botanically known as *Cercis Canadensis*, and popularly known as redbud, or Judas tree. It bears a small pink flower shaped like a sweet pea. It is a native of Palestine, as well as of many other countries, and is common in Greece and other parts of the south of Europe. When full grown it has a stout trunk and thick, stiff, somewhat horizontal branches.

The botanic garden has two fine specimens of the cedar of Lebanon, both near the southern entrance to the grounds.



*Papyrus Antiquorum, Egyptian Papyrus, Plume Like Plant in Center.*

The cedar was one of the most important trees in Palestine, for it is mentioned no less than fifty-one times in the Old Testament alone. It appears to have been highly prized as building material in his day by Solomon, as also by the King of Syria, who obtained cedar wood for building his palace in Nineveh. Frag-

ments of cedar wood about three thousand years old were found in the ruins of Nineveh by explorers.

The ancient and famed locality of the cedar of Lebanon is now reduced to a quarter of a mile in extent, situated upon an elevation over six thousand feet above the sea level. Here survive some four hundred



Bed of *Ficus* Species, Including *Ficus Carica* of Biblical Mention.

trees, the largest a hundred feet in height and believed to be about 2,500 years old.

A plant which grows in beauty in the botanic garden, and may be seen a little later in the season when outdoor life becomes more luxuriant, is a clump of waving bulrushes, which forms the centerpiece of the water-lily pond south of the main conservatory. It was from this species of rush that the ark of Moses was made, and of which we read in the verse, "And when she could no longer hide him, she took for him an ark of bulrushes, and daubed it with slime and pitch, and put the child therein."

Besides being used for making vessels for floating upon the water, and for domestic purposes, the bulrush is famed as the material of which the paper of the ancients was made, called papyri.

Another plant in the botanic garden connected with the career of Moses is the manna tree. By Bible students it has been considered quite possible that this tree provided the manna which God sent to the children of Israel during their long march through the wilderness. The *Tamarix Mannifera*, as it is botanically named, is a small tree, or much-branched shrub, of heathlike appearance, a very attractive bush. At certain seasons of the year its stems are pierced by a small insect, and from the bark thus punctured exudes a honeylike liquid. When the tree is cut at any season this sweet fluid adheres to the knife and is very pleasing to the taste. The plant is common in the desert of Sinai, and its substance is even yet collected by the

Bedouin Arabs, who preserve it like honey and harden it into cakes.

It is interesting to know that this substance, which was in all probability the manna of the Bible, is today used in making a certain variety of chewing gum, once more exemplifying the old proverb from Ecclesiastes, "There is no new thing under the sun."

Needless to say, the botanic garden has many fine specimens of rose of Sharon. The prolific leafy shrub, with its wealth of pink and white blossoms, grows in Palestine, but its Biblical name has not been identified with certainty. The seed of the oriental plant gracing the grounds of the botanic garden was brought from the Vale of Cashmere.

Another tree of especial interest as being connected with an old tradition relating to Joseph of Arimathea, the "certain rich man" who provided the tomb of Christ, is the fine hawthorn standing sentinel over the northern entrance to the botanic garden. In May this luxuriant shrub glows with unnumbered pink clusters, which throw their pungent fragrance far and wide. This is the flowering thorn, which tradition says formed the staff of Joseph of Arimathea, when he led the pilgrim band to Britain to spread the doctrine of Christianity.

This beautiful story, be it fact or fancy, states that when the Christians reached the hill at Glastonbury, in the south of England, known as "Weary-all-hill,"



*Cedrus Libanii* (Cedar of Lebanon).

and near which the great abbey was later reared, Joseph thrust his staff into the ground with the exclamation, "We are weary, all; here shall we rest." As a sign of divine cheer and encouragement the staff of thorn burst into leaf and bloom, and the travelers knew that their journey was over.—*Washington Star*.

# Things and Thoughts of the Garden

By The Onlooker

FOR some years past the gardeners across the water have grown *Nemesias* as pot plants. It was reserved for John H. Dodds, superintendent to John Wanamaker, Wyncote, Pa., to grow and exhibit them in this country, which he did in splendid fashion at the Fourth National Flower Show. They are as easy to handle as *Schizanthuses* and form fitting dwarf companions. The rich golden colored variety is the most telling, but the blue, white and purplish ones are also desirable. As annuals in the open air they are equally fine, enjoying an open position and a generous soil.

\* \* \*

The *Nemesias*, already mentioned, are South African annuals. Another charming annual also from that dry and sunny land is *Diascia Barberae*. Literally this flowers itself to exhaustion. In its way it is as good as *Salvia splendens*, *Alyssum maritimum* or *Alonsoa Warscewiczii*, the latter also called *A. incisifolia*. Each are also perpetual blooming if given just the place they like. The *Alonsoa* enjoys a partly shaded place away from the fierce glare of the sun, in a cool moist soil. The *Diascia* has rosy pink flowers, is dwarf and spreading and does well in the front of a bed or border. As the seed is very fine, it would be advisable to raise the young plants indoors or in frames and plant them out when large enough. At the same time it will succeed if sown in the open. Prepare a place for it with fine soil on the surface and be watchful not to sow thickly. *It is difficult to sow too thinly.*

\* \* \*

While speaking of annuals, a third beautiful subject comes to mind and one that is deserving of as much care as any of those already named. This is *Himmennannia fumariaefolia*, a yellow Poppy-like dwarf flower with nicely cut glaucous leaves. Its golden blossoms come very freely and they are most charming for table decorations or for small vessels in the house. As this plant does not transplant readily, it is best, or indeed necessary, to sow it where it will flower.

\* \* \*

For some considerable time back I have written in support of rock gardening as a feature of our home places. When first I tried to encourage some of my friends in this phase of open-air gardening they said the American summers would scorch and roast all the alpiens. They spoke, too, as though rock gardening, which is such a fashionable and splendid feature of the gardens of England and in many of those in France, Switzerland and Germany, was child's play in the European countries. That is far from the truth. The rockery requires the same attention to be at its best as the herbaceous border or the lawn. But when the love of alpiens is aroused then no care will be deemed too great. First we need to know the plants however, and let it be said they are innumerable. The collections in our American gardens contain, as a rule, only a quarter or an eighth part of the subjects that are suitable and can be grown. It is safe to say that in a year or two the owners of private places will demand of their gardeners a better understanding of alpine plants and how to deal with them than the majority possess today; so get busy, men.

\* \* \*

Orchids, especially those from tropical and warm,

temperate regions, apparently are coming gradually back into more widespread favor again. The bright and interesting exhibits at so many of the Eastern shows, made by Julius Roehrs Company, Lager & Hurrell, and by a few private exhibitors near New York, has done much to stimulate a love or better appreciation of this very varied family. It is not a plea for the cultivation of a big collection of orchids that I wish to make, but for the *Cypripediums*, particularly the lovely *insigne* *Sanderacae*, the bold *Harefield Hall* and others of the choice *insigne* varieties and hybrids. They are really as easy to cultivate as geraniums and a good deal easier than carnations or roses, and as they bloom freely in November, December and January and last so long in a fresh condition as cut blooms, their merits deserve to be made better use of. Get a fuller assortment right now.

\* \* \*

How about a scented garden this year? One containing *Heliotrope*, *Rosemary*, *Thyme*, *Night-scented Stock*, *Tobacco-plant* (*Nicotiana*), *Sweet Alysum*, *Sweet Scabious*, *Mint* (several kinds), *Mignonette*, *Balm*, *Scented Verbena*, *Rose Geraniums*, *Lavender* and many other delightful fragrant plants, shrubs, annuals and perennials. Have a collection by themselves or in big masses.

\* \* \*

Something may be said in regard to lack of variety in our hardy plant borders. We could grow a far wider selection of plants if we only would try; there is no doubt at all about this, it cannot be questioned. Then there is the new feature of rock gardening. I call it new because one so seldom sees a good rock garden, the idea having prevailed that alpine plants would be a failure in home-like or rock garden surroundings. This also, I am sure, is contrary to the truth, and indeed has been proved many times, and is being proved more and more. We have, of course, to learn the best plants for the purpose, but they do exist, and plenty of them.

\* \* \*

Criticisms are often directed against architecture in the garden, and against landscape architects laying out gardens. Many of the objections or criticisms are well founded, but I must confess to a predilection for walls, terraces, balustrades, cosy corners generally, fountain, steps, paved walks, courtyards set about with trees and plants in tubs, and to a love of statuary. All this, I think, can well be allowed and encouraged around the immediate precincts of the house. Beyond that, let us have the free and easy style of gardening.

In connection with this one might have a little dig at the "dotting" system of planting shrubs, which is meaningless, offensive to the eye, and serves no purpose at all. That is not good gardening, not good laying out, and is just a point that wants attention.

\* \* \*

Now is also the time to write for evergreens, not half enough of which are planted. Among the more meritorious for places of medium size the following may be mentioned: *Japanese Yew*, *Retinispora filifera* and *R.f. aurea*, *R. pisifera*, *R. obtusa* and *R. o. nana*, *Juniperus Chinensis*, *Colorado Blue Spruce*, *Pinus Mughus*, *Thuja gigantea*, *Biota orientalis* (*Arborvitas*), *Juniperus Vir-*

giniana, also the graceful Hemlock Spruce (*Teuga Canadensis*), together with *Thuja occidentalis* (western Arborvitae), White Pine (*Pinus Strobus*), *Cupressus Arizona*.

\* \* \*

Soon we shall be in the season of the planting of Dahlias, at least we can study the lists that are reaching us daily. The Dahlia is the queen of flowers of the later summer and early autumn, followed by the hardy chrysanthemums for the successional display out of doors. Those of my readers who are very keen enthusiasts in regard to Dahlias have a society all their own, The American Dahlia Society (Secretary, J. Harrison Dick, 1426 73d street, Brooklyn, N. Y.), which publishes bulletins telling of its work, its exhibitions, its trials of varieties, and furnishing cultural hints as well. What we have to do at the present time is to prepare the ground liberally and well. A fairly open position is desirable and among the best are these: Geisha, Hampton Court, Queen Esther, Dr. Perry and Queen Wilhelmina among Peony varieties; A. D. Livoni, Dorothy Peacock, Dreer's White, W. W. Rawson, Bon Ton and Charles Lanier among "show" Dahlias; Sunshine, Nerissa, Domitea, Snowclad, Little May and Darkness among pompons; Minnie McCullough, Papa Charmet, Souvenir de Gustave Doazon, Mont Blanc and Golden Gate among decorative kinds; together with an almost endless array in the cactus section. Some of these may be mentioned in next month's CHRONICLE.

\* \* \*

One of the best instances of sporting or variation in plants is provided in the fern called *Nephrolepis exaltata*. First of all may I be allowed to dip just for a second into the botany of the fern family? Ferns represent the great flowerless section of the plant kingdom. Their fructifying or reproducing organs are hidden, hence the botanists' term "cryptogamous" plants which is applied to them and all so-called flowerless plants subjects. The Horsetails (*Equisetums*), Mosses, and Lycopodiums are classed with the ferns. Gray's Botany divides the ferns into five sub-families as follows (other classifications may differ): POLYPODIUM family, TREE-FERN family, FILMY-fern family, SCHIZAEA family, mostly small ferns; and OSMUNDA or "Flowering fern" family. Some authorities make an additional sub-family of GLECHENIACEAE. The classifying of ferns is based on the peculiarities in the form of the spore cases, or in their number or position, or in the development of the ring ("annulus") that surrounds the spore. It would be vain in a note of this description to try to go further into this botanical aspect of the subject, and in any case we, as gardeners, know or can identify a large number of different ferns by their general character without going very far into the scientific study of their spore cases. The *Nephrolepis* are a small family, or genus to be exact, consisting of seven species, and each of these is tropical. For that reason they are best cultivated in a warm house. By careful handling and probably by a process of naturalization, some have become fitted to grow in temperate atmospheres, as for instance the Boston fern. *Nephrolepis* is a Greek word referring to the kidney shape of the spore case. Of the seven kinds of wild *Nephrolepis*, the most commonly grown in greenhouses is *exaltata*, the name in this case evidently being meant to describe the upward, spreading, "exalted" form of the fronds.

This fern has probably four dozen well-marked varieties today, many of them being favorites with commercial growers. In a chart recently published by R. C. Benedict, of the Brooklyn Botanic Garden, Brooklyn,

N. Y., he shows what he believes to be the successive development of this fern from its bold, ordinary pinnate type to the lace-like, filmy fern that bears the seven names hereunder. The steps in this interesting chain are seen in the "genealogical tree" as under:

*NEPHROLEPIS EXALTATA*.  
*NEPHROLEPIS EXALTATA BOSTONIENSIS*.  
*NEPHROLEPIS EXALTATA BOSTONENSIS PIERSONII*.  
*NEPHROLEPIS EXALTATA BOSTONENSIS PIERSONII ELEGANTISSIMA*.  
*NEPHROLEPIS EXALTATA BOSTONENSIS PIERSONII ELEGANTISSIMA SUPERBISSIMA*.  
*NEPHROLEPIS EXALTATA BOSTONENSIS PIERSONII ELEGANTISSIMA SUPERBISSIMA MUSCOSA*.  
 \* \* \*

Lately there came into my hands the Journal of the Kew Guild for 1916. The Kew Guild is a union of past and present members of the garden staff of the Royal Gardens, Kew England, the famous botanical and horticultural establishment on the banks of the Thames, a few miles west of London. It contains the annual report of the Guild; a record of the annual dinner of its members; a full list of living members; obituaries of those who died during the year; and letters from Kewites who are in far distant parts of the world. One can feel the bond of union, invisible though it be, that binds the members of this remarkable guild. And many of the Kewites have made notable records in horticulture, not only in England and the British Dominions all over the world, but here in America. Ernest H. Wilson is perhaps the best known of those who are now domiciled in the United States of America. I had the pleasure of meeting him in 1897 or 1898 before ever he left Kew. He had then to make those sometimes hazardous trips in western China, but to his credit there now stands scores of notable hardy garden plants, trees and shrubs. In America we have a large number of Old Kewites, and twenty-five of them met on the first evening of the New York Spring Flower Show at a reunion, when an American branch of the Guild was formed, with M. Free, head gardener of the Brooklyn Botanic Garden, Brooklyn, N. Y., as president and S. R. Candler, Southampton, L. I., as secretary.

#### A SOUTHERN CLIME COUNTRY ESTATE

(Continued from page 195.)

use of. The flower gardens cover several acres and show the skill of the gardener, George Willis. Roses thrive well in this section of the south and bloom continuously, especially Maman Cochet, Killarney and Madam Lambert. Many of the Hybrid Perpetuals also do well, starting to flower in March and continuing till the weather becomes too cold in December. Leaving the pleasure grounds one comes to the old English style of a walled-in kitchen garden where almost every kind of vegetable is found growing all through winter. Flower borders line the walks, bright with Verbenas, Pansies, Phlox Drummondii, sweet peas, etc. Most all the vegetables are matured at this season of the year with the exception of peas. These are gathered from cold frames; also New Zealand spinach, lettuce, cauliflower, etc., while the greenhouses are also used for vegetables, chiefly tomatoes, cucumbers and string beans. In the garden are cabbage, broccoli, kale, asparagus, Brussels sprouts, carrots, beets, turnips, kohlrabi, parsnips, onions, etc., practically all of which have been gathered continually since the first of December. Irish potatoes planted in September give a supply through the winter fresh from the ground.

# Chrysanthemums for the Garden

By Chas. H. Totty, New Jersey

ARE you foregoing the pleasure of having a showy bed of Chrysanthemum flowers in the fall, thinking perhaps that they are too difficult to grow? In these few notes we are not going to speak of varieties that will do well under glass, but varieties that can be grown by everyone who has a few feet of space at their disposal.

The culture of the Hardy Chrysanthemums is simple; they will grow in any good garden soil and should be set out in the spring about eighteen inches apart with twelve inches between the rows. Pinch the plants back, once or twice during May or June to keep the plants dwarf, as some varieties are inclined to grow straggly instead of spreading into bush form. If the center shoots are pinched out once or twice as suggested, this will cause the plants to branch out into bush form.

Bud selection, which is of such paramount importance in growing greenhouse varieties, does not enter the cultivation of the hardy types at all; unless one wishes particularly large flowers on their varieties. If they do, the plants should be disbudded the latter part of July in order to concentrate the strength of the plant into the blooms. As a rule Hardy 'Mums are wanted for decorative effect in the garden, and the long graceful sprays are much more desirable for this work.

If a choice of sites is available I would suggest a location that has a protection of buildings or trees, from the north and west winds. Of course, this is not imperative, but it will help furnish an ideal condition.

The place of honor for outdoor 'Mums must be given the type known as Early Flowering. August Nonin of Paris, France, has done more than anyone else to perfect this type of plant, and today we have over one hundred varieties tested under American conditions that are guaranteed to flower the last week in September and during October, and give a wealth of bloom during this period; something that was impossible, a few years ago. Among the best of this type would be the following:

*White:* Dorothy; Debutante; Marie Dufour; Petite Jean and Normandie.

*Yellow:* Cranfordia; Carrie and Etoile d'Or.

*Pink:* Beaurepaire; Eden; Cranford Pink and Miss Burchfell.

*Red and Bronze:* Nellie Blake; Vesuve; A. Barham and Billancourt.

These Early Flowering 'Mums are duplicates of the large flowering types; otherwise known as greenhouse varieties; only they are dwarfer in habit and do not come quite as large, save in one or two instances, such as Cranfordia. This latter, closely disbudded will make a wonderfully large flower.

Singles which are also of comparatively recent introduction are wonderfully effective outdoors. It is true a great many of these Singles are not early enough to give good satisfaction flowering outdoors, but the following varieties flower in splendid condition outdoors from October 15 onwards:

*White:* Mrs. Chas. C. Mickle; Gladys Duckham; Mensa and Snowflake.

*Pink:* Ivor Grant; Stanley Ven; Mrs. Buckingham and Louise.

*Yellow:* Polly Duncan; Golden Mensa and Marion Sutherland.

*Crimson and Bronze:* Excelsior; Mrs. Hogben; and Margaret Walker.

Pompons or the Button Type, is perhaps the best known of the entire 'Mum family, and the latest and hardiest of the types, but they are handicapped by the fact that they bloom so late that the frost has destroyed

all their foliage before the flowers develop. These Pompons are the favorite of a great many people and the following would be our selection of the *very, very best* varieties.

Lillian Doty is quite the largest Pompon ever sent out. This is a beautiful clear pink in color. There is a white sport of this called "White Doty," being introduced this year, that is a wonderful acquisition to the Hardy Garden.

*White:* White Doty; Queen of the Whites; Jas. Boone; Waco and Myer's Perfection.

*Pink:* Lillian Doty; Donald and Minta.

*Yellow:* Jeanette; Wm. Sabey; Golden Climax and Zenobia.

*Crimson and Bronze:* Julie Lagrevere; Urith and Tiber.

After the plants are through flowering they should be



An Early Flowering Chrysanthemum

cut down to six or eight inches from the ground and let the leaves drift around them. When they are well covered with leaves place some dry cedar boughs over the leaves to keep them from blowing away. In this way they should come through the winter in perfect condition, if they are planted in a dry location. If the plants are situated in low ground, where the water will cover the crowns or roots stand in water; it would be better to lift the roots in the fall and store them in a cold-frame; cellar or back shed; as the plants will die if left standing in water during the winter.

In the spring when it is time to set out the plants again, break up the clumps into individual plants, and plant in new soil, or a new location.

The Rose is truly called the "Queen of the Garden," but the Chrysanthemum still holds its own as "Queen of the Autumn," carrying its message of hope and cheer far into the fall when all other flowers are faded and dead! —From *National Flower Show Bulletin*.

# Impressions of the Flower Shows

**M**ARVELOUS! This word most appropriately describes the flower shows held in Philadelphia and New York in March and April. Never before in this country has there been a show that can in any way be compared with the quality of plants and flowers and the perfection of arrangement that was everywhere visible at these shows. After what has been accomplished in Philadelphia and New York this spring the rivaling in this country of the famous shows of

serve special mention:

The outstanding feature of the National Flower Show was the Henry A. Dreer rose garden with its beds planted with a thousand plants of hybrid tea roses of many varieties, all in perfect bloom. The garden was not in competition but in the nature of a trade exhibit. It was awarded two gold medals.

The rose gardens of Robert Craig Company, winning first honors, and A. N. Pierson, Inc., winning second honors, were distinctive in character, but both works of art which baffled the jurors for sometime in reaching their decision.

The display of orchids was splendid. The groups of Julius Roehrs Company and C. Wurst made a most effective showing, the Roehrs group winning first prize. In the classes for private growers, William Kleinheinz, Louis Burke, and J. Goodier were close rivals.

Thomas Roland's exhibit of hard wooded plants including Acacias and Ericas was a most meritorious one and one that was much admired by all plant lovers.

Henry F. Michell Company's Dutch bulb garden, also in the nature of a trade exhibit, was another notable feature.

M. H. Walsh displayed a fine collection of rambler roses.

The exhibits of cut roses were regarded by many as



*Rose Garden at the National Flower Show That Was Awarded Two Gold Medals.*

Europe no longer seems only a remote possibility of the future, but, on the contrary, it appears that the time is fast approaching when flower shows will be produced in this country that will defy competition anywhere, though they may be surpassed in magnitude by some of the European cities.

The cooperative spirit of some of our foremost horticulturists who have worked hand in hand, making personal sacrifices of their time and money, has made the wonderful success of these shows possible and to these men horticulture owes a debt of gratitude. There is already much evidence of the wonderful effect these shows is having towards inspiring greater interest and enthusiasm on the part of the general public in gardening.

## THE FOURTH NATIONAL FLOWER SHOW.

Convention Hall, Philadelphia, the scene of the Fourth National Flower Show, from March 25 to April 12, is the largest exhibition hall in the "City of Brotherly Love," but its facilities, so far as space is concerned, proved utterly inadequate for properly staging the magnificent displays of plants and cut flowers which were exhibited, and twice the amount of floor space would not have been too extensive an area to fittingly set them off. The management, however, proved itself equal to the occasion and surmounted its obstacles after the opening day by bringing into use and spreading the exhibits over the balcony of the amphitheater and through this manner of arrangement producing a very charming display of the plants and flowers.

The show was well patronized by the public from its opening until the close, while many out of town visitors were noted in attendance, members of the Society of American Florists and Ornamental Horticulturists, under whose auspices the show was held, being present from points as far distant as California.

The groupings of foliage and flowering plants, the bulbous stock, the orchids, the cut flowers of roses, carnations and sweet peas, were all of the highest quality. Among the most meritorious displays the following de-



*Entrance to Rose Garden That Carried Off the Honors at the New York Spring Flower Show.*

of the highest order that has ever been staged in this country—Hadley predominated with Killarney Brilliant a close second. The principal winner in the private gardeners' classes for cut roses was William Kleinheinz who took seven first prizes.

In the classes for palms and foliage plants, in which some splendid specimens were exhibited, John H. Dodds, E. A. Schmidt, R. M. Johnson, William Robertson, J. Goodier, William Kleinheinz and Thomas Long stood forth prominently as successful competitors among the private growers.

In the classes for ferns in which some Adiantums, Eibotiums, Nephrolepis and Staghorn ferns of the highest quality were shown, William Kleinheinz, Thomas W. Logan, Thomas Long, J. T. Whittaker, William Robertson and John H. Dodds led among the private growers.

In the large collection of bulbs in flower in the private gardeners' classes, Thomas Gaynor, William Robertson, Thomas W. Logan and William Kleinheinz were most prominent among the winners.

In the classes for plants in flower and in the miscellaneous classes, the principal prize winners among private growers were William Kleinheinz, John H. Dodds, John Dunn, Thomas W. Logan, A. J. Loveless, J. T. Whittaker and William Vert.

The silver medal of the National Association of Gardeners for the most meritorious exhibit made by a private gardener was awarded to William Kleinheinz for two specimen palms.

#### THE NEW YORK SPRING FLOWER SHOW.

At least in America a flower show was never staged to better advantage than was the New York Spring Flower Show, more popularly termed the "International" at the Grand Central Palace, New York, from April 5 to

April 12. This is the opinion expressed by men whose business takes them to all the important flower shows of the states.

The sight as one entered the mammoth hall of this building was a beautiful one to behold and this was not in any wise spoiled as one passed through the wide corridors for each vista in turn, which was created by the mass of pillars of the hall seemed to become more charming.

It would be difficult to decide where the general ar-



*Group of Ornamental Foliage and Flowering Plants, Winning First Honors at the New York Spring Flower Show.*

agement of the competitive exhibits, which were staged on the ground floor could be improved upon. The feature of the entire show from the general public's viewpoint was the artistically arranged rose gardens, of which there were four in number, and each one of which was unique in its general formation. Next in order were the three rock gardens which were in the nature of a novelty as rock gardens were never before exhibited in this country on so large a scale. The numerous old-fashioned flowers planted in them held the attention of many visitors as they brought back to their memories their earlier days spent in the country.

While the rose and rock gardens presented the skill of the commercial growers, the skill of the private growers, or professional gardeners, was exemplified by a number of groups of ornamental foliage and flowering plants that were scattered about the hall and which contributed much to the general beauty of the whole show. These groups proved so perfect in their general arrangement and quality of material that it required many hours of the jurors' time to decide which were entitled to the first honors.

A Dutch bulb garden displayed in competition, which may be regarded another novelty of the show, made a fine display.

The large group of plants, both foliage and flowering arranged by the Park Department of New York City is also worthy of special mention.

The collection of orchids which occupied a corner section of the hall was a most magnificent one and probably the largest display of orchids ever seen in this country. It attracted more than ordinary attention and proved one of the interesting features to the visitors of the show.



*Group of Ornamental Foliage and Flowering Plants That Received First Prize at the National Flower Show.*



*Dutch Bulb Garden at the New York Spring Flower Show Awarded First Prize.*

Prominent among the winners in the commercial classes were Frank R. Pierson, first, A. N. Pierson, Inc., second for rose gardens; A. N. Pierson, Inc., first, Bobbink & Atkins, second, for rock gardens; Julius Roehrs Company, first, for group of orchids covering two hundred square feet; Lager & Hurrell, first, for group of orchids covering fifty square feet; John Scheepers Company, first for Dutch bulb garden; A. N. Pierson, Inc., first, F. R. Pierson, second, for rose groups.

In the classes for private gardeners the most important of which were the groups of flowering plants and bulbs, each occupying 300 square feet, John Canning carried off first honors while the second prize fell to J. W. Smith and third to W. F. Johnson. The groups arranged by P. W. Popp and E. Fardel are worthy of special mention.

Plants in flower: the principal winners were James Stuart, A. M. Golding, John Canning, William Duckham, W. F. Johnson, William Vert, James Bell, Charles Wilson, P. W. Popp, J. W. Smith and F. Hitchman.

Palms and foliage plants: W. F. Johnson, William Kleinheinz, A. Biesche, C. W. Weber, James Stuart, F. C. Honeyman and A. M. Golding.

Bulbous plants: George Ferguson, Joseph Tansey, James Bell, E. Fardell.

Roses in pots and tubs: J. W. Smith and Robert Jones. Cut roses: James Foster, Peter Duff, William Vert, J. Walker, W. F. Johnson and James Stuart.

Sweet peas: Frank C. Luckenbacher, Edward Jenkins, W. F. Johnson, A. M. Golding, David Frances. Table decorations (sweet peas): John Canning, first; P. W. Popp, second.

Orchid plants: Arthur N. Cooley, J. P. Mossman, S. G. Milosy, Peter Duff, William Cordes, Thomas Aitchison and James Stuart.

The National Association of Gardeners' silver medal was awarded to James Bell for six *Schizanthus* plants as the most meritorious exhibit by a private grower.

#### CLEVELAND BIDS FOR NATIONAL SHOW.

The following communication was

presented to the National Flower Show Committee of the Society of American Florists and Ornamental Horticulturists at Philadelphia. Action on it was deferred until the annual convention of the society in Houston, Texas, in August.

National Flower Show Committee

Mr. Geo. Asmus, Chairman:

Dear Sir:

Cleveland desires the honor of having the next and fifth National Flower Show in the Spring of 1918.

The Central location of our city, making it of easy access to the East, West, North and South, does not have to be argued. This also means a minimum of express and freight rates for the exhibitors.

We have an organization that is capable of handling the undertaking and making good. For reference:

Cleveland Flower Show—1915.

Whatever financial backing is necessary will be forthcoming from our interested organizations in Cleveland.

We ask for a favorable decision during the present week, if possible.

Thanking you for considering the matter at your earliest convenience, I remain,

Yours truly,

H. P. KNOBLE, Chairman,  
Committee of Invitation,  
Cleveland Florists Club,  
Ohio Horticultural Society,  
Garden Club of Cleveland.

#### SUMMER FLOWER SHOW FOR NEW YORK.

A MEETING of officials and members of the International Garden Club, including Mrs. Charles F. Hoffman, Mrs. James L. Breese, Mrs. Charles D. Dickey, Mrs. Amory Carhart, Mrs. J. J. Wysong, Mrs. H. de Berkeley Parsons and others who are interested in



*Dutch Bulb Garden at the National Flower Show Awarded First Prize.*



the forthcoming show to be held in the club's grounds at Pelham Bay Park, Pelham, N. Y., June 1-4, met at the Hotel Biltmore, New York, on Friday afternoon, April 7, there being between 60 and 70 present. Dr. George Norton Miller presided.

The meeting was to consider the premium list already prepared by the schedule committee, to appoint a secretary-manager to carry out the arrangements for the show, and to make other provisions in that connection.

J. Harrison Dick, as secretary of the schedule committee, read a letter that he had sent to Mrs. Charles F. Hoffman, president of the International Garden Club, on March 11, naming the gentlemen who had accepted invitations to serve on this committee, and incorporating in the letter the principal suggestions made by the committee. Appended was the preliminary schedule.

Mrs. Hoffman thought that the sum of \$3,000 previously suggested would be all that the club could guarantee for prizes, and asked that the preliminary schedule be made to conform to this amount.

Short speeches were made in favor of the proposed show by Richard Vincent, Jr., president of the American Dahlia Society; William Carter, secretary of the Bernardsville Horticultural and Agricultural Society; John Featherstone, president Tarrytown Horticultural Society; David McIntosh, secretary Tuxedo Horticultural Society; T. A. Havemeyer, and B. Hammond Tracy, representing the American Gladiolus Society; P. W. Popp, corresponding secretary of the Westchester & Fairfield Horticultural Society; Anton Bauer, Deal (N. J.) Horticultural Society; Bertrand Farr, president of the American Peony Society, and W. A. Manda, speaking as an exhibitor.

It was generally agreed that a charge of \$5 should be made for entrance on the first day, \$1 the second day, 50c. the third day, with one free day. This matter, however, together with the appointment of the various committees, was left in the hands of the executive committee of the International Garden Club.



*Rock Garden at New York Spring Flower Show Awarded First Prize.*

Harry A. Bunyard proposed and John Canning, seconded, the appointment of Arthur Herrington as secretary-manager, which was unanimously agreed to. The date June 1-4 was definitely adopted.

It is hoped that the new preliminary schedule will be published within the next few days, but other cups, donations or prizes from societies or individuals are expected, and may be added to the final schedule.

Very considerable interest was shown throughout the proceedings, the general verdict being that a Summer show properly organized and carried through, was what was wanted, and that it would be desirable for the smaller organizations to combine and make one thoroughly representative show.

Promise of support was received from various members of other garden clubs, including those of New Rochelle, New Canaan, Ridgefield and Cheltenham.

#### THE HORTICULTURAL SOCIETY OF NEW YORK.

AN exhibition of this society will be held on Wednesday, February 16, 1916, at the American Museum of Natural History, Central Park West and 77th street, New York City. Premiums are offered for cut orchid blooms, roses, sweet peas, Schizanthus, snapdragons, freesias, and narcissus.

Special prizes may also be awarded for exhibits not provided for in the schedule. All are invited to bring any unusual plant or flower, or plants or flowers showing unusual excellence in cultivation.

Schedules are now ready for distribution, and will be sent on application to the secretary, George V. Nash, New York Botanical Garden, Bronx Park, New York City.

A meeting of the society will be held at 4, at which a lecture will be delivered by Mr. Arthur Herrington on iris gardens, illustrated by colored slides.

GEORGE V. NASH, Secretary.



*Rock Garden at New York Spring Flower Show Awarded Second Prize.*

# Work for the Month of May

By Henry Gibson, New York

**T**HIS is the month of the poets, the Queen of the Calender, yet it is none the less a month of hard work for the gardener. Nature has brought us to the threshold of summer, and is whispering to us of the unfolding beauties that are to be spread out before us. The orchards will be pink and white with a thousand fragrant temptations, for the tuneful birds, and buzzing bees. The iris will be unfurling its bannarets of royal purple, snow white and golden yellow, and the tulips will add a glow of color to the beds and borders that will ere long be planted to more tender subjects from the greenhouses, and at last we will be made to forget that Jack Frost ever tried our patience with his wintry pranks.

## THE BIRDS.

Mention of the birds reminds us that now is the time to do something to attract them about the grounds by planting shrubs and trees or otherwise providing for their protection and welfare next winter. While this may be considered by some as quite outside the province of these notes, yet it is a matter worthy of the attention of all gardeners, for estate owners are becoming more than ordinarily interested in our feathered friends and each passing year sees more and more interest being taken in them. Whole pages could be written on attracting birds about the grounds without exhausting the subject. Lists of shrubs and trees of a berry-bearing character are now issued by numerous bird protection societies throughout the country and at this time of planting they are worthy of some attention. One of the first steps to take in attracting the birds is to provide them with plenty of water, in shallow receptacles. These receptacles may take some ornamental form, at the discretion of the owner.

Cats that make a practice of killing birds should be exterminated, without the slightest compunction. Of course the plantations of blackberries and raspberries will undoubtedly suffer at the instance of the birds, but this trouble can be overcome to a great extent by planting mulberries in close proximity to them, since the birds seem to prefer mulberries to the blackberries, or raspberries. Sunflowers should have a place in some corner of every garden, as many birds will feed on them in the fall.

## THE FLOWER GARDEN.

The planting of trees and shrubs should be completed as soon as possible, as well as hardy perennials. Towards the end of the month when the weather is more settled, and the soil warmer for the tender plants bedding-out may be begun in real earnest. All plants used for this purpose that have been subject to greenhouse conditions should be well hardened off before planting out. A little extra attention in regard to hardening off the plants will result in much improved specimens.

## HARDY ANNUALS.

There are numerous varieties of hardy annuals that are close rivals of the best of the bedding plants, many of them being extremely useful for house and table decoration. Another advantage is that different varieties may be had in bloom from June until frost.

A section of these plants will appeal to all gardeners whether amateur or professional. Almost all of them like plenty of sunshine, but there are a few that do well in the shade. Among the latter *Nasturtiums* take a prominent place; they do not require a rich soil at any time, but when grown in the shade no manure whatever should be used. Such subjects as poppies, *mingonette*, and *clarkias*, when thinned to a foot apart will branch freely and flower for months.

Next to the sweetpea, the early-flowering *chrysanthemums* may be mentioned as one of the most useful flowers for garden decoration. Old plants that have survived the elements of winter will now have made a quantity of nice basal shoots, and where an increased stock of plants is needed, they can be obtained by lifting and dividing the stools. Plants raised in this manner are very little inferior to those raised from cuttings. They should be planted firmly and be given a good watering afterwards and they will soon recover from the effects of being disturbed.

## BULBS FOR PLANTING NOW.

There are a number of summer-flowering bulbs that may be planted now to help keep the garden bright later in the season. Of these the *gladioli* is by far the most popular, but there are many more. The first batch of *gladioli* will have been planted in April to supply early flowers. Another planting should be made every two weeks or so until the end of June in order to keep up a regular supply of these very desirable flowers. *Montbretias* should be got into the ground as soon as possible now. It is claimed by many authorities that autumn is the one and only time to plant these bulbs, but we have seen some very fine results from April and early May plantings.

*Amaryllis* of the old *Belladonna* type and *crinums* will do much towards enlivening the dull days of August with a variety of rich color.

The tall summer hyacinth, *Galtonia candicans*, is an excellent companion plant for *delphiniums* or similar tall growing plants. Planted in groups it produces a very pleasing effect when in bloom.

## EVERGREENS.

Evergreens should be gone over and clipped if they are growing out of shape when the growth starts. What about the red-spider? If this pest is troublesome, spray the evergreens with *scaline*. This will effectively remove him if done thoroughly.

A heavy mulch of manure on the rosebeds will greatly improve the quality of the flowers.

## WINDOW BOXES AND BASKETS.

Much can be done in the way of adornment about the house and home by using these receptacles for growing plants in. Not infrequently, however, we find that they are a dismal failure because the watering has been neglected. It is readily understood by those used to care for window-boxes and hanging baskets that the small body of soil which they contain, suspended in such a position that air reaches it from all sides will soon dry out. Plants cannot grow if their roots are dry. It is better to let this phase of gardening alone if the watering cannot be faithfully attended to. We

have all kinds of plants that are suitable for window-box culture for either sunny or shaded positions and a careful selection should be made of these to get the best possible results.

#### VEGETABLE GARDEN.

Potatoes should be got into the ground at the earliest possible opportunity now. Do not omit to treat the seed with formaldehyde for scab. One pint of formaldehyde to 30 gallons of water is the regulation strength for controlling this disease. The seed is dumped into a barrel and allowed to remain for not more than two hours; a longer period would harm the potatoes. Another disease that appears on potatoes in some sections of the country in the form of blotches or small eruptions on the skin is *Rhizocotonia*. Should you have reason to believe that this is prevalent treat the seed with a solution of Corrosive sublimate 4 ozs. to 30 gallons of water. This is also effective against scab. While these remedies are effective in the treatment of seed potatoes it is not to be supposed that your crop will be clean and free from disease if the land is infested with it. Treating the seed is not proof against infection from this source.

Several sowing of peas and beans and other vegetables may be made this month to keep up a succession. No hard and fast rule can be laid down in this connection as each and every place must plant according to its needs. Late cabbage, cauliflower, Brussels-sprouts, and kale may be sown this month too, water-melons, musk-melons, and cucumbers can be sown outside, if you have no early started plants to set out. Even if you have we find that it is a good practice to plant a few seeds in the hills where it is intended to plant the early started ones. This ensures a crop for if the early plants are caught by a late frost the seedlings take their place. Onions wanted for making salads may be had by making sowings every two or three weeks. Pumpkins and squash may be sown now. The young plants are often destroyed by insects when they are very small. A strip of tin placed round the plants with some fine netting over the top will guard against this. The tin should be set well into the ground to prevent the cut-worm getting in his fine work.

#### THE ORCHARD.

The orchard is the scene of many activities at this time of the year. A sharp lookout should be kept for all kinds of caterpillars. Destroy every nest of tent caterpillars that can be found about the place. Burn them out, then spray the trees with poison, to make a good job of them that are left. About the middle of the month the blossoms will be mostly fallen off, then is the time to get busy with the sprays for apple-scab and codling moth. Fortunately the sprays for these pests can be combined, and applied together thus saving considerable time and expense. Lime-sulphur solution 1-40 of water, and three pounds of arsenate of lead to each fifty gallons of the solution.

If apple aphid is present nicotine may be added to control them. Pears may have similar treatment to apples. Plums need to be sprayed for *cuculo* when the husks or calceys have fallen, with arsenate of lead 3 pounds to 50 gallons of water. Leaf-spot on European varieties may be treated with Bordeaux 5-5-50 added as a carrier for the arsenate of lead. Cherries may be likewise sprayed for *cuculo*. Peaches should only have two pounds of arsenate of lead applied after the husks have fallen for *cuculo*, to each fifty gallons of water. Self-boiled lime sulphur may be used as a

carrier for the poison to control, brown-rot and scab. Second application should be made two or three weeks later than the first.

This spraying should be done very thoroughly, especially in the case of the apples driving the material well into the innermost recesses of the calyx cups so that when the codling moth enters he is greeted with a dose of poison.

#### THE GREENHOUSES.

It is readily understood by those in charge of greenhouses that water may be used more liberally now that the sun is fairly warm, yet with the hustle, and urge to get ahead with the work of clearing out the old crops to make room for the new there is every likelihood of too much being given, and many plants will suffer as a result.

It will not harm a large majority of pot-plants one bit to let them get so dry that the pots will ring when rapped. Indeed it is positively beneficial to some plants save it maybe to some of the more rapidly growing herbaceous ones, to occasionally let them feel the want of water when they are making new shoots, because then they need considerable amounts of mineral salts from the soil for the building of new organic tissue.

#### SWEET PEAS.

In contrast to the foregoing paragraph, an abundance of water, free syringing, and ample ventilation are essentials where a later indoor crop of these flowers are wanted. Red-spider is the arch enemy, and must be kept off at all costs, and a good force of water through the hose is the best means of controlling him. It sometimes happens that the weather conditions make a light shade on the glass necessary, in order to somewhat lower the temperature, and prevent scorching of the blooms. If the ground between the rows is covered with manure it will help very materially to keep the roots cool, also to retain moisture. Spray or fumigate every ten days or so to keep the plants clean of fly.

#### DWARF SINGLE-STEMMED CHRYSANTHEMUMS IN POTS.

The last week in May to the first week in June is the best time to put cuttings into the sand to get dwarf- single-stemmed plants for house decoration. They are no doubt somewhat harder to root at this time, but with care they can be handled successfully. Use only fresh clean sand, press the cuttings in firmly, and keep shaded and they will soon root. When they have roots from half-inch to one inch long they should be potted into small pots. Give them good soil from the start, and never let them suffer for want of potting on. Give a rich compost for the last shift, and grow on in a house where they can have plenty of light and ventilation.

#### AMARYLLIS.

Now that the hybrids are through flowering they may be accommodated in a cold frame where they should be encouraged to complete their growth. Plunge them up the rims in the soil. Water carefully, at all times until the roots become more active, when they will be benefited by a dose of liquid manure once a week, and later it may be increased to twice each week. Give the plants a good syringing once a day, it helps the bulbs to regain their strength. A little time and care spent on these plants at this time will be repaid by better blooms another season, and you will not have to blame the bulbs for poor flowers.

# Dahlias and Their Culture\*

**S**IMPLE in cultural demands, adapted to a wide range of soils and conditions, with plants so diverse in size and habit that one can readily be found appropriate for any situation, affording a wealth of bloom over a long season, suitable, in some of the many varieties, for every floral purpose—for garden decoration, for bouquets and florists' work, and for wonderfully attractive display on the exhibitors' tables—the dahlia now holds high rank as a late summer flower, for the dahlia is as beautiful and as useful outdoors before frost as is the chrysanthemum inside a little later.

What a surprise it is to many a flower lover to see for the first time a modern collection of dahlias!

Its English singles, its pompons and its miniature cactus types are so bright and yet so dainty; its "Century" singles so large and striking but, withal, so graceful; its "decoratives," ranging from tiny to huge, are so perfect in form yet loosely built and pleasing; its "cactus" dahlias so refined and delicate of petal, like masses of interlaced, slender, curved tubes of



*Single Dahlia.*



*Collarette Dahlia.*

gust when first ready to bloom. The flowering period is one of special demand for moisture, and this extra demand at a time of scanty supply acts very injuriously upon the plants.

Meanwhile, plants starting about the middle of June care for themselves much better during the heat and drouth, grow without a check, and when late summer showers stimulate them a little they put forth a full supply of buds and blossoms, which are constantly renewed until the plants are killed by frost. On such plants the foliage may be blackened considerably and the open flowers be ruined by frost, yet many buds pass through without harm and later give good blossoms from the sap and plant food held in the juicy

stems. If the area devoted to dahlias can be of considerable size, it is well to make a succession of plantings; for occasionally the early plants meet with no check and do magnificently; but "flower themselves out" before the end of the season; when the later set plants serve to extend the period of bloom.

On the lighter soils, manure or other humus-pro-



*Double Dahlia.*



*Cactus Dahlia.*



*Decorative Dahlia.*

ribbon with tints almost as varied and delicate as those of changeable silk; and its peony-flowered types so artistic in the informal, open arrangement of their long, curled, twisted petals and so gracefully held on long stems that raise them far above the bright green foliage.

It is, ordinarily, of little advantage to start dahlias very early; for, under our usual summer conditions, plants well started in the field before the end of May will encounter dry and hot weather in July and Au-

ducing materials should be introduced to improve the moisture-holding capacity, while on the heaviest types, coal ashes, sand, or bulky, strawy manure should be used to loosen the texture.

Watering should be avoided if possible, since any cessation of the practice after the plants have become accustomed to constant moistening will lead to checking of growth and scanty flowering. If it becomes really necessary to water, in order to carry the plants

over a period of drouth, a thorough soaking at weekly or ten-day intervals should be the method, rather than more frequent sprinklings.

On the sandy soils, it is frequently necessary to use nitrogenous fertilizers and phosphoric acid to reinforce the natural fertility; but on heavier types nitrogen should usually be applied sparingly, if at all—and then just before blooming time—lest the foliage be stimulated and the plants go “all to leaves,” and few blossoms result. It is really surprising to see what a profusion of bloom is often produced on apparently poor soils without additional fertilizing. On any soil the preliminary plowing and other treatment should be deep and thorough, so that the tuber or the roots of the plants may be placed five or six inches below the surface, with as much or more depth of loosened soil below to allow plenty of feeding ground for the roots and room for the formation of new tubers.

The summer cultivation of the dahlia is simple. The surface should be kept thoroughly stirred to hold moisture and to keep down weeds during the early growth of the plants, turning the soil toward the rows at the last in order to keep the tubers well covered.

The clumps of tubers produced in any season are stored over winter in some cool, moderately dry place; and divided when the buds or eyes begin to show in the spring—in March, April or May, according to the temperature maintained in the storage room. It is not wise to divide until the buds show; as the dahlia tubers are unlike potatoes or sweet potatoes since the eyes are not on the tuber, but on a collar or neck which joins the tuber to the stem, or even on the stem itself; and division before the eyes can be seen is liable to leave tubers without eyes and eyes without tubers—the first absolutely useless and the second practically so, though expert forcing-house treatment will occasionally secure a plant from an eye or sprout on a small piece of stem. If eyes are numerous as compared with the number of tubers it is well to leave two eyes on each tuber where possible, in order to provide for accidents; but when finally in place in the field one bud to produce one good strong stem to a tuber is much better than more. Some recommend planting the whole clump or half of it to secure added vigor, but the care and constant attention necessary in such cases to keep down additional stems from the buds left is usually not given and a plant results with from two to a dozen stems, none of which will give a satisfactory blossom. One stalk only in a place is best.

In the field, each tuber should be laid on its side, at the bottom of a hole or furrow deep enough so that the bud or sprout will be five or six inches below the surface. Cover only two inches or so at first, particularly in heavy soil, and fill in as the plant grows.

The dahlia makes a large plant and must be given plenty of room. A very few varieties will allow setting  $2\frac{1}{2} \times 2\frac{1}{2}$  feet, or  $2\frac{1}{2}$  feet in the row in field culture with rows 3 or 4 feet apart; but the great majority of the kinds should not be set closer than 4 by 4 feet if the grower expects to work round them at all during late summer, or to have ready access to them for gathering the flowers; and with some kinds 4 by 5 feet or even 5 by 5 is advisable for greatest convenience.

If plants are grown normally some system of staking or supporting with wires is almost essential to prevent severe damage from storms. If the tubers or plants are set deeply, so that the lower part of the

stem is firmly held by the soil, and a good stocky growth is secured, the unsupported plants do fairly well; but under many conditions the side branches split off and lie on the ground so that the flowers are not well displayed.

To secure specially large flowers, thinning and disbudding are necessary, particularly with the show and fancy types, which normally blossom too freely to produce flowers of maximum size. If such blooms are desired, the center bud should be left and not more than six or eight side branches should be allowed to grow, both stem and branches being supported by tying to stakes or wires. All second shoots on the side branches should be pinched out except a few near the terminal bud to continue the flowering after the large blossoms have been removed. The same practice may be followed with the decorative and peony-flowered types, but as these are usually not quite so free blooming as the ball-shaped types, it is not generally considered necessary. When severe disbudding is done, by growing to practically a single stem, as with exhibition chrysanthemums, some huge blossoms are secured, yet without coarseness. Cactus dahlias also may be increased in size by judicious disbudding, but unless the flowers are for exhibition this is hardly an advantage, as many cactus varieties have too much of the “bashful,” nodding habit, which extra large size of blossoms may intensify. Single dahlias, except with a few large sorts of the Century type, collarettes, and pompons, are seldom or never disbudded, but the plants are allowed to branch and flower as freely as possible to make attractive garden specimens.

In cutting for bouquets or other floral uses, the work should not be done in the middle of the day, but preferably in the morning, or in the evening. The cut flowers should be “hardened” by removing much of the foliage from the stems, immersing these almost to the blossom in water and keeping them in a cool place until the first wilting due to the cutting has disappeared. With hard-stemmed kinds there is an apparent advantage in placing the stems first in water nearly as hot as the hand will bear, allowing them to remain until the water has cooled and then removing to fresh cold water to which a teaspoonful of salt to a gallon has been added. Water not quite so warm should be used with softer-stemmed flowers.

With many varieties of dahlias sacrifice of buds is often necessary in order to secure satisfactory stems; but is ordinarily not to be deplored, since the dahlia responds very promptly and freely to such trimming and renews the show of flowers quickly if the plants are in good condition. In all cases it is desirable to remove withered and old flowers before seed formation.

All dahlia blossoms should be cut before they have quite reached their best, unless for exhibition, and singles, which are quite short-lived, should be taken before they are fully unfolded, to insure satisfactory retention of petals. The pompon, show and fancy types last longest after cutting, although many of the decoratives are excellent in this regard and some of the cactus and peony-flowered types. The singles are not good for continuous use in bouquets as the petals drop soon after cutting, if fully opened flowers are chosen. The beauty and daintiness of these flowers render them admirable, however, for vase decoration; and their freedom of bloom makes the frequent refilling of the vases in home decoration very easy.

(Continued on page 201.)

# *Horticulture as a Profession From the Standpoint of a Gardener\**

By John Johnson, New York

WE live in an age of educational progress, of industrial evolution, and herein to each and every private gardener is given inducement and an opportunity of asserting his right in the rank of progressiveness of this country. We cannot imagine, much less realize, the possibilities which lie before us, or yet conceive the far-reaching influence which friendly and wholesome intercourse effect.

This is essentially an age of co-operation, and co-operation at best is only what individuals choose to make it. While recognizing and appreciating, we must admit, that usually such means of co-operation as the press affords gardeners, is but meagerly sought after. Is this not regrettable since all of us know only too well that even though a lifetime be spent in quest of horticultural knowledge, our efforts would lead only to the conviction that we would be learned eternally in an art which has no finality? Not so much, one might say, is it he who knows but rather he who acts, that supplies the necessary impulse to advancement.

Gardening has long been recognized as the most healthful and pleasant occupation in which human beings could engage, a fact sometimes advanced in argument against the low standard of remuneration. Whether the gardener does, or does not, receive adequate reward for his labor is an open question. The sentiment most lucidly expressive of my own in this regard, has already appeared in the GARDENERS' CHRONICLE OF AMERICA:—

"The person buying service and material has the making of terms; it is left to the seller to accept or reject as he sees fit." The gardener works in very diversified fields and consequently, to make a bold assertion, more often than not receives wages amenable to the position he holds; if he does not receive adequate payment then it is up to the individual to seek means of readjustment. I personally cannot see the whole status of remuneration being raised by mere twaddle on the part of gardeners. No, rather must we aim to elicit and establish universally the same appreciable attitude toward the gardening community, as that already evinced by the noted amateur Mrs. Francis King. This can only be accomplished by apt appropriation of individual effort. Let ambition emulate high standard efficiency, and in the matter of wages let the gardener be deliberate and prudent in his demands, always remembering that the status is governed by the quality of service rendered.

That the whole basis of horticulture has changed during the past fifty years is undeniable, and that science has invaded the realm of gardening must be obvious to anyone having read and imagined the state of affairs, or is able to remember it. This is no long period in the history of a nation yet we cannot fully conceive to what real extent this revolution in horticultural method has been wrought, so persistent and so momentous have been the developments enacted.

To the gardening community then belongs the attribute of national service in the development, at least, of its own peculiar sphere.

Yet in a field so comprehensive, is it not a pity that we so often fail in our object of rising above what many people only too frequently regard tillers of soil struggling, as it were, for a mere pittance? Instead of being

the acknowledged practitioners in an honorable and illustrious enterprise. When we consider the drudgery to which some gardeners subject themselves, is it surprising that not a few employers become reserved, or even cynical in their esteem? Albeit, there are gardeners and gardeners!

The man patient and diligent in his research, who labors with enthusiasm and cherishes everything nature endows to his care, who not only fully enjoys the consciousness of skill applied but tangibly the elevating influence which the love of horticulture exerts. Yes, this is the true gardener—the horticultural zealot.

Horticultural practice then is something more noble than the mere exertion of muscle.

The real gardener must be a real and apt student, persistently endeavoring to hall-mark his efforts with positive individuality, which is not only the keynote to, but the criterion of successful gardening. There is absolutely no room for the rule of thumb man in the horticultural profession; and he would set on a plane to which it rightly belongs, and have horticulture rank with the fine arts, must equip accordingly. Right within the realm of gardening we have that diversity of employment which is almost essential to life happiness. The characteristic enthusiast not only devotes himself to the study of botany, chemistry, architecture or any other science furnishing the source of fundamental knowledge, but diverts a little of his time and energy in the social field as well. He joins one or more of the horticultural mutual improvement societies, perhaps becomes an exhibitor, or seeks to be a live-wire in still some other direction. No matter what course he chooses, he knows that association with men of kindred interests invariably creates the stimulus for the accomplishment of something worth while, and that due appropriation of this incentive will beget its reward.

In the daily routine of gardening nothing is irksome or monotonous even though difficulties bestrew the way as in no other profession. Often the gardener finds himself under the influence of some unreasonable or whimsical employer who, metaphorically, would have him grow alpines in aquatic conditions, or plant some "pet" fern on the pinnacle of a rockery exposed to the full force of sun and wind. From time to time we witness floral gems fretting, so to speak, for a more wholesome and natural treatment, and occasionally evidence misspent energy in other directions for which the gardener should not be, although almost invariably is blamed. Yet, be it said, despite these or similar circumstances the true gardener finds ample reparation and complacency in his environment. Indeed, experience has matured him with such keen yet simple perception of natural forms, that each change of season instils him with its own peculiar charm.

The present day gardener is equally in sympathy with the strictly architectural pastime, which years ago happened to be the ruling element in flower garden design, and the more informal lay-out such as a well planned and constructed alpine rockery affords. A knowledge of the means and requirements of the employer, and a vivid conception of what the finished picture shall be like, are the first problems of garden making. These fully under-

stood, the gardener must then extricate and successfully adjust piece by piece the various features sought. In so doing he will not adapt either extreme, formal or informal, but aim to exemplify a happy coalition of the best elements in each. His guiding principle is that formality should obtain within the precincts of the dwelling which it is intended to embellish, and should melt away into the natural. The eye loves to rest on a combination of trees, flowers, water, etc., all beautifully interspersed and arranged, and the blending of the two systems and the allotting of space to each within a limited area differs in every case. The striking of a harmonious and judicious balance is the test of the most skillful hand and trained eye.

Armed with a forceful ambition and a reasonable executive ability the gardener's education would be even then lacking one important element. The essential and almost invaluable asset of a pleasing personality cannot well be over-rated. Gardeners must necessarily meet the demands of employers with sincerely tactful impartiality; and the establishment of an evenly balanced temperament is not always of easy attainment. Yet it is safe to assume that the shrewd aspirant bestows equanimity on the ethical and practical alike. As an expedient in these requirements the writer would suggest a more widespread expression of individual effort along original lines. We have no more apprehensible means or better facility of doing this than the press affords; and nothing could be more inimitably expressive of the intellectual status of the present day professional gardener. Horticulturalists are undoubtedly doing great work but there still is ample scope for co-operative development.

*\*Essay that won ex-President Everett's (National Association of Gardeners) gold prize, class 1, under nom de plume "Spero meliora."*

### A PLEA FOR ROSE HEDGES

IN many places some kind of hedge is necessary to divide the flower garden from the vegetable garden, and some shrub, such as Privet, Hawthorn or Holly, is frequently planted. But why not Roses? Is not a hedge of Roses ten times more beautiful than one made of shrubs? Those who have seen large Rose hedges covered with bloom in June and July should not need much persuasion to attempt something similar in their own gardens, instead of planting shrubs; but they do. Very often these people only murmur, "How beautiful!" or something to that effect, and regard these lovely Rose hedges an impossible attainment in their own gardens; so they plant Privet or other shrubs. But, really, there is nothing impossible about it. So long as the reader has an open, sunny spot and fairly good soil for his Rose hedge there is no reason why he should not attain quite as excellent results as those he has seen. It may be said that time and expense are to be considered, and that Privet or shrubs make the cheapest hedge in the shortest time. So they do, but the hedge produced is an extraordinarily ugly object. People seem to exaggerate considerably the idea that Rose hedges take time to form. One amateur spoke to me of "ten years" and another of "five years" having to elapse before a tolerable hedge could be produced! But these people are under a very great delusion. I have seen Rose hedges of quite passable quality which have only been planted two years, and these hedges were all that could be desired in the third summer. As regards the expense, one must confess that Rose hedges cost a little more in the first instance, but they are quite worth it, for, when once planted, each one of them is "a thing of beauty and a joy forever."

It has been said that "a garden is a place for flowers,

a place where one may foster a passion for loveliness, may learn the magic of color, and the glory of form. . . ." And if this is true, then ugly features of the garden, such as shrub hedges, should not be permitted. Of course, there are certain positions where Rose hedges could not be formed, but by far the majority of positions now occupied by Privet and other like hedges could be occupied by Rose hedges.

Some kind of screen or support must be arranged after the soil has been trenched two feet and well manured. This can be made by nailing poles of Spanish Chestnut, Larch, Ash or Pine into a kind of rustic trellis. The ends of the poles should be let into the ground one and a half feet to two feet, not less, or they will be blown over in strong winds. Plant the Roses four feet to five feet apart, and tie the growths on to the trellis-work in as artistic a manner as you can. In the summer tie in all strong new growths, cutting out only weak shoots and dead wood. The trellis-work will soon be hidden completely, and some old wood should be cut out every summer after the plants have flowered. Give them plenty of water and mulch with manure each spring. Good Roses for hedges include American Pillar, Dorothy Perkins, Blush Rambler, Crimson Rambler, Hiawatha, Alberic Barbier, Gloire de Dijon and Minnehaha.—E. T. Ellis, in *The Garden*.

### COLOR IN THE ROCK GARDEN

IT is sometimes stated that Nature never associates discordant colors, but unprejudiced observers will allow that discords do exist. One of the objects of the cultivation of alpine plants is to keep up a succession of flowers as long as possible, and to place the plants so as to insure success in their culture. In so doing, the proper disposal of the subjects, from the point of view of appearance is necessary, for a rock garden without color reminds one of an orchard without fruit. But it is necessary when arranging the subjects that due regard be paid to the color of the flowers, otherwise dire combinations may result.

In practice, nine-tenths of the troublesome discords are produced in the rock garden by the magenta groups of colors, including the strongest purples, crimson, lilac, and crimson-purple. The artistic way to handle these colors is to isolate them in nooks, surrounded by the green of a mossy saxifrage or other green-leaved subject, or place them in the shade, where they are purified and softened, instead of allowing them a place in an open situation where full sunshine makes them too strong, or where they conflict with all other colors except white.

It is quite possible, with the material at disposal, to make a rock garden that changes its color every three or four weeks, based on the idea that a garden may well reflect the dominant color found in the pastures of the Alps, and produced by the plants each season. The pictorial effect is improved by a definite color scheme, and by planting the subjects in drifts.

In the modest rock garden, where it is the aim of the cultivator to grow as many different plants as the limited space will allow, color arrangements must be of secondary consideration, but where the rock garden is of considerable extent it is necessary, if effect is to be obtained, to plant each subject in masses, or allow it to intermingle with other plants in order to obtain a harmonious blending.

Plants which are suitable for planting in masses, and which will afford color in the rock garden, are *Arabis albidula*, *Phlox canadensis*, *P. subulata*, and its many varieties, *Viola gracilis*, *Lithospermum prostratum*

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## A Southern Clime Country Estate



*The Palm Walk in Greenwood Plantation.*

delicate reddish purple flowers, while here and there the eye catches glimpses of masses of striking yellow flowers, probably twenty or thirty feet in the air, either suspended from, or clinging to a great pine, or the top of some other native tree laden down with the fra-



*The Residence of Colonel O. H. Payne, Greenwood Plantation, Georgia.*

*Plantings of Azaleas and Magnolia Grandiflora Along the Driveway.*



*A Hedge of Cherokee Roses Planted Alongside the Public Road.*

grant flower of the *Gelsemium sempervirens*. Among many other shrubs of interest are the *Halesia tetraptera*, a beautiful shrub with pretty white bell shaped flowers, and the *Callicarpa*, one of the most attractive shrubs for the fall and early winter months, with very small twigs thickly covered with clusters of purple berries.

To approach the residence from any of these



magnificent roads one must pass through the beautiful grounds that surround it. These stretch away in all directions and here is to be found everything taste can dictate and wealth supply and all under the supervision of F. C. Lovell, the superintendent.

The lawns, beautiful and green all through the winter months, are seeded down annually and, while such a thick grass cannot be had as is found in a more suitable climate, they are certainly much appreciated. Quite a nice lawn is obtained shortly after the sowing of the seed, which is sown about October first and the lawns generally mown over two or three times by the early part of December. During May the lawns are all covered with pine straw eighteen inches thick, which keeps down all weeds that are so persistent in hot weather and also prevents washings. The native Bermuda is the only grass that will stand the hot summer months and this succumbs to very light frost.

The vast open stretches of lawn leading away from the residence are chiefly surrounded with a wide variety of evergreen and flowering shrubs. Among the shrubs found blooming in March was a beautiful border of Japanese Azaleas nearly five hundred feet long and eight to ten feet high, a sight worth traveling a long way to see and one that will leave an impression on one's mind not easily forgotten. Others, including *Viburnum Tinus*, fine specimens of *Camellia Japonica*; *Magnolia Soulangeana*; *M. purpurea*; *M. stellata*; *Forsythias*; *Spiraea Thunbergii*; *S. Reevesiana*; *S. VanHouttei*; *Exochorda grandiflora*; *Olea fragrans*; *Corchorus Japonicus*, fl. pl., and fine specimens of the native



*Azalea Nudiflorum*, Growing in the Woodland.

is a well trained hedge of Cherokee roses. The drives are long, winding through avenues of *Magnolia grandiflora*, continued with the evergreen oak, *Quercus virens*. Gravel is used on all the main drives, and nothing but the native red gravel is made  
(Continued on page 182.)



*Cercis Canadensis* and *Halesia* were to be seen.

A few of the favorite and most conspicuous evergreens planted on the estate are the *Pittosporum Tobira*; *Camphor* (*Cinnamomum Camphora*); *Aucuba Japonica*, *aureo-maculata*; *English Laurel*; *Euonymus Japonicus*, *Cleyera Japonica*; and the native *Magnolia grandiflora*, the latter regarded as the finest of all broad leaved evergreens in the south.

Palms are used with wonderful effect and near the residence are planted beds of *Phoenix Canariensis*; *Chamaerops Fortunei*, etc., while about the grounds are growing the *Sabal Palmetto* which makes a beautiful addition to the landscape; also many fine specimens of *Cycas revoluta*, the diameter of some of them being about twelve feet.

Alongside the public road for a distance of a mile a fine specimen of an English ivy hedge is growing, while on the other side

*The Terrace on the Approach to the Residence.*

*The Climbing Cherokee Roses in Front of the Residence.*



*A Portion of the Cold Frames and Greenhouses.*

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To serve until 1917—Wm. Hertrick, San Gabriel, Cal.; Robert Angus, Tarrytown, N. Y.; Robert Bottomley, New Canaan, Conn.; Alex. Fraser, Newport, R. I.; Arthur Smith, Reading, Pa.; Thomas W. Head, Lake Forest, Ill.; L. P. Jensen, St. Louis, Mo.

To serve until 1918—William H. Waite, Rumson, N. J.; William J. Kennedy, Chestnut Hill, Mass.; Edward Kirk, Bar Harbor, Me.; John W. Johnston, Glen Cove, N. Y.; Carl N. Fohn, Colorado Springs, Colo.; Peter Johnson, Dallas, Tex.; Thomas Proctor, Lenox, Mass.

To serve until 1919—John W. Everitt, Glen Cove, N. Y.; Thomas W. Logan, Jenkintown, Pa.; Robert Cameron, Cambridge, Mass.; James MacMachan, Tuxedo Park, N. Y.; A. Bauer, Deal Beach, N. J.; David Fraser, Pittsburgh, Pa.; George W. Hess, Washington, D. C.

OFFICIAL ORGAN OF

AMERICAN ASSOCIATION OF PARK SUPERINTENDENTS

<i>President,</i> EMIL T. MISCHÉ, Portland, Ore.	<i>Secretary-Treasurer,</i> ROLAND W. COTTERILL, Seattle, Wash.
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Vol. XX.

April, 1916.

No. 4.

NEW YORK OUT-DOOR FLOWER SHOW.

WHILE so worthy a project as a summer outdoor flower show for New York is entitled to the co-operation of all horticultural interests, we fear, however, that the short notice given for "preparedness" to participate in the outdoor flower show of the International Garden Club to be held on its grounds in Pelham Manor during the first days of June, will not obtain the support that it would have had from many sources if it had been announced in ample time to give opportunity to prepare in a proper way. Coming so closely upon the two large indoor shows of Philadelphia and New York, which have taken up much time for both private and commercial growers in the east, from whom the principal support for the contemplated show must

come, and in the face of a very late growing season that will bring many plants in bloom several weeks later than usual, the great success which would come to an outdoor flower show were these conditions eliminated, cannot be counted on.

However, as the step has been taken, we urge upon all interests that can aid to make this first important outdoor flower show, given under the auspices of so prominent and influential an organization as the International Garden Club, a success, to do their share to that end and thereby encourage the undertaking of an outdoor show a year hence that will not alone be a credit to the organization that stands sponsor therefor, but also to the great city of New York, which should have an annual outdoor floral display comparing favorably with those annually held in some of the important European cities.

THE LATE JAMES MACMACHAN.

JAMES MacMACHAN, for seventeen years superintendent for George F. Baker, Esq., at Tuxedo Park, N. Y., passed away suddenly on Tuesday morning, April 11, in the fifty-second year of his life.

Mr. MacMachan was born in Dundee, Scotland, but at an early age moved to Blairgowrie, and while still very young began serving his apprenticeship at Halliburton House. In the years following, or until he came to this country, he pursued his labors and studied gardening in the following well-known old country estates, Balbernie, the residence of A. J. Balfour, Esq.; Lucy House, the residence of Lady Dalrymple; Brodie Castle, residence of the Duke of Hamilton, and Stormont Castle, the residence in Ireland of Lady Allen. On arriving in this country, Mr. MacMachan took charge of the estate of George F. Baker, Esq., which, in a few years, he transformed from what was little more than a series of rocky hills and swampy hollows into what has, for many years, been conceded to be one of the most beautiful and interesting spots in this section. Mr. MacMachan was passionately devoted to his profession, every inch of him having been a gardener, and everything that the ground produced appealed to him. He loved the trees and flowers and they seemed to have loved him, as they thrived so well in the places he allotted for them. He was a companionable man, full of optimism, and though modest was a conspicuous figure in gardening circles for many years.

Mr. MacMachan always took a leading part in all the work in connection with the Tuxedo Horticultural Society, having held several offices, including that of president. He was also a member of the National Association of Gardeners and held the office of a director for several years. The funeral, which took place on Friday afternoon from St. Mary's Church, Tuxedo, was largely attended by men prominent in the trade in New York and elsewhere, and every gardener in this section and many other friends. There were a great many flowers.

Mr. MacMachan is survived by his widow and two daughters, the eldest of whom is a student in the New York State College for Teachers. He had many friends here and elsewhere, and the sincerest sympathy of all goes out to those who are most sadly stricken.

"Mac," as we used to familiarly address him, is gone, and it seems hard to think he had to go while not much past the prime of life. Though he has departed from among our midst, yet long will he continue to live in our memories.

# NATIONAL ASSOCIATION OF GARDENERS

WILLIAM N. CRAIG, President,  
Brookline, Mass.

OFFICIAL COMMUNICATIONS

M. C. EBEL, Secretary,  
Madison, N. J.

## THE GARDENERS' ESSAY CONTEST.

The gardeners' essay contest, which closed in February and for which Ex-President Everitt offered \$100 in gold, has been decided by the judges, Messrs. Jenkins, Smith, Downs, Stuart and Dick, as follows:

Class I.—Prize \$35—Subject, "Horticulture as a Profession from the Standpoint of a Gardener," awarded to "Spero meliora," John Johnson, Southampton, N. Y.

Class III.—Prize \$20—Subject, "Preparation of Ground for, and General Treatment of, Hardy Herbaceous Perennials," awarded to "Filius terrae," H. E. Dorner, Northampton, Mass.

Class IV.—Prize \$20—Subject, "A Year's Vegetable Supply," awarded to "Ian," John S. Doig, Southborough, Mass.

In Class II—Prize \$25—Subject, "The Proper Grouping and Culture of Trees, Shrubs, Perennials and Annual Bedding Plants in the Ornamentation of Private Grounds," no award was made by the judges as the papers submitted were not of sufficient high merit to warrant an award.

## THE ASSISTANT GARDENERS' ESSAY CONTEST.

The essay contest for President Craig's prizes of \$25, \$15 and \$10 for the three best papers on any horticultural subject submitted by assistant gardeners is now under way.

The contest will close on November 1, and the judges' decision will be rendered at the next convention of the association, which will be held in December. The papers are limited to twenty-five hundred words and must be signed with a nom de plume and forwarded to William H. Waite, chairman of the Committee on Essays and Horticultural Instruction, Box 290, Madison, N. J. The contestant, too, must send his full name and address enclosed in an envelope with his nom de plume written plainly on the outside of the envelope to the secretary, M. C. Ebel, Madison, N. J.

As considerable time has been allotted to prepare the essays it is hoped that the number of contestants will be many.

## A FIELD DAY FOR THE NATIONAL ASSOCIATION.

The suggestion has been made that the National Association hold a field day during the middle of June at a convenient point half way between New York and Boston so that members may leave New York and Boston in the morning and be able to return to these cities in the evening of the same day. The idea is an excellent one and the secretary's office would like to hear from other members on the subject with any suggestions they may have to advance on it.

## EXECUTIVE MEETING.

It having been impossible to gather a quorum of the trustees and the directors at either the National Flower Show or the New York Spring Flower Show, the regular executive meeting was postponed to a later date when it will be more convenient for the members of the board to come together.

## THE YOUNG MAN'S OPPORTUNITY.

It is not an uncommon complaint among some of the young men engaged in the gardening profession that the opportunity does not present itself in their vocation that presents itself to young men in many other professions for advancement, and that it is due in a large measure to obstacles placed in their way by older men engaged in gardening. Against this the writer has always argued that you cannot keep a good man down irrespective of what his age may be. That this argument is a logical one has been demonstrated several times lately by young gardeners. Among the instances in mind may be mentioned that of Henry Gibson, whose essay was read before the National Association of Gardeners in December last on "The Opportunities of the Young Gardener in This Country," and later discussed at meetings of local horticultural societies throughout the country. This has brought to him commendatory notice where he was heretofore unknown. Mr. Gibson is still a very young man who, about two years ago, stepped from an assistant's position to that of a head gardener and in a very short time brought his ability to such attention that he secured a position of superintendent on an

estate where he now has ample opportunity to further demonstrate his capabilities in the various phases of gardening.

The winner of the first prize in the recent gardeners' essay contest on the subject of "Horticulture as a Profession from the Standpoint of a Gardener," is also still a young man who about two years ago advanced from the position of foreman to that of head gardener.

John Dunn, who carried off the first honors for the group of ornamental foliage plants at the National Flower Show in Philadelphia, daring to compete with old timers with long records as successful exhibitors, is another one of our young men who recently advanced from a foreman's position to that of head gardener.

## NEW MEMBERS.

The following members have joined the association since last month: Donald F. Shepherd, Duluth, Minn.; Arnold Gattiker, Frederick Michell, Paterson, N. J.; Peter Back, Oscar Jelling, Thomas Wooff, Robert W. Nelson, and Gustaf E. Anderson, of Lake Forest, Ill.; Arthur J. Duffin, Northampton, Mass.; Frank Humphreys, Glen Head, N. Y.; John S. Doig, Southboro, Mass.; T. McNamara, Pittsburgh, Pa.; William Thompson, Jr., Sewickley, Pa.; William Thompson, Sr., Sewickley, Pa.; Thomas Tyler, Pittsburgh, Pa.; Henry Prideau, Mt. Kisco, N. Y.; John W. Gillen, Riverdale-on-Hudson, N. Y.; Henry Krull, Baychester, N. Y.; Charles Hokanson, New York, N. Y.; Luther N. G. Webb, Dedham, Mass.; James Whiting, Amherst, Mass.; Lewis Barnet, Lenox, Mass.; Herman C. Schmeistre, Dalton, Mass.; George F. Stewart, Medford, Mass.; Alexander Lister, Wenham, Mass.; William R. Thornhill, Readville, Mass.; Harry Cole, North Easton, Mass.; Robert N. Finnie, Dedham, Mass.; David S. Stark, Pomfret Centre, Conn.; Percival C. Veinot, Lyndonville, Vt.; Frank Stoebel, Lyndonville, Vt.

## AMONG THE GARDENERS

William Gardener, of Brookline, Mass., has been appointed head gardener to J. P. Lyman, Brook Knoll, Ashby, Mass.

Samuel Kevan, for many years gardener at the National Soldiers' Home, Virginia, has accepted a similar position with the Berry School, Mt. Berry, Ga.

Charles McAnley is now head gardener on the estate of Henry Hornblower, Plymouth, Mass.

E. Stuart Smith, of Spring Valley, N. Y., has accepted a position as gardener with Mr. R. C. Pye, Nyack, N. Y.

James Barnet, formerly of the "Aldermere" estate, Rockport, Me., has accepted a position with William MacGillivray, of Newport, R. I.

Maurice Gray, formerly of Sayville, L. I., is now head gardener to John I. Waterbury, of Morristown, N. J.

Harry Moore, formerly of Pomfret Centre, Conn., is now located with F. Coles, South Natiek, Mass.

Arthur Smith has resigned as superintendent of "Sheerlund," the estate of George D. Horst, Reading, Pa., to assume a similar position on the estate of F. E. Drury, of Willoughby, Ohio. Mr. Smith will enter on his new duties after May 1.

John Downing, for the past twelve years superintendent to Dr. D. H. McAlpin, Morris Plains, N. J., has resigned his position to accept a position at "Sheerlund," Reading, Pa., succeeding Arthur Smith.

# Department of Ornithology

Under the Direction of the Committees on Bird Preservation and Propagation.

National Association of Gardeners, L. H. Jensen, St. Louis, Mo., Chairman.

American Association of Park Superintendents, Hermann Merkel, New York, Chairman.

## WINNING THE BIRDS.

WHEN the spring impulse, let loose by melting snow, steals over the northern hemisphere, it finds the birds that come to us for their home-making already on the wing from the South. There are perils by land and sea in this journey, long flights, and fastings, and buffetings; but when at last they arrive it is usually to find good marketing, for early insects are abroad as well as early birds. Then follows a period of ecstatic song and courtship before settling down to the real labor of raising one, two, or sometimes, as with the wrens, three broods.

"April," remarked Mabel Osgood Wright, "is the dawn of the natural year. March is a spring month merely by courtesy—a sort of delusive 'twilight,' as Wilson Flagg said of it—through which familiar shapes flit, appearing and disappearing like wind-blown phantoms. March may respond to the sudden lure of the south wind and, yielding a little, show us a few hepaticas on a sheltered bank, a trembling group of snowdrops in a garden-corner, or the raised cowl of the skunk-cabbage in the still ice-edged marsh. Flocks of robins, bluebirds and fox sparrows may bring melody to the leafless trees, while the meadowlark returns to the lowland pastures in company with his squeaking and creaking cousins, the grackles, redwings and cowbirds. The phoebe vies with the chickadee in telling his name about the sheds and outbuildings. On the other hand, March may mean that the hope of the lengthened days is deferred by snowsqualls that check both insect and vegetable life, and drive the early birds disconsolately to mope in cover.

"But in April all is different. To be sure, in the Northern States the old fields lie sere and brown for the greater part of the month, edged and threaded here and there by green ribbons of water-cresses, while on hillside in open woodlands the verdure is of moss rather than of grass; yet everywhere the change quivers on the air, and the cheerful chorus of the hylas rises from the reedbeds, and makes the heart beat faster. For, after all, northward from the middle part of the country, it is by sounds rather than by sight that the season takes possession of the senses, and makes us realize that it has come. It is by a bird, and not by a leaf or flower, that Spring first proclaims herself. The flower lies next to the heart of earth, and one would think it should be the first to feel the pulse of renewal; but no, it is the bird of the air that heralds the coming of spring.

"Already, in April, the woodcock is practicing his sky-dance, and a snow-flurry during the first half of the month may whiten the back of his mate brooding on her nest among the withered leaves. In April flocks of fox sparrows increase and pause on their northerly migration. The white-throated sparrows, travelling in still more leisurely fashion, pause wherever there are seeded weeds and grasses, and mingle their exquisite little piping song with that of the purple finch and vesper sparrows; while the song sparrow, that was perhaps present as an individual all winter, becomes legion in a single night; and presently the tremolo of the chipping sparrow, insect-like, though of different quality, sounds at dawn from the ground or a low bush, where he sits with head thrown back in rapture."

Toward the middle of April, the swallows return with

their pretty call-notes and lispings, and the ear and eye are often piqued by the voices and plumage of many warblers. Should the last week in April be fair, and the leaves of the birches and swamp maples old enough to throw a faint shadow in reply to the golden signal of the willows, we may prepare to welcome the woodthrush, catbird, brown thrasher, and housewren. "When we see the latter tip-tilting and scolding about the repairs necessary to his last year's residence, we know that spring, in all its promise and fullness, is but lingering around the corner, coyly arranging her drapery before dancing into our sight."

Some of these birds go on to make their houses in the far North, but many remain with us; yet we do not get the full enjoyment of their company in many cases because our civilized ways are likely to send them into the retirement of the wilder places. To counteract this, and keep the birds about our houses and gardens, not only for the enjoyment of their presence, but for their value as destroyers of noxious insects, we must aid their home-making.

During the season when birds are engaged with their domestic duties they are usually a very wise little people. They know perfectly well whether a region is calculated to provide them with sure and safe nesting-sites, and whether sufficient food and water are accessible for their daily wants. A little of this same wisdom on our part, and a comparatively small expenditure, might make a bird-paradise of almost any country estate, or protected garden, park or cemetery.

Properly constructed bird-boxes, wisely placed, have often proved to be a means of increasing bird-life to an astonishing degree, and this is absolutely the only means of getting hole-nesting varieties to remain during the summer in places from which all standing dead wood has been removed. How such boxes, adapted to the different kinds of birds, ought to be constructed, and where they should be situated, may be learned by consulting The National Association of Audubon Societies, 1974 Broadway, New York, which will supply printed instructions at a trifling cost. It is not an expensive or laborious matter to provide houses for the birds.

So writes Mr. T. Gilbert Pearson, the Secretary of the Association mentioned above, in a circular lately issued urging that cemeteries be made sanctuaries for birds by the use of these simple means.

"Throughout this country," he pleads, "there should be a concerted effort to convert the cemeteries, the homes of our dear friends who have gone away, into sanctuaries for the bird-life of this land. And what isolated spots could be more welcome to the birds than these places, that hold so many sad memories for human beings? . . . In many a cemetery orioles may be tempted to weave cradles among the swaying elm limbs, if strings and fragments of brightly colored yarns are placed where the birds may find them.

"Other means of rendering a cemetery alluring to nesting birds will readily present themselves, when one develops an active interest in the subject. It takes only a little thought, a little care, and a little trouble, to make it possible for many birds to dwell in a cemetery, and it must be remembered that unless they can nest there, the chances are that no great amount of bird-music will fill the air.

# American Association of Park Superintendents

## OFFICIAL COMMUNICATIONS.

EMIL T. MISCHE, President, Portland, Ore. R. W. COTTERILL, Sec.-Treas., Seattle, Washington.

### ASSOCIATION NOTES.

The question of the exact date of our 1916 convention will be determined by a mail vote of the executive committee during this month. Very few members responded to the appeal made in last month's CHRONICLE for an advisory ballot by our members. We are in doubt as to whether it is because members do not read these columns or just indifference. At any rate at this writing (April 6) the secretary has heard from just half a dozen members on the subject, and all of these favored October. A definite announcement of the action of the executive committee will be made in the next issue.

The following of our members were in attendance upon the National Flower Show at Philadelphia early this month: Theodore Wirth, Geo. Bergevin, Alex Cumming, M. C. Ebel, W. J. Stewart, Dan McRorie, F. J. Huss, F. L. Mulford, Chas. Seybold, and Wallace R. Pierson.

Gustave X. Amryhn, of New Haven, has recovered from injuries in a railroad accident some time ago and is now able to be on the job again in New Haven parks.

Francis J. Huss, of Hartford, recently was awarded a First Certificate by the Connecticut Horticultural Society for an exhibit of Cinerarias from Goodwin Park. Mr. Huss also delivered an address on the subject.

Wm. S. Manning, of Baltimore, was married recently to Miss Ida Dorothy Pfeiffer, of East Orange, N. J. Our congratulations and best wishes are extended.

This department is going to be rather short of news this month for two very good reasons. The president is sore because the members (with but five exceptions) failed to respond to his request for a program of articles on subjects assigned for publication in these columns, and the secretary has been unable to get any news from members.

Beginning with next month we hope to start a series of illustrated articles descriptive of the park systems of cities of the South, so that our members who contemplate attending the New Orleans convention will have an idea of what there is to be seen and can better decide as to their route and what stop-overs to make.

### BILL TO ESTABLISH A NATIONAL PARK SYSTEM.

At the suggestion of the American Civic Association of Washington, D. C., Congressman Wm. Kent has introduced a bill (H. R. 8668) for the establishment in the Department of the Interior of a service to be called the National Park Service, which shall be under the charge of a director who shall be appointed by the Secretary, and there shall be in said service such assistants and other employees as the Secretary of the Interior shall deem necessary. The directors shall have the supervision, management, and control of the several national parks, national monuments, Hot Springs Reservation in the State of Arkansas, and such other national parks, monuments and reservations of like character as may hereafter be created or authorized by Congress. Representative Kent asks those who are in sympathy with this bill to develop national playgrounds, to inform the Senator of their State and the Congressman for their district.

## What Small Communities Can Do in Park Work

By Conrad C. Wolf, Minnesota

**I**N order that the reader may better understand why the park system of Hibbing, Minn., is developed in a merely temporary way, I must first state the peculiar situation and conditions with which we are confronted.

The history of Hibbing dates back twenty-two years; at that time only a small lumber camp in a dense forest of magnificent White and Norway Pines. No one in those days had an idea or thought of iron ore deposits in this section. This original lumber camp was incorporated as a village and grew rapidly; substantial business blocks were erected, public improvements such as streets, water and sewer systems were put in place, everything giving the impression of a lively community of permanency. Then iron ore was discovered and it proved step by step that the village had been located upon the richest body of iron ore yet found.

While this place still is spoken of as a "village," its wealth and importance to the iron industry and even to the world is greatly out of proportion to its size.

The population of Hibbing is at present 15,000, while during the shipping season (April to November) the population increases sometimes to 20,000 and more. Its assessed valuation is more than \$89,000,000. The Hibbing district is estimated to contain half a billion tons of iron ore, richer in content and more accessible than a like quantity in a like area in any other part in the world.

Seventy-five per cent. of the population are foreigners, are of the hardy peasant class, full of life, ambition and determination.

The fact that Hibbing is located upon so rich a body of iron ore, and that millions of tons are shipped annually, makes it certain that some day all the wealth will be gone; and while Hibbing today is practically surrounded from all but one side by huge open pit mines, in time it will have disappeared altogether and of course the parks and boulevards will share the same fate.

Now the reader may think, why cannot the village council and the park board get together and purchase a suitable piece of property for park purposes off from the ore body? The answer is, Hibbing is just like a little island in a large area of property which is owned or controlled by mining companies or the United States Steel Corporation, and of which not a square foot could be had at any price; and to build a park off the ore body would be useless, for the distance from the populated district would be too great to be of any benefit to those people who need a park the most.

For these several reasons we have to content ourselves to build parks and playgrounds on places which eventually will have to give way before the mighty steam shovel.

While Hibbing is the richest village on earth and has millions of dollars in taxable property from which to draw funds for the conduct of its municipal affairs, and although it has spent a great deal of money for needed modern improvements the last few years, the apportionments for park purposes have been very moderate. The table below will show the annual park appropriations since the inception of the Park Board, and how the money was spent.

At present we have a total area of sixty-five acres of developed parks, which are in three separate sections of Hibbing. Over eight miles of boulevards have been graded, seeded and planted with shade trees. A cemetery containing fifteen acres has been improved by building roads and walks, by planting 1,200 shade trees and by establishing lawns and flowerbeds. The St. Louis County Fairgrounds containing 160 acres, of which about twenty acres nearest to the most important buildings have been improved. Also the grounds of the Detention Hospital, Carnegie Library and of other public buildings have been improved considerably.

We operate two greenhouses each twenty-three by one hundred feet in connection with our park system at an average annual expenditure of \$3,000.

We grow all the annual and perennial plants needed for the beautification of the parks and other public places and buildings. Over 38,000 plants were raised last season and used exclusively for this purpose. Two flower shows have been staged every year in these greenhouses, namely, a chrysanthemum show and a display of Easter plants.

One fifty-foot section of the greenhouses is arranged and used as a conservatory, with a goldfish and lily pond in the center. In this section we keep plants of special interest to the public, and in order to help in an educational way the pupils of botany, and all children of our local schools in general, who visit the greenhouses in large classes with their teachers.

Two out-door concerts every week are given regularly during the summer season from May 1 to September 1, while during the winter months one indoor concert each month is provided. These concerts surely are appreciated by the public, and the attendance at all of those concerts exceeded our expectations. We are giving much attention to, and believe it very important to educate the people in this community on horticultural lines, and try to induce them to beautify their own home grounds; also to get the poor people interested in vegetable gardening, and I must say we have been very successful in our efforts, judging from the general appearance of Hibbing today, as compared to prior to the Park Board's campaign. We are aiding every citizen free of charge, to trim trees and shrubs and even do it for them on application, and assist them in an advisory capacity in the improving of home grounds and general gardening. Many attractive prizes have been offered every year for home ground improvements and also for individual vegetable gardens to further encouragement.

A large tract of land at Bennett Park was prepared and divided into lots about fifty by seventy-five feet each, which were given to citizens upon application for one season for vegetable gardening. One of these lots was operated by the park department as a demonstration garden, where people not acquainted with gardening could see and learn how the work had to be done and could get all the information they wanted.

The results obtained by these methods, of inducing the people to beautify their home grounds, or to make

them productive as a vegetable garden, and to convince the people of the wholesome and profitable outdoor exercise surely has been very gratifying in Hibbing. I am convinced that all the people, once started in this line, will continue year after year, encouraged by their own results; setting a good example to those who as yet have not taken up this splendid and beneficial occupation.

Our operations for the last two years included not only the work contemplated at the beginning of each fiscal year, but we have upon the request of the local school board and the Hibbing Athletic Club laid out an athletic field, built a grand stand and bleachers, and improved the grounds surrounding the various school buildings. This work amounted to \$15,000 for which we were reimbursed.

I deem it unnecessary to dwell upon the special features, the unique arrangements and equipment, of which we have quite a few in our parks, as I believe that each community or city has them, perhaps in a different design or material, but serving the identical purpose; whatever may be found in natural local conditions and material most prevailing, and if taken advantage of. We aim to keep our parks in the natural, rustic style, preserving the natural groves, and adding wherever necessary and possible with native trees and shrubs, of which we find a great number of varieties and in large quantities in the nearby forests. We make it a special point to call the people's attention to those native trees and shrubs, and show them their usefulness and merit in beautifying parks and home grounds. This idea and spirit has been taken up and copied by the local people very readily and good results have been obtained.

The greatest majority of the people in this community, and I dare say the people of northern Minnesota, thought that this section of the country is too far north, and the climate too severe to successfully carry on horticulture or agriculture of any kind; however, since the activities of park departments in the several cities and villages on the Mesaba Iron Range have been so successful the last few years, the people at large show more and greater interest and encouragement all around, and many believe that this is as good a section of the "U. S. A." as any.

In summing up the activities of our park department, I may state that while the park board was formed mainly to build and maintain places for recreation and play, it is doing its utmost to educate, encourage and to convince the people that we can have beautiful flowers, trees and shrubs, and that this soil and climate will produce everything necessary for the table from the vegetable garden. In order that the people may follow the right course, that success may crown their work, and that failures and disappointments may be avoided (for which generally the country is blamed), we have made our parks in addition to a place for recreation and play, a place of educational and of practical demonstration for the benefit of the people, the community and the surrounding country in these several lines.

STATEMENT SHOWING PARK APPROPRIATIONS AND DISBURSEMENTS FROM FEBRUARY 1, 1912, TO JANUARY 31, 1916.

Year.	Funds Available.	Construction.	Buildings and Enclosures.	Maintenance, Including Salaries.	Tools and Equipment.	Entertainment and Educational.	Total Expenditures.
1912 .....	\$26,000.00	\$17,384.66	\$4,580.55	\$3,105.66	\$483.82		\$25,554.69
1913 .....	45,000.00	26,567.20	3,657.99	7,496.72	1,276.25	\$1,928.95	40,927.11
1914 .....	57,072.89	32,107.47	8,011.85	10,882.37	1,492.24	3,370.06	55,863.99
1915 .....	23,700.70	7,906.57	259.69	11,078.36	372.65	2,700.00	22,317.27
Totals .....	\$151,773.59	\$83,965.90	\$16,510.08	\$32,563.11	\$3,624.96	\$7,999.01	\$144,663.06

DAHLIAS AND THEIR CULTURE.

(Continued from page 190.)

Collarette dahlias seem to withstand wilting and hold their petals much better than the singles although apparently differing from them so slightly.

Dahlia tubers should not be dug until they have matured as much as possible, but must not be left in the ground long enough to be in danger of freezing. They should stand for a few days after killing frost to allow the tubers to utilize the plant food in the stems. The stems should then be cut off close to the surface of the ground, which will leave from four to six inches of stem attached to the clump. The clumps should then be lifted with spade or spading fork, inserting the tool in the ground at least eight inches from the stem, since the tubers of many varieties extend far out into the soil. The clumps should be exposed to sun and air for a few hours to remove surplus moisture and then removed to winter quarters.

The storage room should be moderately dry and with a temperature ranging between 40° and 50° if possible, under which conditions it is only necessary to place the clumps, with the stems down, in boxes, barrels or bins, or in a loose pile on the floor of the cellar or other storage room. The smaller clumps should be placed at the bottom where there is least danger of drying out, and the heavy-tubered, succulent-stemmed clumps on the outside of the pile. If the temperature is liable to rise much above 50° for any considerable time or if other conditions tend to drying out of the tubers, the clumps should be buried in moist, not wet, sand, fine coal ashes, sawdust or similar materials which will aid in maintaining uniform conditions and prevent shriveling of the tubers from drying. Any excess of moisture should be avoided, as favoring the growth of rot-producing fungi.

\*Extracts from Bulletin 43—New York Agricultural Experiment Station.

ERLANGEA TOMENTOSA

ONE of the best plants of recent introduction we have found to be *Erlangea tomentosa*. Coming in flower, as it does in late fall and early winter, makes it quite an acquisition, as we have not any too many flowering plants at that season.

*Erlangea tomentosa* is a native of tropical Africa, and yet it does not require a high temperature to grow it well. If it is desired to bring them along at different times, *Erlangeas* may be kept as low as forty-five degrees night temperature in a good airy dry atmosphere. The flowers are a beautiful shade of lilac and are useful as cut flowers. They are also easily grown into shapely specimen plants. Another trait we have noticed this spring is that cuttings rooted last January and given two pinchings are now in full flower. The old plants that were cut back after flowering in the fall are also all set with flowers. Cuttings of *Erlangea* are easily propagated in a temperature around sixty degrees, and may be potted singly in a good sandy loam as soon as roots are formed. *Erlangeas* are vigorous growers, and in all future pottings a good rich loam, similar to what is used for chrysanthemum, may be used. Pinching must be done regularly to form a nice symmetrical plant, and may be continued until the end of August. When well rooted in their flowering pots, waterings with weak liquid manure may be given. Water twice with clean water between applications. An occasional change with some fertilizer such as "clays" is advisable. During the summer months keep as cool as possible, and

when fall arrives a night temperature of fifty degrees is ideal. We have found that fumigations with tobacco powder or stems is liable to injure the tips of the shoots, but we do not find that nicotine liquid has any bad effects. We believe that *Erlangea tomentosa* should have place in all private collections of greenhouse plants.

GEORGE F. STEWART,

BOSTON'S SPRING SHOW.

THE Massachusetts Horticultural Society is making extensive preparations for a great exhibition in May. In addition to the regular schedule the following attractive prizes are announced:

PLANTS.	First.	Second
AMARYLLIS—25 pots, not less than 12 varieties. Prizes contributed by Mrs. John E. Thayer and "a Friend".....	\$50	\$25
AZALEAS—Indica. To cover not more than 200 sq. ft. Prizes contributed by Oliver Ames and John S. Ames.....	100	50
ORCHIDS—Group arranged for effect, covering 200 sq. ft., any foliage may be used. Prizes contributed by E. B. Dane, A. W. Preston, and H. E. Converse. Gold Medal and Silver Medal.....	200	100
RHODODENDRONS—Group, not exceeding 300 sq. ft., any variety admissible. Prizes contributed by George E. Barnard and R. M. Saltonstall.....	100	50
Group, not exceeding 300 sq. ft., varieties which have grown in Massachusetts without protection for at least five years. Prizes contributed by Mrs. Chas. G. Weld and R. M. Saltonstall.....	100	50
ROSES—Group to cover not more than 200 sq. ft., all classes admissible. Prizes contributed by Edwin S. Webster.....	100	50
ARTISTIC DISPLAY OF FLOWERING PLANTS—To cover not less than 200 sq. ft., any foliage may be used in arrangement. Prizes contributed by Mr. and Mrs. Bayard Thayer and T. B. Bemis. Cup and Silver Medal..	100	50
DISPLAY OF HERBACEOUS AND ALPINE PLANTS—Arranged to produce either natural or rock garden effects covering not more than 200 sq. ft. Prizes contributed by Chas. A. Stone, Atty. ....	100	50

FLOWERS.

CARNATIONS—Display, covering not more than 100 sq. ft., any material may be used in arrangement. Prizes contributed by Arthur F. Estabrook and S. Buttrick.....	100	50
ROSES—Display, covering not more than 100 sq. ft. Prizes contributed by Gen. S. M. Weld and S. Buttrick.....	100	50
DISPLAY OF CUT SPRAYS OF HARDY TREES, SHRUBS, OR VINES—Foliage of hardy evergreens may be used in arrangement. Prizes contributed by Walter Hunnewell and Mr. and Mrs. Bayard Thayer.....	100	50

NOTE—To be kept in good condition throughout the exhibition and to be judged each day. Prizes to be awarded Saturday.

NOTE TO EXHIBITORS—Any competitor winning a \$100 prize may elect to be awarded a gold medal or cup instead of cash, and any competitor winning a prize of less than \$100 may elect to be awarded a cup instead of cash.

INJUNCTION AGAINST TREE SURGERY INFRINGEMENT DENIED.

The motion for a preliminary injunction in the case of the Davey Tree Expert Company against Clifford H. Easton was denied by the District Court of the United States, Southern District of New York, on April 4. Infringement of the Davey patents on tree surgery was charged. It is said the case will be brought to a final hearing at an early date.

## From Here, There and Everywhere

**A BLUE GARDEN.** Things out of the ordinary, although artistic, seem to be much in demand in the way of laying out gardens.

A garden made up entirely of blue flowers, with a white or light colored residence in the center or in the background, produces a beautiful aspect.

The blue garden itself need not remain a hobby of the rich only, as the outlay for the bulbs, plants, etc., is not extremely great, but the successful arrangement of such a garden requires some exact knowledge of bulbs, roots and plants which will produce blossoms of a really blue color. A number of such varieties we mention below, and those who would like to lay out a blue garden should buy a quantity of bulbs, roots and plants and set them out at the right time, so that a good root-growth will be made before flower stems begin to shoot up. When freezing weather comes on, the planted area should be protected with a covering of straw or leaves. Hyacinths and gladioli must be entirely protected from frost, while other bulbs or roots only want a little protection, to prevent the frost and wind from taking a direct hold of the ground. The covering should be taken off when the bulbs have thrown up shoots about two inches long, or earlier if heavy frosts are over.

### SOME BLUE FLOWERED VARIETIES.

**Hyacinths**—There is a wide range of these exquisite blossoming bulbs, in navy-blue, sky-blue, porcelain, indigo, light and dark blue and violet, in both single and double varieties, viz.: Grand Lilas, Grand Maitre, Johan, King of the Blues, Queen of the Blues, Regulus, Schotel, Bloksberg, Charles Dickens, Lord Raglan and Othello.

**Tulips**—In the blue and violet shades, among the best in early singles are Couleur Cardinal, La Remarquable, Moliere, Potter, President Lincoln, Van der Neer and Wouwerman; in doubles, Lac van Haarlem, Blanc Borde, Blue Flag and Rhinoceros. In the Darwin or single late-flowering tulips we can most highly recommend in the blue shades Dream, Faust, Kate Greenaway, Mrs. Potter Palmer, Nora Ware, Nymph, Rev. Ewbank, Violet Queen and William Copeland.

**Crocuses** come next, in varieties like Albion, Baron van Brunow, Maximilian C. purpurea grandiflora, etc. And do not forget the Muscari botryoides, blue (grape hyacinths), Scilla Sibirica, Campanula oerulea, chionodoxas, Babiana purpurea, Camassia esculenta and Erythronium Dens-Canis. You can also use Iris Anglica, Hispanica, Germanica and Kaempferi, in varieties like Bleu Mourant, King of the Blues, Prince of Wales, Alexander von Humboldt, Darling; I. formosa, australis and neglecta; Violet Queen, Uncle Tom, Atlantis, Kleber, Rossini, etc., all in the most striking blue and violet colors.

For later blue shaded flowers such gladioli as Adeline Patti, Baron J. Hulot, Blue Jay, Faust, King of the Blues, Master Wietze; also the single and double blue anemones, delphiniums, phloxes and Aconitum Fischeri will do nicely.

In this way blue or blue shaded flowers can be found in each garden from the time the snow is gone till Jack Frost comes again.

**ELECTRICITY AND TREES.** It is a fact worth noting that when an arc light is placed in such way that a tree will be under its rays all night, the tree inevitably loses its vitality and dies. We do not remember having seen this matter discussed, but observation through many years proves it to be true.

Just what the cause is, we are unable to say, unless it lies in the fact that trees, to grow and thrive, must have a certain number of hours darkness out of each twenty-four. The laws of nature are exactly and evenly balanced. It has been proven that a human being grows only in the daytime, and that trees grow only at night. As man goes about his business during the hours of day he breathes the oxygen out of the atmosphere and throws the carbonic acid gas back into the elements. In growing at night trees absorb this carbonic gas out of the atmosphere and throw off the oxygen. From carbonic acid gas the wood and sap of the trees is made. So we find that the original adjustment of these mysterious things was fashioned by the Almighty just right. Any attempt of man to reverse the laws of nature has always met with defeat and disappointment.

It is just as reasonable to believe that a healthy tree could be produced if it was kept continually in the light, as it is to believe that vegetation will thrive if planted or transferred to a dark place? We know that a stalk of corn planted where the light of the sun can not fall upon it will bleach and finally pine away and die, and it is probable that if the same stalk could be kept continually in the light it would likewise dwindle and die. In the dispensation of Providence it required day and night to make the

correct balance for universal creation and that balance can not be changed.

In placing arc lights they should always be set as far as possible from trees which the owners desire to preserve. Another argument against placing lights near trees is that the lights attract to that immediate vicinity every specie of bug and fly, and when daylight comes they take refuge in the branches of the tree to deposit their eggs and prey on the vitality of the tree.—*South-western Electrician*.

**A VARIABLE PHLOX.** The passage of time has only served to confirm the opinions expressed when the silvery lavender phlox *Phlox argillacea* was described as a new species nearly four years ago. It has maintained its specific characters in a variety of situations and comes true from seed without showing any trace of *Phlox pilosa* which has been suggested as its probable ancestor. In general appearance *Phlox argillacea* does resemble this latter species, but no more so than it does another species, *Phlox glaberrima*, which grows in the same general region. It is hairy, like *pilosa* and tall like *glaberrima*, but the blossoms are unlike either and the time of flowering comes between these two species. Possibly the species began as a sport from one or the other of its allies, but it has progressed along its own lines until it is quite unlike either. That it is not a hybrid is shown by its coming true from seed, and by its differently colored flowers. There is no other species of phlox in the neighborhood with flowers of a similar color.

One of the interesting things connected with the silvery lavender phlox, writes Willard N. Clute in *The American Botanist*, is its tendency to vary within certain lines under cultivation. The variations in flower color, are of course, most noticeable, but it also presents differences in the size and shape of the blossoms, in height and in floriferousness. By selective breeding, four principal strains of flowers have been developed. At one extreme are found flowers of pure ivory white and at the other, flowers of fine, clear violet. Between these there is one strain of pale lavender with deeper lavender nectar guides and another of lavender with a pink eye. In addition to these there are many forms that might be made the basis of further breeding experiments with encouraging results.

A visit was recently made to the type locality of the species in search of other interesting variations from the type, and some two hundred specimens were brought home for further study. There is no doubt but that in this species we have a series of forms quite as extensive and remarkable as those found in the evening primrose which have recently received so much attention. In the short space of time during which the plant has been under cultivation, it has shown a remarkable capacity for responding to good treatment. In the wild, it seldom sends up as many as a dozen flowering stems—usually the number is less than half a dozen—but in the writer's garden single plants have produced more than 125 flowering stems at one time.

**THE MAPLES** Reproduced from *Japan*, a magazine published in Tokio, the following vivid picture may be found the more typical of the Japanese autumn from the slight traces of the native idiom in the often excellent English: "The sight of this month in Japan is maple, momiji or koyo, which literally means 'scarlet leaves.' These foliage turn crimson-scarlet, vermilion, carmine-coppery, or lake-red, according to different varieties, exhibiting a magnificent view. The flushing of the maple starts about the middle of October, lasting till the later part of November.

"It would be really difficult to appreciate the beauty of the sight given by the maple in Japan without visiting one of its reputed resorts. No amount of words can adequately depict the scene displayed by a maple grove. One can, indeed, by a stretch of imagination obtain a vague idea of what a maple resort in its zenith of splendor and sumptuousness looks like. Think of a tree whose branches and twigs are thickly laden with the little palm-like leaves, scarlet-red, gamboge or gold; think further of this tree attaining from thirty to fifty feet in height. This is no doubt pretty; and would be an attractive sight in a garden. But such a view gives nothing of a kind of the impression that a maple resort in Japan is capable of imparting to one. It is not a single tree, however large, but an assemblage of hundreds, nay, thousands, that is required in the display of a sight that deserves a description by the word 'magnificence.'

"The striking feature of the beauty of the maple in Japan is in its vastness and wilderness, in its thick groves or assemblage of countless trees, rather than in its individual tree. It is the sumptuous, gorgeous foliage growing on the interlocking branches



and extending for miles on mountain sides or valleys, at the bottom of which flow the shimmering blue streams. Looked down upon from a prominence, these groves of maple exhibit an impressive grandeur and exquisite beauty, which utterly defy an attempt at word description. The vivid, yet delicate, red, mingled with the brilliant, yet pleasing, yellow leaves are not surpassed even by the gay cherry or the showy chrysanthemum. Hills and mountain sides covered by the maple forests, indeed, present a great, imposing spectacle. One can hardly claim to have seen the real autumn of Japan until one visits one of the maple spots on mountain sides or in valleys.

"Nearly thirty different species of maple are found in Japan, including acer argutum, palmatum, pictum, distylum, crataegifolium, cissifolium, parviflorum, purpurescens, tartaricum, spicatum, carpinifolium, nikoense and pyrenanthum."—*Monitor*.

#### VIOLETS IN THE GARDEN.

More use should be made of violets in the open air garden. We all know what handsome blossoms they produce under frame cultivation, but when they are used outdoors much of the labor necessary in frame cultivation is dispensed with.

It is the stronger-growing varieties which provide us with such excellent material, and wherever a favorable position is at hand we should furnish it with some of the lovely single forms at our disposal. Usually we are recommended to plant Violets on north or shady borders, but this does not always apply; indeed, it is misleading to those who desire an outdoor display early in the year. For this purpose a rather sunny position should be chosen.

Violets are used to carpet the ground below climbing Roses and other climbers, where they may remain for two or three years without disturbance; also at the base of pergolas, where they give color when the things above them are bare. Some have also been planted among Azaleas, where not crowded, and promise well, the Azaleas providing a slight shade in summer and admitting full sun and light in winter. By growing them in this way the trouble of propagating is dispensed with, for they root so freely as to provide an abundant supply of healthy young plants which are available for further extension. If the plants are put out in April where intended to remain, a good supply of flowers will be forthcoming the following season. Leave the runners on the plants, as these will bloom at the leaf-joints. The mingled leaves and flowers of these long growths are very useful for draping vases, etc. One important point in growing these choice flowers is shelter from bleak northeast winds. A change of ground should be provided every few years.—*Gardening Illustrated* (English).

#### PRIMULA MALACOIDES.

Since its introduction some years ago this pretty and graceful species has received considerable attention owing to its being easily raised from seed and capable of being grown successfully with a minimum of trouble. From seed it is possible to reach the flowering stage in about four months, and this fact commends it to the notice of amateur growers. For greenhouse or conservatory decoration it is extremely useful, as during the winter months its delicate pink or lilac flowers are produced in the greatest profusion, even in very small pots, in a compost of good rich loamy soil. For outside culture it is very satisfactory when planted on the rock garden in sheltered, well-drained spots, and it will seed naturally in such a position. As is generally the case with Primulas, it has produced several forms which are superior in certain respects to the typical species, one of which is known as *P. malacoides robusta*. This is characterized by its robust growth of foliage and stem, and larger flowers, produced in several whorls often two feet in height. This distinct robust habit should render it of great use for pot culture, as the stiff stems are thrown well out from the base of the plant, and it is distinct in every way from all others.—*Exchange*.

#### THE JAPANESE WINDFLOWERS.

In the waning days of autumn, when the morning and evening mists have enshrouded the flowers of the outdoor garden and, in too many instances, marred their beauty, we appreciate those that come out of the ordeal unscathed. Among the most beautiful of these are the Japanese Windflowers or Anemones, tall yet graceful flowers, quite unlike the dainty little native species that bespangle the greensward of our coppices in the gusty days of spring. These Japanese Anemones, by their very stature and bearing, are admirably adapted for grouping in the herbaceous border, in large lawn beds, the edges of shrubberies, or by the side of a pond or lake. They are never seen to better advantage, particularly the varieties with white blossoms, than when massed, in large bold groups, with a background of dark green foliaged trees, these serving to accentuate the glistening purity of the daintily poised blossoms. When to the trees water is added, in which the flowers are reflected with a shimmer of light and shade, we begin to realize how indispensable these hardy plants are in the garden at this season. Nor must we overlook their usefulness for cutting. It is almost impossible to arrange them inartistically, their long stems and light, graceful flowers enabling the veriest tyro to create a picture of sublime beauty with these and autumn foliage.

Fortunately, the cultivation of the Japanese Anemones does not present any great difficulties. What they do appreciate is deeply cultivated and well manured soil, and that with a good proportion of clay in it. One is often asked to name plants that will thrive in clay soil, and the Japanese Windflower is one of the best.

As the roots are long and thick, with but few fibres, transplant-



*Japanese Anemone, Queen Charlotte, Large Pink Flowers.*

ing is not advisable more often than is absolutely necessary; indeed, a good rule to follow is to disturb the plants as little as possible. In forming new beds or groups in borders, the planting may be done in late autumn or early spring, and pieces of root with as many fibres as possible should be given preference to those of a less fibrous character.—*The Garden* (English).

#### COLOR IN ROCK GARDEN.

(Continued from page 193.)

Heavenly Blue, *Gentiana verna* and *G. acaulis*, *Alyssum saxatile* and the paler *A. s. citrinum*, *Iberis Little Gem*, *Cheiranthus Allioni*, *Aubrietias* in variety *Daphne Cneorum*, *Æthionema Warley Rose*, *Campula pusilla*, *C. Steveni alba*, and other dwarf-growing species, *Onosma taurica*, *Saponaria ocymoides*, *Dianthus alpinus*, *D. squarrosus*, *Aquilegia glandulosa*, *Androsace Chumbyi*, *Edraianthus serpyllifolius*, and numerous *Saxifragas* of the mossy type.—*Gardeners' Magazine* (English).

#### A NEW BOOK ON ROSE CULTURE

"How to Grow Roses" is the title of a book published by the Conard & Jones Company, West Grove, Pa., designed to broaden the interest in rose culture. It is a compact volume, handsomely illustrated, of useful information valuable to professional and amateur alike.

Its chapters on Preparing to Grow Roses, Planting, Protecting the Roses, Pruning, Selecting the Roses, furnish the practical knowledge essential to successful growing, while other chapters are devoted to historical facts, appropriate uses of the rose, its increasing popularity and a list of dependable varieties naming 158 choice roses. A list of selections for special sections of the United States is contained in the book, a most helpful guide to amateurs in the proper selection of varieties to suit the variable climatic conditions of our country.

All devoted to the cultivation of the rose will find much in the pages of this book to interest them.

## NATIONAL ASSOCIATIONS

- National Association of Gardeners.**  
M. C. Ebel, secretary, Madison, N. J.
- Society of American Florists and Ornamental Horticulturists.**  
John Young, secretary, 54 West 28th st., N. Y.
- American Carnation Society.**  
A. F. J. Bauer, secretary, Indianapolis, Ind.
- American Dahlia Society.**  
Joseph J. Lane, secretary, 11 West 32d st., N. Y.
- American Gladiolus Society.**  
Henry Yonell, secretary, Syracuse, N. Y.
- American Peony Society.**  
A. B. Saunders, secretary, Clinton, N. Y.
- American Rose Society.**  
B. Hammond, secretary, Fishkill, N. Y.
- American Sweet Pea Society.**  
H. A. Bunyard, secretary, 40 West 28th st., N. Y.
- Chrysanthemum Society of America.**  
Charles W. Johnson, secretary, Morgan Park, Ill.
- Women's National Agricultural and Horticultural Association.**  
Miss Margaret Jackson, secretary, Englewood, N. J.

## LOCAL SOCIETIES

- Bernardsville Horticultural Society.**  
W. G. Carter, secretary, Bernardsville, N. J.  
First Monday every month, Horticultural Hall, 7:30 p. m., Bernardsville, N. J.
- Boston Gardeners' and Florists' Club.**  
William N. Craig, secretary, Brookline, Mass.  
Third Tuesday every month, Horticultural Hall, Boston, Mass., 8 p. m.
- Cleveland Florists' Club.**  
Frank A. Friedley, secretary, 95 Shaw avenue, East Cleveland, Ohio.  
Second Monday every month, Hollenden Hotel, Cleveland, Ohio.
- Cincinnati Florists' Society.**  
Alex. Ostendorp, secretary, Cincinnati, Ohio.  
Second Wednesday every month, Jabez Elliott Flower Market.
- Connecticut Horticultural Society.**  
Alfred Dixon, secretary, Wethersfield, Conn.  
Second and fourth Fridays every month, County Building, Hartford, Conn., 8 p. m.
- Detroit Florists' Club.**  
R. H. Wells, secretary, 827 Canfield avenue, Detroit, Mich.  
Third Monday every month, Bomb Floral Hall.
- Dobbs Ferry Gardeners' Association.**  
Henry Kastberg, secretary, Dobbs Ferry, N. Y.  
Second and fourth Saturdays every month.
- Dutchess County Horticultural Society.**  
Theo. H. DeGroof, secretary, Hyde Park, N. Y.  
Second Wednesday every month, Fallkill Bldg., Poughkeepsie, N. Y.

**Elberon Horticultural Society.**  
George Masson, secretary, Oakhurst, N. J.  
First Monday every month, Fire Hall, Elberon, N. J., 8 p. m.

**Essex County Florists' Club.**  
John Crossley, secretary, 37 Belleville avenue, Newark, N. J.  
Third Thursday every month, Kreuger Auditorium.

**Florists' and Gardeners' Club of Holyoke and Northampton, Mass.**  
James Whiting, secretary, Amherst, Mass.  
First Tuesday every month.

**Florists' and Gardeners' Club of Rhode Island.**  
William E. Chapell, secretary, 333 Branch avenue, Providence, R. I.  
Fourth Monday each month, Swartz Hall.

**Gardeners' and Florists' Club of Baltimore.**  
N. F. Flittin, secretary, Gwynn Falls Park, Sta. F, Baltimore, Md.  
Second and fourth Monday every month, Florist Exchange Hall.

**Gardeners and Florists of Ontario.**  
Geo. Douglas, secretary, 189 Merton street, Toronto, Canada.  
Third Tuesday every month, St. George's Hall.

**The Horticultural Society of New York.**  
Geo. V. Nash, secretary, Bronx Park, New York City.  
Monthly, irregular, May to October, New York Botanical Garden, Bronx Park, New York. November to April, American Museum of Natural History, 77th st. and Columbus ave., New York.

**Houston Florists' Club.**  
A. L. Perring, secretary, 4301 Fannin street, Houston, Texas.  
Meets first and third Monday, Chamber of Commerce Rooms.

**Lake Geneva Gardeners' and Foremen's Association.**  
Raymond Niles, secretary, Lake Geneva, Wis.  
First and third Tuesday every month, Oct. to April; first Tuesday every month, May to Sept., Horticultural Hall.

**Lenox Horticultural Society.**  
John Carman, secretary, Lenox, Mass.  
Second Wednesday every month.

**Los Angeles County Horticultural Society.**  
Hal. S. Kruckeberg, secretary, Los Angeles, Cal.  
First Tuesday every month.

**Massachusetts Horticultural Society.**  
William P. Rich, secretary, 300 Massachusetts avenue, Boston, Mass.

**Menlo Park Horticultural Society.**  
Percy Ellings, secretary, Menlo Park, Cal.  
Second Thursday each month.

**Minnesota State Florists' Association.**  
Gust. Malmquist, secretary, Fair Oaks, Minneapolis, Minn.  
Third Tuesday every month.

**Monmouth County Horticultural Society.**  
Harry Kettle, secretary, Fairhaven, N. J.  
Fourth Friday every month, Red Bank, N. J.

**Montreal Gardeners' and Florists' Club.**  
W. H. Horobin, secretary, 283 Marquette st.  
First Monday every month.

**Morris County Florists' and Gardeners' Society.**  
Edward J. Reagan, secretary, Morristown, N. J.

Second Wednesday every month, except July and August, 8 p. m., Madison, N. J.

**Nassau County Horticultural Society.**  
Henry Gibson, secretary, Roslyn, N. Y.  
Second Wednesday every month, Pembroke Hall, 7 p. m.

**New Bedford Horticultural Society.**  
Jeremiah M. Taber, secretary, New Bedford, Mass.  
First Monday every month.

**New Haven County Horticultural Society.**  
W. C. McIntosh, Secretary, 925 Howard avenue, New Haven, Conn.

**New Jersey Floricultural Society.**  
Geo. W. Strange, secretary, 216 Main street, Orange, N. J.  
Third Monday every month, Jr. O. W. A. M. Hall., 8 p. m.

**New London Horticultural Society.**  
John Humphrey, secretary, New London, Conn.  
Second Thursday every month, Municipal Bldg.

**New Orleans Horticultural Society.**  
C. R. Panter, secretary, 2320 Calhoun street, New Orleans, La.  
Third Thursday every month, Association of Commerce Bldg.

**Newport Horticultural Society.**  
Fred P. Webber, secretary, Melville Station, R. I.  
Second and fourth Tuesday every month.

**New York Florist Club.**  
John Young, secretary, 54 W. 28th street, New York.  
Second Monday every month, Grand Opera House.

**North Shore Horticultural Society.**  
Leon W. Carter, secretary, Manchester, Mass.  
First and third Fridays every month.

**North Shore Horticultural Society.**  
E. Bollinger, secretary, Lake Forest, Ill.  
First Friday every month, City Hall.

**North Westchester County Horticultural and Agricultural Society.**  
Angus G. Ross, secretary, Mt. Kisco, N. Y.  
Third Thursday every month, except June to August, at 8 p. m.

**Oyster Bay Horticultural Society.**  
A. R. Kennedy, secretary, Westbury, L. I.  
Fourth Wednesday every month, Oyster Bay, N. Y., 7:30 p. m.

**Pacific Coast Horticultural Society.**  
W. A. Hofinghoff, secretary, 432 Phelan Bldg., San Francisco, Cal.  
First Saturday every month, Redmen's Bldg.

**Pasadena Horticultural Society.**  
Geo. B. Kennedy, secretary, Pasadena, Cal.  
First and fourth Friday every month.

**Paterson Floricultural Society.**  
Richard Buys, secretary, 207 17th ave., Paterson, N. J.  
First Tuesday every month, Y. M. C. A. Bldg., 8 p. m.

**Pennsylvania Horticultural Society.**  
David Rust, secretary, Broad and Locust  
sts., Philadelphia, Pa.  
Third Tuesday every month.

**People's Park Cottage Gardeners' Associa-  
tion.**  
John Ainscough, secretary, 4 Chestnut st.,  
Paterson, N. J.  
First and last Friday every month, Work-  
ing Man's Institute, Paterson, N. J.

**Philadelphia Florists' Club.**  
David Rust, secretary, Broad and Locust  
sts., Philadelphia, Pa.  
First Tuesday every month, Horticultural  
Hall, 8 p. m.

**The Pittsburgh Florists' and Gardeners'  
Club.**  
H. P. Joslin, secretary, Ben Avon, Pa.  
First Tuesday every month, Fort Pitt  
Hotel.

**Reading, Pa., Florists' Association.**  
Fulman Lauch, Secretary, 123 South 5th  
street, Reading, Pa.  
First Thursday each month.

**Redlands (Cal.) Gardeners' Association.**  
Jas. McLaren, secretary, Box 31 R. F. D.  
No. 2, Redlands, Cal.

**Rhode Island Horticultural Society.**  
E. K. Thomas, secretary, Box 180, Kingston,  
R. I.  
Third Wednesday every month, Public  
Library, Providence, R. I.

**Rochester Florists' Association.**  
H. R. Stringer, secretary, 47 Stone street,  
Rochester, N. Y.  
Second Monday every month, 95 Main  
street, East.

**Shelter Island Horticultural and Agricul-  
tural Society.**  
First and third Thursdays every month.

**Southampton Horticultural Society.**  
Julius W. King, secretary, Southampton,  
N. Y.  
First Thursday every month, Oddfellows  
Hall.

**Tacoma Florists' Association.**  
F. H. Atchison, secretary, South 50th and  
East F street, Tacoma, Wash.  
Third Thursday, Maccabee Hall, 11th and  
C streets.

**Tarrytown Horticultural Society.**  
E. W. Neubrand, secretary, Tarrytown,  
N. Y.  
Third Wednesday each month except July  
and August. Annual meeting last Thurs-  
day in December.

**Texas State Horticultural Society.**  
G. H. Blackman, assistant secretary, College  
Station, Texas.

**Tuxedo Horticultural Society.**  
Thomas Wilson, secretary, Tuxedo Park,  
N. Y.  
First Wednesday every month.

**Washington, D. C., Florist Club.**  
J. L. Mayberry, secretary, Washington,  
D. C.  
First Monday every month.

**Westchester and Fairfield Horticultural  
Society.**  
J. B. McArdle, secretary, Greenwich, Conn.  
Second Friday every month, Doran's Hall,  
Greenwich, 8 p. m.

## GARDEN CLUBS

**International Garden Club.**  
Mrs. Charles Frederick Hoffman, President.  
Club House, Bartow Mansion, Pelham Bay  
Park, New York City.  
(Address all communications to Mrs. F.  
Hammett, Asst. Sec'y, Bartow Mansion.)

**The Garden Club of America.**  
Mrs. J. Willis Martin, president, 1721 Locust  
street, Philadelphia, Pa.

**The Garden Club of Alma, Mich.**  
Mrs. E. J. Lamb, secretary, 803 State street.  
Twice a month at members' residences.

**The Garden Club of Alleghany County, Pa.**  
Mrs. Finley Hall Lloyd, president, Sewick-  
ley, Pa.

**Amateur Garden Club of Baltimore, Md.**  
Miss Sarah S. Manly, secretary, The  
Walbert.

**The Garden Club of Ann Arbor, Mich.**  
Miss Annie Condon, secretary, 920 Uni-  
versity avenue.

**The Garden Club of Somerset Hills, N. J.**  
Mrs. Geo. R. Mosle, secretary, Gladstone,  
N. J.  
Second and fourth Thursdays, middle of  
April to November. August excepted.

**The Garden Club of Cleveland, Ohio.**  
Mrs. Geo. Scoville, secretary, 1453 E.  
Bonlevard.

**Garden Club of East Hampton, L. I.**  
Mrs. F. K. Holister, secretary, East Hamp-  
ton, N. Y.

**The Park Garden Club, of Flushing, N. Y.**  
Mrs. John W. Paris, president,  
Flushing, N. Y.  
Second and fourth Mondays, members'  
homes.

**The Garden Club of Greenwich, Conn.**  
Mrs. Frederick Gotthold, secretary, Cos Cob,  
Conn.  
At members' residences.

**The Garden Club of Hartford County, Md.**  
Mrs. Martin E. Ridgley, secretary, Benson  
P. O., Md.  
First and third Thursdays. April to  
December at members' residences.

**The Gardeners of Mont. and Dela. Counties,  
Pa.**  
Miss Elizabeth D. Williams, secretary,  
Haverford, Pa.  
At members' residences.

**The Weeders' Club, Pa.**  
Miss Ellen Winsor, secretary, Haverford,  
Pa.  
First and third Wednesday at members'  
residences.

**The Garden Club of Lake Forest, Ill.**  
Mrs. Tiffany Blake, president, Lake Forest,  
Ill.

**The Larchmont Garden Club, N. Y.**  
Mrs. Edgar Park, secretary, Larchmont, N. Y.  
First Thursdays.

**The Garden Club of Lawrence, L. I.**  
Mrs. Thomas Lawrence, secretary, Law-  
rence, L. I.

**The Garden Club of Lenox, Mass.**  
Mrs. Francis C. Barlow, secretary, 47 E.  
64th street, New York.  
First and third Mondays, June to Octo-  
ber at Lenox.

**Lewiston and Auburn Gardeners' Union.**  
Mrs. George A. Whitney, secretary, Auburn,  
Me.

**The Garden Club of Litchfield, Conn.**  
Mrs. Henry S. Mumroe, secretary, 501 W.  
120th street, New York.  
Second Friday, June to October at Litch-  
field.

**The Garden Club of Michigan.**  
Miss Sarah W. Hendrie, secretary, Grosse  
Pointe Farms, Mich.  
At members' homes. Two Spring and one  
Fall Shows.

**The Millbrook Garden Club, N. Y.**  
Mrs. Keyes Winter, secretary, 125 E. 78th  
street, New York.  
Meet at Millbrook, Dutchess County, N. Y.

**The Bedford Garden Club, N. Y.**  
Mrs. Benjamin W. Morris, secretary, Mt.  
Kisco, N. Y.

**The Garden Club of New Canaan, Conn.**  
Mrs. Francis H. Adriance, secretary, New  
Canaan, Conn.  
Second Wednesday each month.

**The Newport Garden Association, R. I.**  
Miss Dorothea G. Watts, secretary, New-  
port, R. I.  
Annual Meeting, August. Others when  
called. Five monthly summer shows.

**The Newport Garden Club.**  
Mrs. Chas. F. Hoffman, president, 620 Fifth  
avenue, New York.

**The Garden Club of New Rochelle, N. Y.**  
Mrs. Lucius W. Hitchcock, corresponding  
secretary, Premma Point Park.  
Members' residences and Public Library.  
Shows monthly. May to November.

**The Garden Club of Norfolk, Conn.**  
Philemon W. Johnson, secretary, Norfolk,  
Conn.  
Second Wednesday each month at Public  
Library.

**North Country Garden Club of Long Island.**  
Mrs. Edward Townsend, secretary, Oyster  
Bay, L. I.

**Garden Club of Philadelphia, Pa.**  
Miss Ernestine A. Goodman, secretary,  
Chestnut Hill.

**The Garden Club.**  
Mrs. Aubrey Pearre, Jr., secretary, Pikes-  
ville, Md.

**The Garden Club of Princeton, N. J.**  
Mrs. Junius Spencer Morgan, secretary,  
Constitution Hill, Princeton, N. J.

**The Garden Club of Ridgefield, Conn.**  
Mrs. Cass Gilbert, secretary, 42 E. 64th  
street, New York.  
Twice monthly at Ridgefield. Also ex-  
hibitions.

**The Ridgewood Garden Club, N. J.**  
E. T. Sowter, secretary, Ridgewood, N. J.

**Rumson (N. J.) Garden Club.**  
Miss Alice Kuehland, secretary, Rumson,  
N. J.

**The Hardy Garden Club of Ruxton, Md.**  
Mrs. R. E. L. George, secretary, Ruxton, Md.

**The Garden Club of Rye, N. Y.**  
Mrs. Samuel Fuller, secretary, Rye, N. Y.  
First Tuesdays, April to October. Also special meetings and Flower Shows.

**The Shedowa Garden Club, New York.**  
Miss Mary Young, secretary, Garden City, N. Y.

Second Wednesday each month at members' residences. Vegetable and flower shows, June and September. Correspondence with other clubs invited.

Mrs. C. H. Stout, secretary, Short Hills, N. J.  
Monthly at Short Hills Club House during January and February.

**The Southampton Garden Club, New York.**  
Mrs. Albert Boardman, president, 49 W. 33rd street, New York.

Twice a month in summer at Southampton, L. I.

**The Staten Island Garden Club, N. Y.**  
Mrs. J. Harry Alexander, secretary, Rosebank, S. I.  
Twice a month. At members' homes, Winnetka, Ill.

**The Garden Club of Trenton, N. J.**  
Miss Anne MacIvaine, secretary, Trenton, N. J.

Bi-monthly meetings at members' residences.

**The Garden Club of Illinois.**  
Mrs. William G. Hibbard, Jr., secretary, Winnetka, Ill.

**The Garden Club of Orange and Dutchess County, New York.**  
Mrs. Morris Rutherford, secretary, Warwick, Orange County, N. Y.

**Warrenton Garden Club, Virginia.**  
Mrs. C. Shirley Carter, secretary, Warrenton, Va.

**Garden Club, Webster Groves, Mo.**  
Caroline Chamberlin, sec'y., 106 Plant Ave.

## HORTICULTURAL EVENTS

American Sweet Pea Society Show, Bar Harbor, Me., July.

American Gladioli Society Show, Boston, Mass., August 10-12.

Garden Club of America Meeting, Lenox, Mass., June 27-28.

Horticultural Society of New York, Fall Exhibition, American Museum of Natural History, November 9-12.

International Garden Club, Outdoor Flower Show, Club Grounds, Pelham Bay, New York, June 1-4.

Lenox Horticultural Society, Summer Show, Lenox, Mass., June 27-28.

Massachusetts Horticultural Society, Spring Exhibition, Horticultural Hall, Boston, Mass., May 10-14.

Newport, R. I., June Exhibiton, Newport Garden Association and Newport Horticultural Society, June 28-29.

Newport, R. I., Mid-Summer Exhibiton, Newport Garden Club and Newport Horticultural Society, August 17-18-19.

Oyster Bay Horticultural Society, Rose Show, June 13. Dahlia Show, August 3.

Westchester and Fairfield Horticultural Society, Summer Show, Mamaroneck, N. Y., June.

Women's National Agricultural and Horticultural Association, Conference, Horticultural Hall, Boston, Mass., May 18-19.

## Secretary's Changes

Each year witnesses many changes in the office of secretary in local horticultural societies and garden clubs. We record these changes as notice is received. If your society or club is not properly registered in our directory, with correct name of officers, meeting place or date of meeting, please inform Gardeners' Chronicle, Madison, N. J. Send us reports of the proceedings of your meetings for publication.

## WOMEN'S AGRICULTURISTS' CONVENTION.

In connection with its third annual meeting, a very interesting conference has been arranged by the Women's National Agricultural and Horticultural Association, in cooperation with the Women's Educational and Industrial Union to take place at Horticultural Hall, Boston, on Thursday and Friday, May 18 and 19.

This conference is to cover an interesting variety of subjects: "Preparedness in Agriculture," "Developments in Horticultural Training," "Flower Gardening for Profit," "Trees and Hedges for Town and City Planting," "Vacant Lot Gardening," "Bees as Pollenizers," "The Tree Rust," "Color in the Garden," etc.

The exhibit of members' work of the Women's National Agricultural and Horticultural Association is in the hands of an able committee, Mrs. B. Hammond Tracy, Wenham, Mass., chairman, who hope to show by varied contributions what this organization is doing along commercial as well as educational lines.

The Arnold Arboretum will be at its attractive period of spring bloom and it is hoped that many will avail themselves of this opportunity offered by the Conference to enjoy the hospitality of Boston and its suburbs.

The Hospitality Committee, of which Mrs. C. G. Houghton is chairman, is arranging a "Field Day" for Saturday, May 20, which is to include visits to some of the gardens of the North Shore.

MRS. GEORGE U. CROCKER,  
Chairman 1916 Conference Committee.

## CONNECTICUT HORTICULTURAL SOCIETY.

This society held its regular bimonthly meeting in the County building, Hartford, on Friday evening, March 24, at 8 o'clock. First Vice-President Francis Roulier presiding. President G. H. Hollister was unable to attend the meeting on account of sickness in his family.

It had been advertised that this would be "Grafting and Pruning Night" but the absence of our leader made it necessary to postpone same until the next meeting, which will be held April 14. Some discussion occupied part of the time on the advisability of pruning grape vines after March 1, noted gardeners stating that it made no difference whether the vines were pruned after March 1 or before; while others were very positive that they should not be pruned after March 1 on account of the bleeding of the vines. One member facetiously remarked that they

could not be pruned this year until after April 1 on account of the snow, which is three to four feet deep in many places.

Fred Boss, head gardener at Elizabeth Park, exhibited a collection of *Calcocolaria*, fine specimens; and Warren S. Mason, superintendent of the Pope Estate, Farmington, exhibited a vase of *Eupatorium lanthimum*, showing excellent growth. George B. Baker, Alfred Cebelinus, and J. H. Sierman were appointed judges, and after due deliberation they awarded the *Calcocolaria* a certificate of merit, and the *Eupatorium* a cultural certificate.

The attendance at this meeting was unusually large, and many applications were received for membership in the society.

ALFRED DIXON, Secretary.

## NEW JERSEY FLORICULTURAL SOCIETY.

A regular monthly meeting of the New Jersey Floricultural Society was held in Jr. O. U. A. M. Hall, Orange, N. J., on Monday evening, March 20, at 8 p. m. Minutes of the previous meeting were adopted as read. Peter Duff, Jr., was nominated for membership. The society wishes to thank the various seed houses for liberal donations in the shape of prizes for the fall show, September 18, 1916. It was decided to hold a Rose night in June, prizes to be offered for the best collection of outdoor roses. H. G. Skearns offered a prize of \$5 toward this exhibition. Max Schneider, superintendent to Peter Hauck, Jr., East Orange, N. J., was awarded the following points in monthly competition: Bunch of Violets, 25 points; *Begonia Cincinmati*, 75 points; vase of Carnations, 90 points; vase of *Goldenspur Narcissus*, 85 points. Emil Panushka, superintendent to Mrs. Wm. Barr, of Llewellyn Park, West Orange, was awarded a cultural certificate for *Schille clusi*. The judges were Dietrick Kindsgrab, August Peterson and Wm. Reid.

G. W. STRANGE, Secretary.

## HOLYOKE AND NORTHAMPTON (MASS.) GARDENERS' AND FLORISTS' CLUB.

The regular monthly meeting was held April 4 with F. D. Keyes & Son, Florence. In spite of disagreeable weather a good number of members assembled. The topic of the evening was "Easter Plants," which was handled by Harold Keyes in a comprehensive manner. A good discussion ensued. Messrs. Thurson and Sinclair entertained the less fortunate members with descriptions of the National Flower Show. Exhibits were made by Keyes & Son, who staged some extra good Callas, a pink sport of *Carnation Enchantress*, and *Primula obconica gigantea*. Butler & Ullman showed *Hydrangea Radiant* and Sweet Pea Yarrowa. G. H. Sinclair showed Buxton's Silver Pink Snapdragon in top form. Good plants of *Nemesia strumosa Suttoni* were shown by H. E. Downer. This is a charming annual which flowers in a few weeks from date of sowing and should prove a useful pot plant for the florist. H. E. D.

## TUXEDO HORTICULTURAL SOCIETY.

The usual monthly meeting of the Tuxedo Horticultural Society was held in the Parish House on April 4. President C. Davidson in the chair. A letter was read from Mrs. C. F. Hoffman, president of the International Garden Club, asking our cooperation and support in their effort to hold a large summer show near New York. It was agreed we give this movement our utmost support. Mr. David McIntosh was appointed our representative to attend the meeting held in the Biltmore Hotel on April

7. A letter was read from Mr. C. H. Lotty offering a special prize for our fall show. Our April meeting closed the yearly competition for the Joseph Manda Cup, which has been competed for at our monthly meetings. It was up for six months for the gardener without glass, and six months for the gardener with glass; each exhibit being judged on a scale of points. Emil Barth having the highest number of points, being the winner of the cup. Mr. Manda also offered a cup for competition among assistants for the best essay on any individual subject in gardening. Mr. James Davidson was the winner of this cup with an essay on fruit trees. The society's silver medal was awarded to Mr. C. D. Schaeffer for a collection of Anemone Chrysanthemums shown at our fall show. Mr. D. McGregor read a very interesting paper on Carnations, which raised a very interesting discussion on the different treatments of the carnation, especially the young stock, which was very appropriate at this time of the year. The secretary read the paper on "The Young Gardener's Opportunity in America," by Mr. Henry Gibson, which was well received and discussed freely. Mr. Gibson being a former member of our society, special interest was taken in his writings.

THOS. WILSON, Secretary.

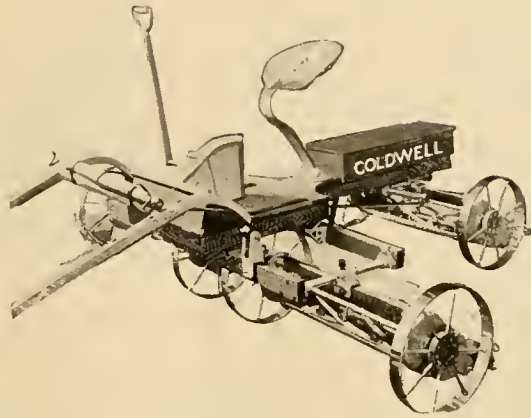
#### NEW LONDON HORTICULTURAL SOCIETY.

The New London Horticultural Society held its regular monthly meeting in the Council Chamber, Municipal building, State street, Thursday evening, April 13. President Miller gave notice that the Flower Show Committee had decided to dispense with the summer show this year. Lack of interest by the public had discouraged the society, after a great deal of labor and expense in staging the show. It was felt that it would, for this season anyway, not hold a summer show. The fruit and chrysanthemum show will be held as usual in November. President Miller then introduced Mr. Wm. Dawson, of Willimantic, to give an address on carnations. Mr. Dawson is the originator of the new scarlet carnation "Red Wing," which is being sent out this year. Mr. Dawson's address was very instructive, and a very hearty vote of thanks was given him for his talk. Mr. Robinson, of the Plant estate, staged a very fine bunch of Liliun Forensium hyacinths and tulips, narcissus, etc. Several very nice vases of carnations were exhibited by Mr. Thos. Hatton, Landers estate; also from Edward Mulds, florist. Mr. Stanley Jordan had some fine blooms of the variety Pink Sensation on exhibition. Mr. Dawson staged a very fine lot of Redwing, besides other varieties. Mr. John Maloney had some fine Genista and candytuft on the tables. Three new members were elected to membership. The attendance was the largest of the year thus far. Secretary gave notice that Mr. Irving Davis, who is in charge of the gypsy moth work in this part of the State, would give an illustrated talk next month, and it was voted to open this meeting to the public.

STANLEY JORDAN, Secretary.

#### PATERSON FLORICULTURAL SOCIETY.

At our meeting last Tuesday night we were treated to as fine and as instructive a lecture on the rose as one could wish for. Mr. Tansey, of Tuxedo, gave it to us straight from the shoulder, and when he got through we came to the conclusion that some people know more than we do. We certainly shall follow out his suggestion. Mr. Wilson, also of Tuxedo, accompanied Mr. Tansey, and has promised to tell us



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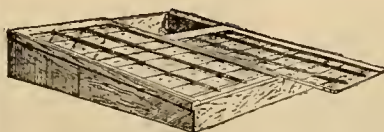
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something we do not know in the near future.

The society did itself proud by its grand display of cut flowers and pot plants. Messrs. Tansy and Wilson judged same, and after congratulating the society on having a quantity of bloom at a meeting such as they never saw before hereabouts, gave Petrie 205 points and Vanderliffe 200 points. Bob displayed carnations, cineraria, cyclamen and violets, while Van presented carnations and stocks, so Bob of Riverlawn Sanitarium fame came to the front again, and even goes so far to say that next month he will carry by enough points to settle the prize question once for all. We have used every effort to get our congenial Totowa Borough florist, Francis Milne, to enter his usual monthly exhibition for points, but Frank seems to be content in bringing down flowers to show what he can do. His pots of tulips, cyclamen, etc., were sure a sight, and the judges awarded honorable mention, same not being in competition. The flowers are given to anyone who is lucky enough to get them first, and the signer hereof after the scramble found himself in possession of a fine pot of twelve tulips grown by Milne.

Sorry to say that nobody is falling over him or herself to ask questions about our challenge to compare bloom at our next fall show. The schedule will soon be ready.

RICHARD BUYS, Secretary.

#### NORTH WESTCHESTER HORTICULTURAL AND AGRICULTURAL SOCIETY.

The regular monthly meeting of the North Westchester Horticultural and Agricultural Society was held in Firemen's Hall on the night of March 16. President Alex Thomson in the chair. Owing to bad roads there was not a large attendance. A very interesting and instructive essay on "Growing Alfalfa" was read by Mr. A. L. Klabs. Mr. Klabs is a successful grower, and he was able to give some practical advice on its culture for this vicinity. Mr. Aitcheson's prize for the best 18 carnations was competed for. A. Thomson receiving 85 points, John Connolly 80 points, A. Ross 75 points. John Connolly also received 95 points for a fine exhibit of mushrooms, and 95 points for sweet peas. As there were several discussions relative to the society, the paper sent by Mr. M. C. Ebel on the use of native shrubs for ornamental planting, by S. P. Jensen, of Missouri, was left over for next meeting. Mr. Karl Koehan will give a lecture on apple trees and spraying at our next meeting, and a large attendance is expected. The names of Mr. Clark and Mr. Joseph Wallace were proposed for membership.

A. G. ROSS, Secretary.

#### NASSAU COUNTY HORTICULTURAL SOCIETY.

The regular meeting of the above society was held in Pembroke Hall, Glen Cove, on Wednesday evening at 7 o'clock. Through the summer and autumn months the meetings will be held at this time instead of in the afternoon, as has been the custom during the winter. In the absence of Presi-



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dent James McDonald, Vice-President Joseph Adler presided during the meeting. A letter was received from Harry Jones, who has been secretary of this society for the past year and a half, tendering his resignation from the office, as he had moved to a point some distance from Glen Cove. Mr. Jones has been a most efficient, hard working official, and carried out the duties of his office in a courteous and pleasing manner. It was with the sincere regret of all his fellow members that his resignation was accepted. Henry Gibson, of Roslyn Heights, was elected secretary for the remainder of the year.

A letter was received from the International Garden Club requesting the cooperation of this society in regard to the open air flower show which the Garden Club is arranging to hold in June. Offers of two prizes were received for our coming Rose Show, one for a collection of twelve peonies, and the other for a collection of vegetables.

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An essay on "Estate Management and College Education," by Morell Smith, of New York, was received from the National Association of Gardeners. It was listened to with great interest and a lively discussion followed its reading.

Samuel Trepass read a most interesting paper on "Peaches Under Glass." He handled his subject in a most thorough manner, and it was full of practical information. At the conclusion of the essay Mr. Trepass answered a number of questions pertaining to fruit growing which were asked by some of the members. As an item of interest in connection with the essay he exhibited a specimen of a grafted peach tree and also some samples of fruiting and non-fruiting wood of the peach.

Schedules for the Tulip Show and the Rose Show which had been drawn up by the Executive Committee were read and adopted. It was decided to hold the Tulip Show during the week of May 14, the exact date to be announced later, and to hold the Rose Show on June 14.

Messrs. Henry Gaut, George Gilder and Thomas Twigg were appointed as judges of the exhibits, and made the following awards: Best three heads of lettuce, first, Harry Goodband. Best 12 roses, first, John Everett. Best 12 sweet peas, first, James McCarthy. Vase of Spencer sweet peas exhibited by Peter McLeod, certificate of culture. Bunch of violets exhibited by William Noonan, honorable mention.

JAMES MCCARTHY,  
Corresponding Secretary.

#### ASSOCIATION OF KEW GARDENERS IN AMERICA.

The first annual meeting of the above association was held at "Shanley's," 117 West 42d St., New York City, on April 5 in the form of a banquet and reunion.

There was a large attendance of Kew men, their wives and lady friends and a most enjoyable time was spent by all present, as men from many states were present and many old friends were seen again.

It was decided to hold the next annual banquet and reunion during the week of the Spring Flower Show in New York.

The officers elected for the ensuing year were: President, Mr. Free, Brooklyn, N. Y.; vice-president, James MacPherson, Trenton, N. J.; secretary, S. R. Candler, Southampton, N. Y.

S. R. CANDLER, Secretary.

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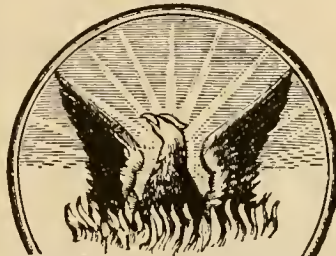
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#### OYSTER BAY HORTICULTURAL SOCIETY.

The regular monthly meeting of the Oyster Bay Horticultural Society was held in the Firemen's Hall Wednesday evening, March 23. President Walker occupied the chair. Committee on Euchre and dance reported progress. The secretary read the schedule for the rose show and after a few changes, was adopted as read. It was voted that the chrysanthemum show be held on

November 9, 1916. Quite a lively discussion arose as to the various ways the exhibitors grew the various exhibits. It was regularly moved that the secretary be instructed to write the N. A. G. and inform it that the methods of various purchasing agents and their relations to the gardeners was brought up and discussed at considerable length and the feeling of other societies is earnestly solicited through the N. A. G.

JOHN T. INGRAM, Secretary.

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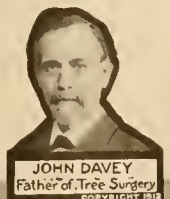
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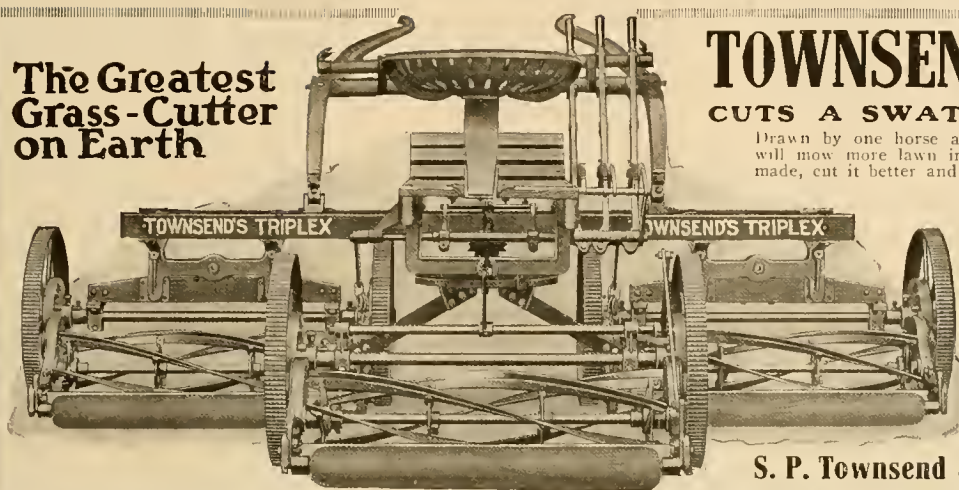
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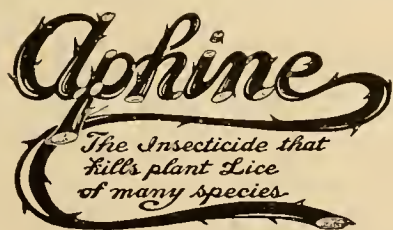
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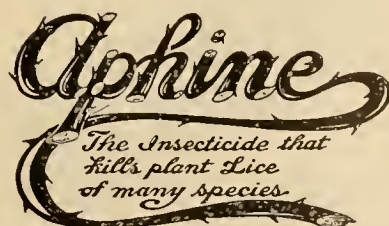
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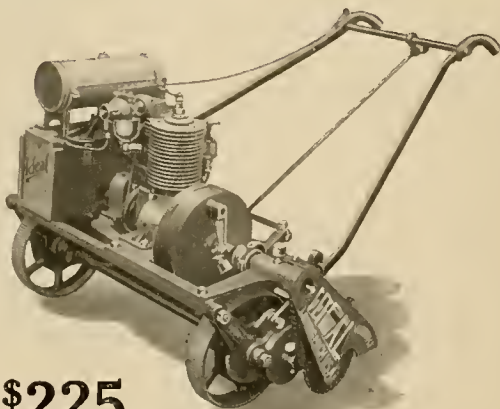
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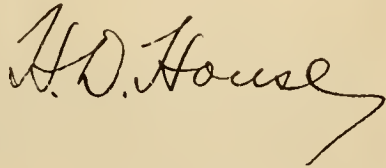
### His answer

*Dr. H. D. House, New York State Botanist and formerly Professor in Biltmore Forestry School after a critical investigation of Davey Tree Surgeons and their work, expresses his judgment as follows:*

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### His answer

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## "When your trees need the Tree Surgeon"—write for this booklet

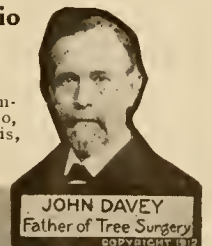


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# GARDENERS' CHRONICLE OF AMERICA

Devoted to the Science of Floriculture and Horticulture

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## *Things and Thoughts of the Garden*

By The Onlooker

THE rock garden as a feature of home grounds and estates is gaining fresh adherents every day. Those who saw the three very pretty displays at the New York flower show in April will have a better appreciation of the great charm that a collection of Alpine plants give. There is something so refreshing, so different from the usual line of bedding displays, and something in the rugged arrangement of the rocks themselves that appeals. Do not think that the rock garden requires no care; if you like you can plant a collection of such plants as *Chrysogonum virginicum*, *Saxifraga umbrosa*, *Stachys lanata*, *Megaseas*, Pinks and Phloxes (dwarf kinds), and these will cover your space all right and give you flowers and beauty in due season with the minimum of care, but that is not advanced rock gardening. Oh, no. All the same it is just the course I would advise the beginner to adopt who has had little or perhaps no experience. Get your garden made and select the toughest kind of plants for the general furnishing of it. Have dwarf evergreen shrubs and a mixture of suitable deciduous ones for the background, with generous stretches of low-growing plants among the rocks. Pockets for choice plants could be left here and there or for new things one wanted to try—some, in fact, that are strangers to the grower or owner of the place. The following plants deserve attention: *Cardamine pratensis*, *Dicentra eximia*, *Galax aphylla*, *Geum triflorum*, *Heucheras*, *Houstonia caerulea*, *Iris cristata*, the *Liatrises*, *Mertensia virginicum*, various *Opuntias*, *Pachysandra procumbens*, *Pentstemon pubescens*, several of the dwarf Phloxes, as *subulata*, *divaricata* and *reptans*; *Polemonium reptans*, *Pyrola rotundifolia*, *Rhexia virginica*, *Shortia galacifolia*, *Tiarella cordifolia*, *Viola pedata*, and *Waldstenia fragarioides*. Lastly, some of the *Yuccas* should be grown. All these plants are natives of our own continent and can be generally recommended. Some of the nursery catalogs are the best guides one can have as to what to choose for the rockery.

\* \* \*

How often do we have the question put to us or hear it put to others, What are the best plants for a shady garden? If one's garden is perfectly somber and consistently shaded the selection of plants that can be employed is severely restricted. Among shrubs are the *Rhododendrons* which, however, will not flower if the shade is either too heavy or too persistent. The *Mountain Laurel* or *Kalmia* is another, while our ever-reliable friend the *Privet* may have to be made ample use of.

Among plants, there is the whole family of hardy ferns, and a wonderful group this is as any one who has seen such a collection as the one in the care of John Huss at the Goodwin place at Hartford, Connecticut, can testify. That is one of the best and most complete collections of hardy ferns in this country. Ferns, cacti, orchids, alpines, hardy perennials, aquatic plants, roses—each and all of these can form an endless study of themselves, and the person who frowns at the mention of ferns as being of no interest to him or her, is either ignorant of what a representative collection really provides in the way of variety of form and habit, or is hard to please. Any really good nursery catalog will act as a guide to the best kinds, which will include the *Maidenhair* (*Adiantum pedatum*); the *Christmas fern*, also called the *Fancy fern* by the florists (*Aspidium acrosticoides*); the *Male fern* (*Aspidium Felix-mas*), the so-called *Dagger fern* (*Aspidium marginale*), the *Lady fern* (*Aspidium Felix-foemina*); the beautiful *Flowering fern* (*Osmunda gracilis*), the pretty *Beech fern* (*Phegopteris Dryopteris*), and the common *Polypody* (*Polypodium vulgare*). Of course each of these has several varieties; in the case of the *Male* and *Lady ferns* the varieties are almost endless. These ferns are also found in Europe where their different forms are watched, collected, and cultivated rather more studiously than is the general rule with us. Added to these few are many others that could be named, all of them natives here, and most of them are such as will succeed in gardens well to the north. Even those whose gardens are not of the shady order (and it is for the shady garden that this paragraph is written) might plant a good selection of hardy ferns. They are a change from a garden of all flowers. A good selection of bulbous plants will flower in a shady garden; but they must be kept renewed.

\* \* \*

Among the plants that go nicely with ferns, where these are planted somewhat widely apart, are *Fritillaries*, notably the one called *Meleagris*, the "*Checkered Daffodil*," or *Snakeshead*; also *Allium Moly*, *Allium triquetrum*, *Hepaticas*, hardy *Cyclamen*, *Christmas Roses* (*Helleborus niger*), and the *Lenten Roses* (*Helleborus orientalis*). A fine plant for setting out in summer in semi-shade is *Honesty* (*Lunaria biennis*). Seed should be sown every year. The plant flowers early in the spring and in summer bears its white, oval seed-pods. These can be gathered and dried for decorative uses. Several of the *Anemones* come in well among ferns, as do the *Prim-*

roses, Daffodils, Lilliums, Foxgloves, Wood-Lily (Trillium,) and many another. No one who has seen ferns growing luxuriously, either in the semi-shade or fairly well out, bordering a path, will ever make the mistake of under-rating their value for garden effect.

\* \* \*

While not making any pretense to being a Dahlia expert, I have taken some interest in these flowers, which are rightly called "queens of the early autumn." There is still plenty of time to plant them. From all accounts the sale in tubers has been uncommonly large this year, and many of the growers can now only supply green plants. Some friends have asked why it is that these green plants or rooted cuttings are less ready to start away freely, or grow vigorously, than those from roots. If this is so—and it may be in dry weather—the reason evidently lies in the lack of sufficient stored-up matter in the case of the green plants since they have such small tubers. Be that as it may, both kinds do well if they are planted in rich soil and are kept watered. The Dahlia is a thirsty fellow. He comes from high on the mountain regions of Mexico where his roots are always in moist, cool conditions, in soil consisting largely of disintegrated basaltic rock, and with his head well up into the sunlight, albeit, sunlight that is partly screened off by nearby trees. In our gardens the Dahlia "blasts" during the heat of July and August unless kept constantly watered, and that is not always possible. By "blasting" is meant that the flowering shoots go blind or fizzle up. Plants going this way should be cut hard back so that they will throw out new young growths which will bloom in September and October. A heavy mulch over the roots of the Dahlias is desirable. It helps them.

\* \* \*

I think if I were confined to only one variety of Dahlia it would have to be the lovely *Delice*, a delightful rosy pink. It has a fine habit, is very free, sturdy, and in every way good.

\* \* \*

It is not often that I touch on fruitarian matters, but occasionally one's attention is turned this way. A report was recently published by the Woburn Experimental Farm relating to experiments with fruit, and particularly the planting of young trees. These experiments have been carried on for the last 12 or 14 years, and one of them has for its object deciding whether trees that are rammed into a comparatively small hole without much care being taken of the roots, grow better or worse than those whose roots are carefully spread out. The experiments so far have been in favor of the rammed method of planting. It is argued that the soil, being compacted closely around and over the roots, allows the young fibres a better chance than when the soil is but moderately firmed. This kind of planting is, of course, contrary to all recognized teaching, and it is doubtful if gardeners and fruit growers will follow it, even despite the results obtained at the Station.

Another point in regard to fruit culture, and one that is more in accord with reasoning, is that a tree in good bearing condition remains that way. This may be explained on the grounds that no rank or superfluous growth is made, but where the strength would otherwise go into mere growth, it goes into the formation of fruit buds, and in that way the tree year by year yields a crop. Here again, however, those who make a study of fruit will tell you, and rightly, that many varieties fruit in alternate years only, although they may flower

heavily every year, the reason being that the tree exhausts itself in bearing the crop one year and has to recuperate for the succeeding one.

\* \* \*

Should fruit trees be pruned back at planting, or ought they to be left unpruned? This is an old question to which no authoritative answer has been given. One set of growers favor the non-pruning, others favor pruning. Our own practice has always been to shorten back the growths correspondingly with the shortening or crippling of the roots, as this seems to us a logical thing to do, and certainly we have had no reason to regret the practice. Of course there are certain varieties in the whole general line of fruits that seem to crop regularly and to have great fertility, no matter what the cultural practice is. These are the ones that the amateur wants; he can get to the more fickle ones later.

\* \* \*

Many of us must have been impressed with the fact that our parks, not to mention private gardens, are largely devoid of bulbous flowers in the Spring, except for beds of Tulips and probably Hyacinths, or lines of Crocuses. Why not make a practice of setting out the forced bulbs in places where they can become established and flower year by year? This practice, indeed, is being carried out in certain places and by parksmen known to the writer. With, let us hope, good results in a few years ahead. But as well as planting out these forced Daffodils, why not invest in a few thousand of the old double Daffodil, which comes very early and grows almost anywhere, in sunshine or shade, and also some of the poet's Narcissus, which comes late and also grows well in most places? An admirable place for these is along the edge of a shrubbery or around the roots of Rhododendrons, of course, a little way out from the plants. The shrubs give the needed shelter and as the Rhododendron roots are, or ought to be, covered with leaf mould or leaves, this is also congenial to the Daffodils if not too deep. The fact is, we could and ought to plant out many, many more of these bulbs, and they would entail no after labor, or very little, and give us a beautiful show at the early period; far better than the mere formal bedding of bulbs. At one garden in New Jersey known to me, great success has been attained in the naturalizing of May-flowering and Darwin Tulips the bulbs coming up in the grass year by year. This is all the more astounding, as I have always understood that Tulips only did well in the same position for about two years at a time.

\* \* \*

We are still in the first flush of the Spring gardening fever. Soon, however, the warm weather, mosquitoes, the desire to be flying off in automobiles, going to picnics, or visiting Atlantic City or other places will call us, and it is then that the garden pleasures become sort of secondary. Do not let these other attractions tempt you too much. You will find abundance of interest in the garden, and quiet, pleasurable, restful enjoyment, and if you are the true gardener, you will find there also excitement as well. Certainly a garden affords physical as well as mental recreation, and it would be a thousand pities if, after our first earnest start in the Springtime, we should abandon all our work and preparations or leave them to fate. Keep pegging away; resist the extraneous and more exciting recreation, then as the results of your labor begin to mature, you will feel so recompensed and satisfied that you will be glad to have persisted.



# Some Desirable Plants for Hanging Baskets

By Montague Free, New York.

THE practice of growing plants in hanging baskets offers many possibilities for artistic effects which greatly add to the attractiveness of a dwelling. This method of growing plants has the additional advantage of making it possible to grow plants even if there is no space for the garden proper. It seldom happens that a house is so constructed that one cannot, with a little ingenuity, find a place where a basket containing plants can be suspended; therefore, hanging baskets offer special attractions to those who are so unfortunate as to be greatly limited in respect to garden space.

Hanging baskets may be obtained in various styles and sizes. Those made of wire are most commonly used and are the cheapest, but they possess a disadvantage, on account of the large surface which they expose to the air, of requiring unremitting attention with regard to watering, if the plants in them are to be kept in good condition. Rustic baskets, consisting of a wooden bowl having the outside covered with laurel roots and baskets made of close weave or open-work cane, with metal liners, can be obtained from most florists. The last-named are usually cone-shaped, with chain hangers, and although they are rather expensive, their artistic appearance compensates for the extra cost. Self-watering "baskets" are constructed so as to contain water, which is poured in through a tube projecting above the soil level. By using "baskets" of this character, it is not necessary to water the plants so frequently, and the inconvenience of the drip of surplus water, which occurs when the ordinary type of baskets is used, is avoided.

One of the most important factors in the successful cultivation of plants in baskets is that of soil. Owing to the fact that it is usual to grow a number of plants in one basket, in order to furnish it satisfactorily, a rich soil is required to supply their needs. A mixture consisting of one-third well rotted cow manure and two-thirds of good garden soil, will suit the majority of plants.

Another important factor is that of light. Of course, there are a number of plants suitable for the purpose under discussion that will grow well in shade, but the majority of flowering plants will only succeed when they are exposed to a considerable amount of sunshine.

Watering must not be neglected. On a hot day, the plants rapidly absorb the limited amount of water that is available in the soil; and in addition to this, the loss by evaporation is considerable, especially in the case of wire baskets, which present such a large surface from which moisture can evaporate.

In preparing the wire baskets for planting, it is first necessary to line the basket with something that will prevent the soil from spilling out. The best material for this purpose is natural sheet moss. The moss should be placed with the green side out and the basket partly filled with moist soil, which must be compacted. The plants can now be placed in position in such a way that when the soil is filled in around them it will be somewhat below the rim of the basket. It is better if the surface is made slightly concave, as this facilitates watering. Do not forget, when filling in, to make the soil firm around the roots of the plants.

When there are a number of plants to be placed in each basket, the trailing plants should be placed in position first, around the rim, then some medium-sized

plants of more or less upright growth, finishing up with a tallish plant in the center. It must not be understood from this that absolute symmetry is advocated; a basket when finished should be somewhat irregular in outline and have every plant displayed to best advantage.

The number of plants to be placed in each basket is dependent upon the taste of the individual, the size of the basket, and the size to which the plants attain. A single plant of *Petunia* will easily furnish one of the smaller sizes of baskets, and it is possible to use a dozen or more plants of various kinds in the larger sizes without giving them the appearance of being overcrowded.

If, toward the end of the season, the leaves of your plants begin to turn yellow, it is usually an indication that they have exhausted the available food materials. In this case it is advantageous to use one of the complete fertilizers according to directions on the package.

If the baskets are required for service in the spring months, early flowering plants of a hardy nature must be planted. The outer rim of the basket could be planted with English Ivy (*Hedera Helix*), or Trailing Myrtle (*Vinca*); these to be used for draping over the edge of the baskets. The filling can be made up of Pansies, Forget-me-nots or double English Daisies.

It is, however, during the summer months that the best results can be obtained with hanging baskets. There is a wealth of material from which to choose, and innumerable combinations of plants may be adopted.

The Boston Fern and its varieties, which are mainly forms of *Nephrolepis exaltata*, make excellent basket plants for shaded, or partially shaded, situations. They must be removed to a conservatory or house before cold weather comes in the fall. A well-grown plant will easily furnish even the large-sized baskets.

"Mother of Thousands" (*Saxifraga sarmentosa*) by itself makes a good plant for shady situations. It has almost round green leaves, variegated with silvery white, the under sides of the leaves being purple. The plant produces numbers of slender runners, with young plants upon them, after the manner of the strawberry. These runners hang over the side of the basket, completely covering it.

The "Kenilworth Ivy" (*Linaria Cymbalaria*) is another plant that can be used by itself or in combination with other plants. It is a plant having small, ivy-like leaves and purple flowers. This is suitable either for sun or shade, and will stand frost.

An effective combination for a shady position is made up of the trailing *Lobelia* (*L. speciosa*) around the edge; a few plants of *Begonia Rex*, a variety having beautifully variegated leaves, and for a center plant a small palm—either *Kentia Balmoreana* or *Phoenix Roebelini*.

For a sunny position the "Floss Flower" (*Ageratum mexicanum*) with its well known blue flowers, a plant or two of "Dusty Miller" (*Centaurea gymnocarpa*), and as a trailing plant "Sweet Alyssum" (*Alyssum maritimum*) may be used, or a small plant of *Draena indivisa*, a beautiful foliage plant, with long, narrow, green leaves, in the center, and filling in the rest of the basket with trailing ivy-leaved geraniums, which should be all of one color.—*From Brooklyn Botanical Garden Leaflet.*

# The Pleasures of Rock Gardening

By John F. Piper, New Jersey.

OF late years great progress has been made in the cultivation of rock garden plants and at the New York Flower Show this spring they were an outstanding feature and the objects of the admiration of all visitors. These little plants, with their myriads of bright blooms, of all shapes, colors, and sizes, nestling here and there in large clumps and small, captivate us at first sight, and yet, some of the gardens where the most wonderful collections are found were started by growing only a few specimens. It is really astonishing how extremely fast a garden will grow when only a few plants are added each year, and no other flower family will we find which will give us such a variety of flowers for so long a season.

The rock garden is most delightful and interesting when built and formed on as natural lines as possible:

prevail in its native habitat of the mountains of Europe or of this country. I have been told by collectors that sometimes the plants have very little actual soil in which to grow, and that they are so embedded between the stones that they root to the depth of several feet. One would think that a plant with such root action would have a large amount of surface growth, but it is the root which is the necessary part of the plant in the cold weather, as in many instances the plants themselves are frozen every night all the year round.

Down in the valleys where the weather is milder and the sun has more power one may see fields of such plants as the taller-growing *Campanulas*, *Centaureas*, *Geraniums*, *Polygonums*, and many others, and we can easily understand why many of the choice plants from the



*The Gorgeousness of Color When This Rock Garden, Containing One of the Finest and Most Varied Collections of Alpine Plants in This Country Is in Full Flower, Is Indescribable.*

and, given suitable surroundings and approximately natural conditions of growth, the plants will withstand the most severe weather.

I will not enter into planting details, but I should just like to emphasize the importance of planting firmly, and in so doing, taking care not to damage the roots, as there is nothing more disastrous than this to the well-being of the plants. I believe that in firm planting lies the main reason for the successful and vigorous growth of the plants in a well-established rock garden.

Many amateurs kill or endanger certain kinds of plants by putting them in the greenhouse during the winter. Even should they survive such treatment, they never make such bold masses as they would if left outside with the proper care. The Alpine plant is not worthy of its name if we have to resort to such methods to protect it. We must remember that greenhouse conditions do not

higher altitudes are so small. All true Alpines are of small structure, and Nature provides them with a garment of their own which enables them to withstand the many storms as well as the powerful rays of the sun, after having been frozen up all night. A great many of them are covered with snow from 6 to 8 months of the year, leaving them about 4 months free of their downy covering in which to bloom and make new growth for the following season.

Owing to their natural conditions of protection we find the true Alpines growing and thriving in altitudes which are prohibitive to the life of trees and shrubs. At an elevation of from 5,000 to 10,000 feet we find great masses of such plants as *Androsace*, *Erinus*, *Saxifrages*, *Gentian*, *Primulas*, and *Soldanellas*, with many other varieties too numerous to mention. These varieties are found in their full beauty during June and July.



*Type of Rock Garden Presenting a Wild Garden Effect in Which Many Varieties of Plants Not Truly Alpine Are Grown.*

I believe that with a little care and judgment we should be able to grow most of these plants successfully in a properly constructed rock garden. Our severe winters would really be an advantage, as it is under such condi-



*A Rock and Water Garden of the Japanese Type, Most Charming in Effect, with Its Varied Varieties of Plantings.*

tions that we note the surprising beauty of the Alpines.

Before beginning the details of choosing the site, I should like to say a word on a few rock gardens that I have had the pleasure of visiting:

On the estate of Mr. Hanbury at East Grimstead, England, are very large and extensive rock gardens covering five acres of ground. In these gardens a large variety of trees and shrubs are used in a very effective manner; such varieties as *Juniperus*, *Pinus*, *Retinospora*, and *Thuja* of the Coniferous section being in evidence, as well as many flowering shrubs, including *Azalea*, *Berberis*, *Cotoneaster*, *Cistus*, *Daphne*, and like species.

In many other smaller gardens that I have visited I have noticed the very evident mistake of planting regardless of the habits of the plants, and thus we find the strong growing plants like *Arabis*, *Aubretia* and *Cerastium* crowding out the smaller and none less interesting varieties. Then, too, we find plants planted on a rock where it is impossible for the roots to penetrate into the soil, thus causing them to become baked and yellow in the dry season, and causing them to become so unhealthy that they often do not survive the following cold spell.

In choosing the site for the rock garden it is almost impossible to lay down any hard and fast rules as to position, since there is such a large variety of plants to select from that we are able to use them in almost any location. If possible, the site should be free from the shade and drip of trees, as very few plants flourish in such quarters. An extra charm will be added if the garden is in a somewhat secluded spot formed in such a manner that one would not be able to see it until close upon it. This always lends a most desired effect and gives whoever sees it a lasting impression. Some prefer to build so as to represent a series of cliffs, ledges, and nooks as are seen in Nature and which, if copied, will have a very pleasing effect.

Charming and effective Alpine gardens can be made without using a great number of rocks in their formation; those which are used being so placed that two or three rocks peep out here and there, giving shelter and all necessary conditions required by the plants growing on and about them. To work out this particular style we must have plenty of space at our disposal, otherwise it would present a crowded effect. Given the space, it gives an admirable setting for the planting of *Ericas*, *Rhododendrons*, and other shrubs. Do not forget that what one person likes another may find distasteful, so to a large extent the site and style of a rockery must be left to individual taste.

Apart from that, however, the nature of the ground at one's disposal must at all times be taken into consideration; whether it is high or low, sheltered or exposed. Should the soil be light and sandy it will lend itself to the excavation plan which is generally adopted in forming dips and hillocks in the rockwork. Should we have a soil that is stiff and stringy and the drainage faulty, it is better not to lower it, but rather raise it with plenty of good earth, not too rich. Terraces are often built of rock to shelter the tennis court or herbaceous garden on the north or northeast and such terraces have a much better appearance than the formal brick walls or picket fences so commonly used.

Questions often arise as to the best materials to use in building: The plants naturally prefer rocks that are able to absorb the moisture and this is always very beneficial during the hot weather. Rocks must be selected, however, that will withstand the severe frosts or we will have to build all over again. A good sandstone is one of the best materials to use, provided it will withstand the weather. I have also seen old bricks arranged and cemented together and afterward washed over with a mix-

ture of cement and sand. I cannot go into the details of the requirements of all the plants, but as most of them prefer a sharp soil, old mortar rubble will furnish this requirement for the greater number of plants.

When building the garden Nature should be copied closely as regards the drainage, general outline, and other points. Before commencing to build a plan should be marked out, no matter how rough, so that we will have a definite idea of what the finished work is to be like before we start it. We begin by putting in a good drainage of stones and mortar rubble well mixed with the soil, ar-



*Here Nature is Strictly Adhered to in the Irregular Construction of the Path, Making a Very Effective Setting to the Surroundings*

ranging the ground at disposal so as to give the best possible effect.

The soil may be excavated to represent defiles, using the earth thus removed to form our elevations. Cliffs should be made to stand boldly out, lending a rugged and charming effect. We can thus use the means at our disposal to find suitable aspects for the various plants, but whatever the design, attend to the drainage well.

This done, begin laying the rocks on their beds, generally the largest flat side down, and arrange them if possible so that they may be planted with suitable plants to mask them. Always arrange them so that the water will run into the rockwork and thus keep the plants moist

*(Continued on page 244.)*

# Preparation of Ground for and General Treatment of Hardy Herbaceous Perennials

By H. E. Downer, Massachusetts.

ONE of the most pleasing signs of horticultural progress at the present time is the increasing interest taken in Hardy Herbaceous Perennials, popularly known as "Old-fashioned Flowers." As a group of plants they have long been known in gardens of repute, but never were they to be found so generally grown as today.

Then, too, we have more numerous and much finer varieties for planting than had our predecessors, many genera having been greatly improved by the skilled work of the hybridist. To those thoroughly conversant with their merits and wide range of usefulness the present wave of popularity is not to be wondered at, for when once a love for these flowers has been kindled it is likely to create such enthusiasm as can only be limited by the amount of space available for their culture.

Taken as a group no plants are more adaptable to varied conditions of soil and location. While, for the most part, they prefer a good deep soil and an open position, there are those which succeed under partially shaded conditions, and under the reverse conditions of heavy and light, moist and dry soils. Neither is their rightful place confined to the flower garden proper. Some are better placed on the rockery, others in the shrubby borders and wild garden.

While we thus have included in their number plants available for various positions and uses, to my mind they are never so effective as when planted as a mixed border, with the object in view of having flowers for the longest possible time. It is with the picture of such a border in mind that these lines are penned.

The ideal setting for a border of this description is most frequently found on places of considerable extent. Here, with a background of trees and shrubs (far enough removed so as not to interfere with the food supply of our plants) and the border outlined in gracefully flowing lines in the green sward, a pleasing picture of ever changing beauty and interest can be fashioned.

Or again, there comes to mind fine borders of perennials planted on either side of the main walk through the vegetable garden, with the added attraction of a rustic fence in the background which supported Climbing Roses and various other vines equally desirable. For the front of such a border an edging of suitable stone irregularly disposed might be substituted for a narrow strip of grass, being a saving of space and showing to greater advantage some of the low growing and spreading perennials.

Having selected the site, one if possible somewhat sheltered from the force of the prevailing winds, the next and most important step will be the preparation of the soil. As the foundation is to a house so is the preparation of the soil to the ultimate success of our planting. No amount of fertilizer can make up for the lack of deep and thorough cultivation, therefore it must be regarded as of primary importance. The ideal soil is a good depth of loam of a friable nature, but often we have to deal with soils of a less kindly nature and requiring varying treatment to bring into good order. If not naturally well drained this must receive first attention, as a water logged soil will prove fatal to many perennials. Four-inch land tile connected to

a main drain usually provides sufficient drainage in such cases.

If it is a piece of pasture land to be broken up, I should prefer to double dig in the autumn to a depth of at least two feet, and plant the following spring. When digging in this fashion a good wide trench is necessary to make a thorough job. Break up the second spit well, but leave it at the bottom. Skim off the sod and place this, together with a good dressing of well rotted manure, between the two layers of soil, leaving the surface in as rough a condition as possible so that the winter weather may get in its beneficial work to the best advantage. As soon as the frost is out in the spring, fork in a dressing of fertilizer, such as sheep manure, bone-meal or wood ashes.

If the soil is of a heavy retentive nature a dressing of lime applied some time previous to planting will work wonders in physically improving the soil, and incidentally be of fertilizing value.

For light sandy soils there is nothing better than a good dressing of cow manure and leaf mold to help retain moisture as well as provide food. If obtainable it is good practice to apply a dressing of clay to a very light soil. The best way to handle it is when dried and crushed, and its use in such a case is bound to be followed by good results. Once in a while one hears of a manure-sick soil, for which the best corrective is a good dressing of lime.

When to plant is a question largely depending upon local conditions. Speaking generally, early autumn and spring are the proper planting seasons. While the majority will make new roots if transplanted at any time during the greater part of the year, there are some which have a fixed time for really successful transplanting. Such for instance are the Oriental Poppies, which move at no other season so well as in August, at which time new roots are rapidly formed. Peonies and German Iris transplant best during September. Moved in the spring they are likely to take a whole year to recover. Then again such plants as Rudbeckias, Gaillardias and Asters can be moved with safety even at mid-summer if lifted with a good ball of earth and planted during a showery period.

All things considered, if conditions are right, I always prefer early autumn planting. The advantages of doing it at this season are obvious. Usually there is time to do the work in a more thorough manner. There is no pleasure in planting in a mad rush. The plants make sufficient root to establish themselves before winter sets in, consequently they start to grow in the spring without any check.

In the spring the weather is apt to be more uncertain and the planting season short, as was the case last year. This naturally increases the pressure of work all round, and something is very apt to suffer, if only the gardener's peaceful state of mind. Then, too, we are very likely to suffer the combination of bright sun and drying wind, which renders conditions anything but ideal for newly planted things.

The correct planting and arrangement of a mixed border calls for an intimate knowledge of the plants used. Their normal height, time of flowering and color must receive careful consideration.

As a rule the garden owner wishes to have a contin-

uous display of bloom from spring till the autumn frosts. Such a border is certainly more interesting to deal with than one that is just a mass of color at two or three intervals during the season. When planting so arrange the kinds that there shall be a fairly even distribution of flowers over the border throughout the season. A patchy border loses in effectiveness. A somewhat informal arrangement as to height is much more natural looking than when the plants are graded. The general effect from a landscape standpoint is much more pleasing. Likewise avoid dot planting, which is the effect produced by planting the different kinds singly at regular intervals. Rather group in threes or fives, so that while there is a general scheme of planting it is not so obtrusive.

Routine work after the plants start into growth must be regularly attended to. It is not sufficient to plant and then leave Dame Nature in sole charge. The need for deep and thorough preparation at the outset will be readily apparent when we consider that the majority of the plants will remain undisturbed for at least three or four years, if not longer. During this period anything more than surface cultivation is inadvisable. A light forking in the spring is all that can be done in the way of digging, but during the season keep the surface stirred as well as possible. Staking and tying are details which must be attended to in good time for those plants which need support. Green painted stakes only should be used, and so disposed that the natural habit of the plant is not marred in any way. It is not necessary that the stakes should equal the ultimate height of the plant, and above all things avoid that abomination, a single stake and a tie around the middle. Watering is a detail we would all like to avoid. However, there are times and places when it is necessary, and when this is the case the job should be well done. One good watering is worth a dozen sprinklings and takes less time.

Deep cultivation and surface stirring is the best counteraction of drought.

The prompt removal of old flower stems and decaying foliage will prolong the flowering season of several kinds and give that air of tidiness which at once denotes the presence of a good gardener.

Winter protection is a detail which can easily be overdone to the detriment of the plants. Here, again, deep cultivation tends to make plants hardier by enabling them to become more deeply rooted and consequently more vigorous. It is not unknown that plants have been killed by kindness in the form of too much covering and applied too early. No protection is really necessary until the ground is frozen. The plants can endure a good deal of actual cold, providing they have comparatively "dry feet." If only the ground would remain steadily frozen all the winter little or no damage would be done. It is the alternate spells of thawing and freezing which do the mischief. The covering should be of a light nature, such as long stable manure or dry leaves loosely disposed. For any which have more or less persistent foliage hemlock boughs afford good protection from the brightness of the winter sun. Mice may be sometimes troublesome under the covering, but there are ways of catching them. Remove the covering in the spring as early as is consistent with safety, at the same time making firm any plants that may have become loosened by the action of the frost.

The propagation of herbaceous plants in general is comparatively simple, and is effected by seed, division of the root-stock, cuttings of the growing stem and of roots. Whichever way is favored the material for

propagating should be selected from the best types only, and from plants free from disease.

Seed may be sown at any time from spring to midsummer with the assurance of getting good results. The chief difference resulting from early and late sowing is the method of handling the plants over the first winter. If space under glass is available during February and March I prefer to sow at that time, so as to have plants to put out into nursery rows for the summer, and which will winter safely outside with ordinary protection. From this early sowing we shall also get some kinds that flower the same season. Plants raised from seeds sown in midsummer need the protection of a cold frame for the first winter in this locality.

For ordinary quantity I find four-inch pots a convenient size to sow in, and a greenhouse temperature of about 55 degrees. When the seedlings are large enough to handle they should be transplanted into flats and afforded a light, airy position in the greenhouse for a time. As soon as established they can be transferred to a cold frame, and when ready planted out into nursery rows.

There are a few kinds which germinate slowly and irregularly, so that if no plants appear within a month it is not necessarily a failure.

The summer sowing may be made directly into a frame or even a bed in the open air. For the latter select a sheltered spot and prepare a bed of loam, leaf-mold and sand in equal proportions. Give careful attention to watering and shading, and afterward transplant directly into frames or small pots and winter that way. When they have become frozen in the frames give a light covering of absolutely *dry* leaves, and they will come safely through weather as low as 20 degrees below zero. Watch out for any favorable opportunity to give a little ventilation through the winter.

Many kinds lend themselves to a ready means of propagation by division of the root-stock, which operation is best carried out in autumn or spring. German Iris, Michaelmas Daisies and Phlox are good examples of plants quickly propagated by division, and which derive benefit by being divided about every third year. Others, such as Peonies, Dictamnus and Columbines seem to resent frequent disturbance or division, and are often slow in making recovery.

It is worth while to take a little care in dividing the clumps. Let the fingers and a knife be used rather than the spade, once the clumps have been lifted. For replanting select the young, vigorous pieces from outside the clump, discarding the exhausted central portions.

Arabis, Alyssum and Dianthus are good examples of plants amenable to ready propagation from cuttings, which is usually done soon after flowering. Quite a number of kinds can be propagated in this manner any time young, growing shoots are available. Some, such as Delphinium, need to be taken with a heel to root successfully, but those with solid stems root if cut to a joint.

The sand bench in the propagating house is a good place for the cuttings to root in, or they may be inserted in pots and kept in a close frame until rooted.

Japanese Anemone, Anchusa, Oriental Poppy, Gailardia and Phlox are examples of plants that may be increased by root cuttings. The stoutest roots should be selected and cut into lengths from one to two inches. Insert in rows in boxes of sandy soil and keep in a cool greenhouse until top growth appears. It is

best to put the cuttings in straight down, with the tops just level with the soil.

In naming a limited number of kinds one has perforce to omit many having claims for inclusion in the list, but for all-round usefulness the following is my choice of one hundred perennials for this locality. While placed in their approximate order of flowering, there will of course be cases of overlapping through the season.

APRIL—MAY.

Name.	Color.	Height.
<i>Arabis alba</i> .....	White	6—8 inches
<i>Alyssum saxatile compactum</i> .....	Yellow	9—12 inches
<i>Phlox subulata frondosa</i> .....	Rose	6 inches
<i>Polemonium reptans</i> .....	Light blue	9 inches
<i>Veronica gentianoides</i> .....	Blue	1 foot

MAY—JUNE.

<i>Phlox divaricata</i> .....	Lavender	1 foot
<i>Doronicum excelsum</i> .....	Yellow	1½—2 feet
<i>Aquilegia glandulosa</i> .....	Blue and white	1 foot
<i>A. canadensis</i> .....	Scarlet and yellow	1½ feet
<i>A. chrysantha</i> .....	Yellow	2—3 feet
<i>Dicentra spectabilis</i> .....	Rose	2 feet
<i>Linum perenne</i> .....	Blue	1½ feet
<i>Trollius "Orange Globe"</i> .....	Orange	1½ feet
<i>Iris germanica</i> vars. ....	Various	2—2½ feet
<i>Geranium sanguineum</i> .....	Crimson	1½ feet
<i>Saponaria ocyroides</i> .....	Pink	9 inches
<i>Dianthus deltoides</i> .....	Deep pink	9 inches
<i>Pyrenthrum hybridum</i> .....	Various	1½—2 feet
<i>Lychnis viscaria splendens</i> .....	Rose	9 inches
<i>Aster alpinus</i> .....	Purple	9 inches

JUNE—JULY.

<i>Papaver orientale</i> .....	Scarlet	2—3 feet
<i>Paeonia "hybrids"</i> .....	Various	3 feet
<i>Cerastium tomentosum</i> .....	White	6 inches
<i>Dianthus "Her Majesty"</i> .....	White	1 foot
<i>Lupinus polyphyllus Moerheimi</i> .....	Pink	3 feet
<i>Hemerocallis flava</i> .....	Yellow	3 feet
<i>Polemonium Richardsonii</i> .....	Blue	1 foot
<i>Helenium Hoopesii</i> .....	Yellow	3 feet
<i>Delphinium hybridum</i> .....	Blue	4—5 feet
<i>D. belladonna</i> .....	Pale blue	4—5 feet
<i>Hemerocallis Dumortieri</i> .....	Yellow	1½ feet
<i>Baptisia australis</i> .....	Dark blue	3 feet
<i>Pentstemon laevigatus digitalis</i> .....	Purplish white	2½—3 feet
<i>Dictamnus albus</i> .....	White	2—3 feet
<i>Aconitum Napellus</i> .....	Deep blue	2½ feet
<i>Anthemis tinctoria Kelwayi</i> .....	Yellow	3 feet
<i>Anemone italica Dromorei</i> .....	Blue	4—5 feet
<i>Campanula persicifolia alba</i> .....	White	2—3 feet
<i>Coreopsis grandiflora</i> .....	Yellow	2½ feet
<i>Stachys betonica rosea</i> .....	Rose	1½ feet
<i>Lychnis chalcedonica</i> .....	Scarlet	3 feet
<i>L. Haageana hybrids</i> .....	Various	1 foot
<i>L. coronaria atrosanguinea</i> .....	Crimson	2½ feet
<i>Campanula carpatica</i> .....	Blue	9 inches
<i>Oenothera missouriensis</i> .....	Yellow	1 foot
<i>O. frutescens</i> .....	Deep yellow	2—3 feet
<i>Heuchera sanguinea</i> .....	Red	1 foot
<i>Veronica incana</i> .....	Blue	1½ feet
<i>Iris laevigata</i> .....	Various	2—3 feet

JULY—AUGUST.

<i>Hemerocallis aurantiaca major</i> .....	Orange	3 feet
<i>Delphinium grandiflorum</i> .....	Blue	2½ feet
<i>Armeria maritima splendens</i> .....	Rose	1 foot
<i>Campanula latifolia macrantha</i> .....	Purple	3 feet
<i>C. glomerata dahurica</i> .....	Purple	2 feet
<i>Gypsophila paniculata</i> .....	White	2½ feet
<i>Aster amellus bessarabiensis</i> .....	Blue	2 feet
<i>Heliopsis Piteheriana</i> .....	Yellow	3 feet
<i>Lilium tigrinum splendens</i> .....	Orange	4 feet
<i>Lysimachia clethroides</i> .....	White	2½ feet
<i>Pentstemon barbatus Torreyi</i> .....	Orange scarlet	4 feet
<i>Genm "Mrs. Bradshaw"</i> .....	Crimson	1½ feet
<i>Gaillardia aristata grandiflora</i> .....	Yellow and red	2 feet
<i>Monarda didyma</i> .....	Bright red	3 feet
<i>Physostegia virginiana</i> .....	Rose purple	3—4 feet
<i>Platycodon grandiflorum Mariesii</i> .....	Blue	1½ feet

<i>Potentilla "Miss Willmott"</i> .....	Cerise	1½ feet
<i>Asclepias tuberosa</i> .....	Orange	2½ feet
<i>Stachys lanata</i> .....	Purple	1½ feet
<i>Stokesia cyanea</i> .....	Blue	1 foot
<i>Centaurea montana</i> .....	Purple	1½ feet

AUGUST—SEPTEMBER.

<i>Phlox paniculata</i> vars. ....	Various	2—3 feet
<i>Scabiosa caucasica</i> .....	Pale blue	1½ feet
<i>Sedum spectabile roseum</i> .....	Rose	1½ feet
<i>Chrysanthemum maximum King Edward VII</i> .....	White	1½ feet
<i>Rudbeckia speciosa</i> .....	Orange yellow	1½ feet
<i>Rudbeckia subcordata grandiflora</i> .....	White	1½ feet
<i>Rudbeckia sub-tomentosa</i> .....	Yellow	4 feet
<i>Statice latifolia</i> .....	Light blue	2 feet
<i>Veronica longifolia sub-sessilis</i> .....	Deep blue	2½ feet
<i>Helenium autumnale superbum</i> .....	Yellow	4—5 feet
<i>Helenium "Riverton Gem"</i> .....	Dark red	3 feet
<i>Echinacea purpurea</i> .....	Reddish purple	3 feet
<i>Liatris pycnostachya</i> .....	Purple	3—4 feet
<i>Achillea ptarmica "Perry's White"</i> .....	White	1½ feet
<i>Aconitum autumnale</i> .....	Blue	3 feet
<i>Artemisia lactiflora</i> .....	White	3 feet
<i>Helianthus multiflorus fl. pl.</i> .....	Yellow	4 feet
<i>Lobelia cardinalis</i> .....	Red	2½—3 feet

SEPTEMBER—OCTOBER.

<i>Solidago rigida</i> .....	Yellow	3½ feet
<i>Salvia azurea grandiflora</i> .....	Pale blue	3—4 feet
<i>Aconitum Fischeri</i> .....	Blue	2—3 feet
<i>Aster Novae Angliae roseus</i> .....	Rose	5—6 feet
<i>Boltonia latisquama</i> .....	Pale pink	4—5 feet
<i>Chrysanthemum uliginosum</i> .....	White	4 feet
<i>Aster "Beauty of Colwall"</i> .....	Blue	3—4 feet
<i>Aster Novae Belgii "Perry's Pink"</i> .....	Deep pink	3—3½ feet
<i>Aster tataricus</i> .....	Purple	5—6 feet
<i>Helianthus orgyalis</i> .....	Yellow	6 feet
<i>H. Maximiliana</i> .....	Yellow	6 feet
<i>Anemone japonica</i> .....	White	2—3 feet

BUSH HONEYSUCKLES

FOR northern gardens there are not more beautiful shrubs than some of the Bush Honeysuckles, with their myriads of yellow, white, rose color or red flowers which in summer or autumn are followed by lustrous, usually scarlet fruits. Many of these shrubs are able to show their greatest beauty in this climate, but this can be obtained only by planting them in rich soil and with sufficient space for free growth in all directions. In poor soil and when crowded by other plants they are usually miserable objects. The large growing kinds like the different forms of *L. tatarica*, *L. bella* and its varieties with white and with rose-colored flowers and *L. notha* should be planted as isolated specimens at least twenty feet from any other plant. *L. Morrowi*, a plant of the Amoor region in eastern Siberia, requires even more space, for its lower branches which cling close to the ground naturally spread over a great area. This shrub has gray-green foliage, comparatively large white flowers and bright red fruits. It is one of the most useful of the early introductions of the Arboretum into the United States, and has been largely planted in the Boston parks. Like many other Bush Honeysuckles *L. Morrowi* hybridizes easily with other species, and most of the plants raised from seeds, now sold by American nurserymen as *L. Morrowi*, are hybrids of that species with *L. tatarica* and are erect growing plants of little value for those who want plants with the peculiar habit of *L. Morrowi*. Among less vigorous growing plants, attention is called to two hybrids of *L. Korolkowi* in the collection *L. amoena* and *L. Arnoldiana*. These have small, gray-green foliage and small, bright pink and very attractive flowers, and are hardly surpassed in grace and beauty by any honeysuckles in the collection. —Exchange.

# Work for the Month of June

By Henry Gibson, New York

**B**EDDING-OUT operations will be well under way by the time these notes appear, and the work should be completed as soon as possible so that the plants have an opportunity to become established before drought overtakes us.

Mention has been made in these notes in the past of the necessity of carefully planning out the bedding arrangements in good time so that the actual planting may be proceeded with as soon as the season will permit. The arrangement of bedding plants is a subject on which every gardener has his own personal opinion, and at the best it is a controversial matter. It may, however, be said that the greatest drawback to the average garden is the inclusion of too many colors. A garden may be full of well-grown flowers and then not be attractive. Where shades and colors are mixed indiscriminately and a mass of colored flowers are placed near each other, the results are garish and unsatisfactory.

One of the prettiest gardens we have ever seen was filled with nothing but white and pink flowers; another arrangement almost as pleasing was made up of white and scarlet, but it lacked the delicacy of the former combination.

Four shades would, we think, meet the requirements of the average small garden, and when deep colored flowers are used they can be shown to much greater advantage by being planted immediately in front of or in close proximity to white flowered subjects. The beds and borders situated in the less frequented parts of the garden should be planted with flowers that will show plainly from a distance. White, yellow, bright scarlet and pink are best for this purpose. Blue, deep crimson brown, orange and similar shades need to be situated where they are seen at short range. Yellow and white as a combination is suggestive of a washed out insipid appearance. As a matter of fact a bed of these two colors seldom would escape notice, but certainly not for the pleasing effect they would produce.

An effort should be made with all bedding arrangements to avoid anything like a flat, stiff, formal appearance. The use of a few tall plants, among the lower growing ones, will obviate this.

## THE HARDY BORDER.

Many of the occupants of this department will assume such proportions this month as to necessitate staking and tying. This work should not be delayed longer than possible for a considerable amount of damage can be done in a short time by boisterous winds when the plants have no supports. In the case of Hollyhocks, Delphiniums and similar strong-growing subjects, it is advisable to place a stake to each stem, but this would be almost impossible in the case of Perennial Asters, Chrysanthemum Maximum and other many stemmed varieties. In this case we use four stakes to each plant and run a piece of raffia in a horizontal ring about the plants to secure them.

## THE VEGETABLE GARDEN.

Vacant ground should be filled with such crops as are needed to maintain a succession. The month of June is usually very dry and newly set out plants of cabbage, cauliflower, celery, etc., should be watered frequently until they become established. The potatoes should be

kept cultivated and sprayed, regularly; they may be hilled when they are in flower.

Okra does not infrequently come well from early sowings, and it is a good plan to make a second sowing round the first of June. We have found it good practice to start a few plants indoors, to replace those of the early outdoor sown ones the cut-worms destroyed.

## WEEDS.

The very mention of weeds to the gardener at once suggests a good deal of hard work to keep ahead of them at this time of the year. If dealt with in good time and cultivation is practiced regularly and systematically they are not such a mighty problem as one would suppose at first thought. They will grow, however, and eternal vigilance is the only price of freedom from them. Where weeds grow luxuriantly it may be concluded that they are better adapted for that piece of ground than are the crops that are planted thereon, hence the necessity of redoubled efforts to keep them under way.

## THE FRUIT GARDEN.

Some protection against birds violating the neutrality of the strawberry patch should be provided, for birds are as great sinners as human beings are in this respect. They like strawberries and will have them if not protected.

A net is best, or cheesecloth may be used to cover them. A series of strings run along the rows with white cloth strings attached will also help to keep them away.

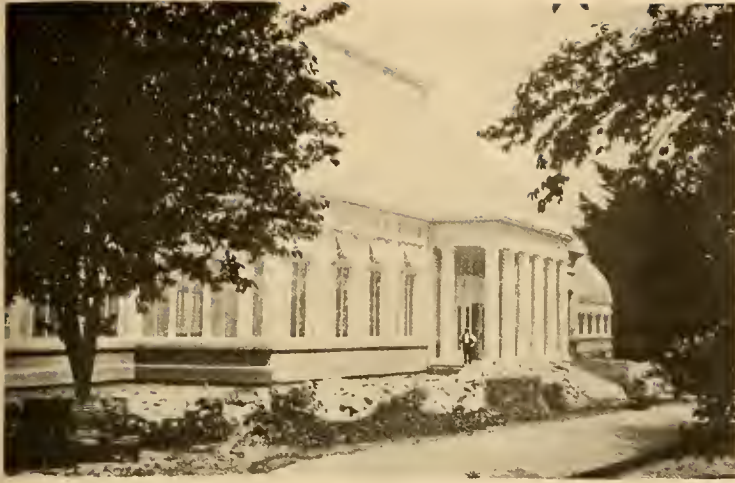
Do not omit to thin the fruit on the trees that are carrying too large a crop, or for that matter on all trees where first quality fruit is desired. A fruit tree has certain limitations the same as other things and if taxed to the limit one cannot expect to get the best from it. Thin out your fruit, don't be worried about the wind blowing down all that it may be necessary to thin—there will be plenty left after the windfalls are all down.

## THE GREENHOUSES.

We are now in the midst of the planting season under glass, or in some way preparing for winter crops. In the rush of these activities it would be well to give a second thought to some of the stock that has been left to take care of itself for a while. In a rush season like this something is sure to be overlooked and under no consideration should it be the newly planted stock. The roses need care, in the way of watering. When a newly planted bench has been watered thoroughly once, it is only necessary to water immediately round the plant until the roots begin to run into the soil, or it may soon become soured and uncongenial to the plants. When watered over a small area like this it is necessary to do it several times during the day, as some of the plants will be dry. Ventilation until the plants get growing vigorously should be carefully attended to. It is not to be assumed, however, that they are to be kept close and treated as tender stove plants, far from it. Roses revel in as cool and moist atmosphere as can be afforded them during the summer months and they should not be pampered at any time.

A draught will not hurt them even in cooler weather if it is not of a raw-biting nature. We have seen the rose  
(Continued on page 244.)





*Main Entrance to the Missouri Botanical Garden and Entrance to Its Famous Glass Gardens.*

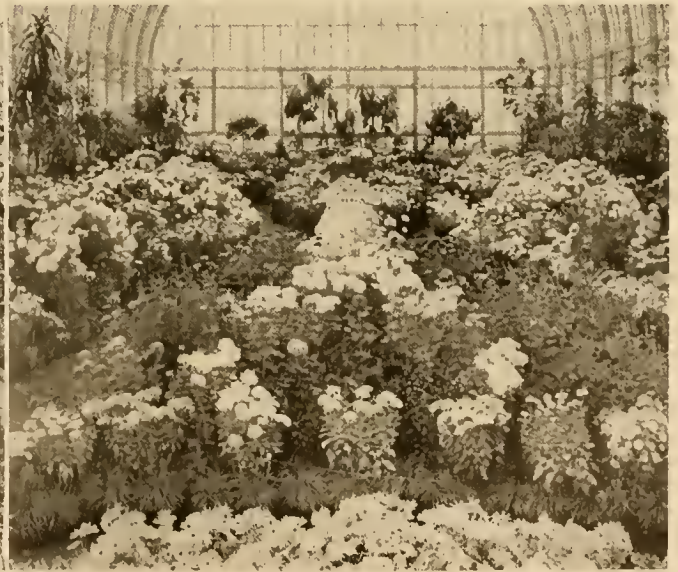
## *The Missouri Botanical Garden*

THE cultivation of plants for their healing qualities by the monks of the middle ages is generally supposed to have been the forerunner of the modern botanical garden, although these mediaeval gardens doubtless had their origin in others of greater antiquity. In a recent treatise on embroidery and lace by a Frenchman, the ingenious theory is advanced that the idea of a botanical garden originated during the sixteenth century in France, when the demand for flowers and fruits to serve as patterns for the designing of brocades caused the horticulturist Gene Robin, to open a little garden, with conservatories in which he cultivated strange and little known varieties. This proved to be such a success that Henry IV. purchased the establishment and under the name of "The Garden of the King," it became crown property. In 1626 the learned Guy de Brosse suggested that medical students might study these plants without interfering with the designers of embroidery and tapestry. Hence the first Jardin des Plantes, with its natural history museum, came into existence. This institution served so many excellent purposes that other countries rapidly attempted to duplicate it—

the author concluding with the naive statement "Who would have thought it possible for embroidery thus to come to the aid of science?"

The modern botanical garden has a number of functions which did not appear simultaneously, but were a matter of gradual development. Beginning with the utilitarian idea, there were added the aesthetic, the scientific and the educational, using these words in the broadest sense. Depending largely upon local conditions, these functions have been given different degrees of prominence, some gardens being essentially aesthetic, some mainly scientific, and others combining in about equal proportions all of the elements mentioned. Certainly the modern tendency is to make the botanical garden something more than a "museum of living plants" which, however necessary, is to a large degree uninteresting and lacking in its appeal to the public.

Most botanical gardens in this country are either connected with some institution of learning, or maintained wholly or in part by the municipality. In this respect the Missouri Botanical Garden is unique, since it has no connection whatsoever with the city.



*A Spring and a Fall Scene in the Glass Gardens of the Missouri Botanical Garden, St. Louis, Mo.*

paying taxes on all its revenue-producing property and only indirectly being associated with Washington University, through the graduate school of botany.

The garden as it now exists is the development of



*The Chrysanthemum Garden in the Missouri Botanical Garden Glass Range—An Interesting Spot When in Bloom.*

the private garden of Mr. Henry Shaw, who came to this country from England in 1818 and soon after settled in St. Louis. Acquiring a fortune within about twenty years, Mr. Shaw devoted the larger part of the remaining fifty years of his life to the enlargement and management of his garden, which, although freely opened to the public, remained his private property until his death. Seeking the advice of such men as Dr. George Englemann, Sir William and Sir Joseph Hooker, and Professor Asa Gray, Mr. Shaw, in a will, remarkable for its breadth and farsightedness, left to a self-perpetuating board of trustees the administration of his property and, through a director, the management of the garden which he himself designated as the Missouri Botanical Garden.

It may truly be said that practically all the various aspects of the work of this garden at the present time, whether they be scientific, educational, or aesthetic, were conceived by Mr. Shaw and provided for in a very definite manner by his will. As funds have become available, various aspects of the work have been enlarged and it is possible that in some respects the development has proceeded further than Mr. Shaw imagined possible, but the germ of the idea may be found in his will and had he lived to the present time it seems more than likely that his own management would have produced practically the institution as it now exists.

In addition to the ordinary landscape treatment of such a garden, including the usual plantations of trees, hardy shrubs, and flower beds, there are also special outdoor collections comprising such features

as the so-called "North American tract" in which are included a systematic arrangement of a considerable number of plants hardy in the vicinity of St. Louis; a small arboretum; a medicinal garden; a large Italian garden, laid out on strictly formal lines; a so-called "Linnean garden," which takes its name from one of the older greenhouses, called by Mr. Shaw the "Linnean house," and which because it is bounded on three sides by a wall, is patterned after some of the English gardens; a rose garden; an economic garden, in which are displayed special collections of useful plants, such as rice, peanuts, tobacco, sugar cane, cotton, farm crops of various sorts, examples of vines, hedge plants, annuals and perennials suitable for growing in the vicinity of St. Louis; bee plants, herbs, small fruits and anything which can serve as a demonstration to the public of what may be accomplished in the growing of useful and ornamental plants.

Within the last three years about 100,000 square feet of display greenhouses have been added, within which are maintained permanent collections of palms, economic plants, ferns, desert plants, cycads, orchids, etc. There is a floral display-house, 300x50 feet, where a continuous flower show is maintained from October to July. This house is admirably adapted for the purpose and probably nowhere else in the country does the public have an opportunity for seeing such an exhibition of blooming plants. Next spring this house is to be devoted to a typical Shakespearean gar-



*The Palm Garden Under Glass, with Its Winding Paths, Giving Opportunity to Study the Plants at Close Range.*

den with beds, hedges, trellises, fountains, garden furniture, and plants mentioned by Shakespeare, and will duplicate as nearly as possible the Elizabethan garden of three hundred years ago.

In addition to the outdoor and indoor collections of plants, the garden maintains one of the best botanical libraries and herbariums in the United States, and these two features serve as most important adjuncts



*The Grotto of Ferns in the Glass Garden, with Its Running Brook Giving it an Added Charm.*

to the Shaw School of Botany which, with adequate laboratory facilities, devotes its principal endeavor to the training of graduate students in botany, these students receiving their master's or doctor's degree from Washington University.

The small museum and library building, erected by Mr. Shaw, is now devoted to a remarkably fine collection of specimens illustrating the diseases of wood, and from time to time special exhibitions of special interest are shown here.

In addition to the graduate students, a school for gardeners is maintained, which, because of the unique opportunities available, and the special character of the work, is perhaps not to be equaled elsewhere in this country. Young men and women who have received a high school training or its equivalent are admitted on examination and devote three years, of twelve months each, to the practical and theoretical aspects of landscape designing, floriculture, horticulture, engineering, etc. The courses include such subjects as diseases of plants, entomology, soils, mechanical and freehand drawing, plant breeding, general and systematic botany, as well as the various more strictly horticultural subjects.

It has been amply demonstrated that a garden of this character will furnish recreation and pleasure to thousands who are not seeking merely for amuse-

ment, and every effort is made to have the collections, in so far as possible, informational if not instructive. Naturally, such a place must be attractive and the mere accumulation of numbers of botanical species, crowded together, will not answer the purpose. By maintaining floral displays of plants which are either little known, or because of the wealth of bloom and color cannot be seen elsewhere, and by showing rare tropical plants which, because of their fruit or use in commerce, are known to the average individual, as well as the commoner things which are frequently read about but seldom seen, the garden is able to make a definite appeal to many. Such an institution, with the various enterprises referred to, is naturally expensive to maintain and it is impossible to do all in any one department that might be desirable. However, it is believed that the income will eventually be sufficient to support the various projects now under way and that ultimately the Missouri Botanical Garden will become an even greater monument to the greatest patron of botany and horticulture that this country has ever known.

Extracts from lecture before Massachusetts Horticultural Society, by Dr. George T. Moore, Director Missouri Botanical Garden, St. Louis, Mo.



*The Semi-Tropical Garden Under Glass with its Towering Acacias and Semi-Tropical Plants of Many Species.*

#### EXTENDING ITS WAREHOUSE FACILITIES.

THE MacNiff Horticultural Company of New York has recently leased the five-story building, 52 Vesey Street adjoining the buildings 54 & 56 Vesey Street, which it at present occupies. This gives to the company three large warehouses, one of which is to be devoted to its retail seed department while the other buildings will house the plant department and the auction rooms.

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HERBACEOUS PÆONIES

VIGOR, indeed, is a good attribute of all the so-called Chinese—albiflora, by the way, is of Siberian origin—and European Pæonies, though not so much can be advanced in favor of the more recent Japanese sorts, though the best of the singles and semi-doubles of this set are very beautiful, the richly-colored guard-petals and cushions of petaloids—inner petals—affording striking contrasts. Fragrance, too, is a welcome attribute in not a few of the best herbaceous Pæonies, and when wedded to the exquisite white, cream, palest sulphur, or satiny-red shades in the flowers they are as satisfying as they are imposing. The color-shades mentioned by no means exhaust the variety, since at the other extreme of the chain may be found the intense crimsons or purplish-crimsons of Delachei, Gloire de Douai, and the Pottsi set, and between the extremes an almost inexhaustible supply of rich rose, purple, amaranth, carmine,

delicate pink, flesh-rose, and lilac, which, with blendings of salmon or other pleasing shade in the lighter flowers, makes an array of beauty of which only those who have close association with these flowers can possess an adequate conception.

In the Pæony there is a nobleness of foliage which, if permitted, would play a part long after the flowers are gone, and, retained to autumn days, furnish a color-warmth acceptable among the low-growing forms of vegetable life. Too often this phase of beauty is lost to the garden, and where a systematic tidying-up follows the completion of flowering it is unknown. It is unseen, too, often enough—in those instances where the plants are tied up besom fashion in the border, which, ugly in itself, robs the plant of its good form and picturesque effect.

As yet, failing either to realize or appreciate the importance of the Pæonies, we have been content with solitary bits in the border. This, doubtless, to thousands is the only possible way. But what of the lost opportunities of those who garden upon a much larger scale? A veritable host in itself, the Pæony might be worthily employed in conjunction with other things, as Daffodils and Lilies, to extend the beauty at the two ends of the flower season, the Pæonies constituting the central figure in the picture. Of bold Daffodils flowering at the same time as the rising tufts of crimson-stemmed Pæonies appear we have seen something and know a little of the protective value of these latter, both to the young growths of Lilies in spring and the helpfulness of their leaf effects later in the year when the Lilies were in bloom. It but requires a fuller development of the small picture in mind to create as great a flower-feast as any garden could boast.

The gardener cannot do too well by these plants. The fact that they are of a vigorous nature, and will send their thong-like roots 3 feet or more into the soil, the planter should never lose sight of. It should be remembered, too, that the plantation may have to stand for ten or a dozen years, hence a little extra preparation would not be in vain. Once well planted, indeed, they may remain all those years and still give a good account of themselves annually at flowering time. Hence those who would have them in perfection must trench and enrich the soil to at least 3 feet deep. When this is done the stature of some sorts is surprising, the greatest I have seen being between 5 feet and 6 feet high. With this, robust vigor and flowering were *pro rata*. This was the outcome of specialization; the 2 feet high examples—the commonplaces so to speak—the result of the "any common garden soil" idea of liberality. The plants succeed, however, in many classes of soils—light and sandy, medium, and often heavy loams—and are quite good and happy in strong, chalky soils. The measure of their success in all of these depends upon the measure of cultivation such soils receives.

The best planting season is September. It is at that time that the new basal-root action is resumed afresh each year, and he who would re-establish his plants most quickly should follow this plan. The worst possible season for planting the Pæony is the season of the growing tops, the best the period of the maturing leaf. As March and April-planted specimens never flower in that year, but only suffer and become weak, it were better to wait till September and plant in season and in reason. Pæonies should never be transplanted in big, undivided clumps, the nursery-grown specimens, having three to six plump crown-buds apiece, are infinitely superior, and will soon make headway. In planting keep the crown buds 2 inches or three inches below ground level.—*Gardening Illustrated (English)*.

# Department of Ornithology

Under the Direction of the Committees on Bird Preservation and Propagation.  
National Association of Gardeners, L. H. Jensen, St. Louis, Mo., Chairman.  
American Association of Park Superintendents, Hermann Merkel, New York, Chairman.

## BRINGING BACK THE BIRDS.

THE town of Brookline, Mass., according to a reliable authority, has successfully demonstrated the fact that birds are invaluable from an arboricultural standpoint and that their number may be greatly increased in any municipality by a little well-planned effort. Like many other New England towns, Brookline has a plentiful supply of beautiful trees which are highly prized. These the authorities sought by the usual means to guard against the attack of insect pests. The campaign, however, was not entirely successful. The leopard moth invaded Brookline and against this tree enemy poisonous sprays avail little. Birds alone can hold it in check.

So Brookline, a few years ago, went seriously about the business of inducing birds to come and stay. In 1910 it wanted woodpeckers and it issued its invitation, but only a few responded. Three years later, Brookline had learned enough through experiment to justify the municipality in building and placing a hundred nesting boxes.

That was the beginning; year by year since then the work has been expanded. The nesting boxes increased in number and variety, and, during winter, thousands of birds were fed daily at 125 municipal feeding stations, operated by the town authorities at the public's expense, an appropriation of \$750 having been made for "bird maintenance." The report says that Brookline is satisfied that the returns from this outlay will warrant a continuation of the item in the annual budget.

Every town needs more birds to protect its trees and could profitably expend time and money to induce their return. Private owners may at a small expense help along the good work by placing nesting boxes about their grounds and by feeding during the severe weather of winter, when the natural sources of food are inaccessible.

Concerning winter feeding of birds the following hints by one who has made the subject a study are valuable: "There are many ways of feeding birds in winter, all of which are of great benefit. February generally brings the worst climatic conditions for the welfare of bird life and it is well to be prepared for whatever may come.

"It is a curious fact, that established feeding stations soon become the rendezvous of a greater number of birds than those which are moved from place to place, and it is therefore very desirable to continue placing the food in the same location, once the birds have become accustomed to it. In placing grain feeders or trays to hold crumbs and other scraps, it is best to select a sheltered place, such as the southern exposure of a wall or line of shrubbery affords. Never place a feeder below three or four feet unless you are sure the neighborhood is free from cats. A very simple and effective way of feeding juncoes, song sparrows, tree sparrows and other winter residents, is to trample and pack the snow underfoot until it becomes firm. Grain and crumbs may then be thrown on the packed area. If this method be followed, only a small amount of food should be put out each day.

"Chickadees will be attracted by well broken almonds or peanuts placed in a tray nailed to a tree. This is not very generally known. Nuthatches will take sunflower seed in preference to all others and will afford much amusement through their tameness and interesting methods of opening the seeds. Suet is, of course, the best all around food, as nearly every bird will eat it throughout

the winter. This may be fastened to trees or window sills, but should be placed in the sun as it becomes very hard in extreme weather. Birds will eat nearly twice as much when it has become soft in the sunlight."—*Tree Talk*.

## A BIRD SANCTUARY AT GREENWICH, CONN.

PROBABLY the largest bird sanctuary in this country is to be established on the estate of E. C. Converse at Greenwich, Conn. Here a tract of 1,800 acres is to be established in which houses, food and protection will be provided. An expert ornithologist from the Massachusetts Agricultural College is to have charge of this work. A bird census is to be taken first and thus it will be possible to know what species are attracted as time goes by.

It is interesting to note here that this tract on which a great deal of spraying is done already contains more representative species than any other tract in this section of the country. This is pretty conclusive evidence that spraying has no effect whatever in driving our feathered friends away, but on the contrary is an inducement to them to build their nests in sprayed trees. Birds much prefer trees with dense foliage and it is only by spraying that we can hope to keep the leaves on the trees in this age of destruction by insects.—*Exchange*.

## IS IT UNWISE TO FEED THE BIRDS?

FREQUENTLY someone with more zeal than knowledge denounces the winter feeding of the birds as unnecessary and economically unwise, writes the Rev. Manley B. Townsend, secretary Audubon Society of New Hampshire, in the *Guide to Nature*. Such an attitude is a good illustration of the old saying, "A little knowledge is a dangerous thing." The latest manifesto along this line is by a Kansas professor, who declares that feeding the birds has a tendency to diminish their usefulness as destroyers of insect eggs, pupae and hibernating adults, as it removes the necessity that is supposed to keep the birds hustling. It would seem that there might be something in this reasoning, but what are the facts? Birds prefer their natural food. Where they can get that in sufficient quantities they do not care for food that we give them. This is proved conclusively by the fact that only winter feeding proves successful. When spring comes, the birds leave our food, no matter how attractive it may be. Only dire necessity drives them to our feeding stations.

During the winter many birds have difficulty in finding sufficient food. Search as they may, the natural supply is inadequate. The spark of life burns low and, alas! too often flickers out. With a full stomach a bird can bid defiance to any weather. With fuel under the boiler, sufficient steam is generated to keep the machinery running. Food placed out for the birds may save many a little life by providing just the necessary additional fuel needed to keep up the steam. The first sharp edge of hunger blunted, the bird will pay for his dinner by searching the trees in the vicinity and destroying all the insects that he can find, for he always prefers his natural food. It pays, in dollars and cents, to feed the birds. Every orchard should at regular intervals have suet fastened to the trees, as well as bird boxes for nesting purposes.

# The Intricacies of Tree Surgery

THE photographs here reproduced depict the skillful surgical treatment of a European Linden of unusual size and beauty. The tree is first illustrated in full leaf, as it graces the lawn in front of the mansion of one of the country estates on the New York shore of Long Island Sound; the position of the tree making it of special value as an attractive landscape feature.

The second illustration shows the trunk of the tree which is divided into three main branches at sharp angles. These branches form what is frequently referred to as "the fatal V-shape crotch." Such a tree is generally regarded as structurally weak and sooner or later these crotches will split. The crack is at first small, but when water gets into it decay sets in. Nature will do the best she can and may heal the split on the outside, but the decay, once started, continues on the inside. Another windstorm splits the crotch a little further—it heals—the



*A View of the Tree From Underneath Its Foliage.*

cay. Its condition, unknown and unsuspected by the owner, was such that any severe storm might have easily torn the tree apart. It required considerable skill to cut into the trunk and accomplish the necessary result without fatal injury to the tree.

The fourth illustration shows even more clearly how serious the condition of the tree really was and how far it was necessary to go to do the work perfectly—for tree



*This Beautiful European Linden Stands as a Landmark on the Shores of Long Island at Mamaroneck, N. Y.*

decay continues—and it splits again. This process continues until the tree becomes so weak that it cannot longer stand the strain. This beautiful Linden here illustrated, structurally weak by nature, has been splitting, healing, and decaying for a number of years. The bulge and seam apparent down the side of the trunk clearly indicates this.

The third illustration shows the decayed crotch partly opened up and revealing the serious plight of the tree. The trunk was little more than a shell, most of its structural strength having been consumed by the de-



*Showing the Decayed Condition of the Tree, After the Surgeons Cut Into Its Trunk.*

The photographs are reproduced through courtesy of the Davey Tree Expert Co.



*The Cavity, Thoroughly Cleansed and Treated, Ready for Its Filling.*



*The Cavity Filled, Not Solid, But in Sections, to Allow for the Tree's Sway.*

surgery is very much like dentistry—all, not nearly all, but all decay must be removed, and so in tree surgery the carving, bracing, filling and general treatment of a tree has become a fine art. After the decay was thoroughly removed, the entire interior of the cavity was carefully disinfected. A finely carved "watershed" was made all around the edges of the cavity for the purpose of excluding moisture, after which the entire interior surface of the cavity was carefully waterproofed.

Proper bracing is a most essential part of reliable tree surgery, for it is evident that serious decay consumes much of a tree's strength; but when properly braced, much of the lost strength is restored and a proper means of holding the tree together and binding the filling securely in place is provided. In the tree referred to the principal requirements were the many bolts of steel rod, threaded full length. Each bolt had four nuts and washers, two on the outside and two on the inside of the tree. Those on the inside are called "lock nuts" and are employed to keep the parts of the tree from shifting and to prevent crushing of the filling. Many trees require rather complicated systems of bracing, which include besides bolts and "lock nuts," anchors, torsion rods, steel backbone and ribs, etc., etc. This work requires a skill that can only be acquired through long practical experience.

The fifth illustration shows the manner in which the tree was filled. The filling was made in distinct sections, a sort of ball and socket arrangement, to allow for the swaying of the tree from wind. Each section was carefully made, the top being smoothed off to slope upward somewhat towards the rear of the cavity. Tar paper was placed over the top of each section to keep the next upper section from uniting with it, this allowing a sufficient movement between the sections to conform to the swaying of the tree. It is the only method we know of so far devised, to allow for swaying and prevent the inevitable breaking of the filling, as when made solid in one piece.

The work above described was done many months ago

and the tree has since withstood several terrific storms as well as the ordinary ones. The tree is in perfect condition in spite of the unusually severe storms it has encountered since it has undergone its surgical operation. A few minor defects have been uncovered, but these were quickly and easily remedied.

#### BOSTON'S SPRING FLOWER SHOW.

THE Grand May Exhibition of the Massachusetts Horticultural Society for which some \$6,000 was offered in premiums proved to be a good show but did not come up to expectations. Would-be exhibitors are too busy in mid May to give much thought to flower shows, and the prolonged winter, added to a serious labor shortage, has caused such a congestion of work that many who would have liked to exhibit could not spare time to do so. The general public while it attended the show in goodly numbers would have more liberally patronized such a show in March and it is unlikely that Boston would soon again attempt a big May Show.

The principal exhibits were roses, hydrangeas, azaleas, orchids, calceolarius, marguerites, groups of plants, bulbous flowers, antirrhinums and rhododendrons. Carnations were practically nil, prizes of \$100 and \$50 in one class failing to draw a single entry. Some of the leading exhibitors and prize winners were: W. C. Rust, gardener to Mrs. C. S. Weld; Henry Stewart, gardener to Miss Cornelia Warren; Alex McKay, gardener to E. A. Clark; E. H. Wetterlow, gardener to Mrs. Lester Leland; Duncan Finlayson, gardener to Larz Anderson; N. N. Craig, gardener to E. O. Brandegee; William Thatcher, gardener to Mrs. J. Q. Gardner; Daniel Whyte, gardener to Winthrop Ames; Charles Sander, gardener to C. S. Sargent; T. O. Hatfield, gardener to Walter Hunnewell; Edward Parker, gardener to Oliver Ames; J. O. Christensen, gardener to W. J. Clemson; Wellesley College, Thoma T. Watt, gardener; William Martin, gardener to N. T. Kidder.

# The Boxwood and Its Enemies

By Bruce Butterson, Rhode Island.

UNTIL recent years very little attention was given to the cultivation of the Boxwood in this country. Occasionally, without any special care on the part of the owner, a specimen would be seen growing upon a lawn or planted on the side of a path leading to the front door of some farm house; sometimes it was used by a private gardener to outline the walks of his vegetable or flower garden. On the whole, it was a very much abused and neglected little evergreen shrub, and was seldom seen in its full vigor and beauty. Since gentlemen of America, however, have begun building large villas and laying out beautiful French and Italian gardens, the demand for the Boxwood has become very great. As a result, the nurseries of England and Holland have been completely cleared out of large size plants, and it is difficult at the present time to procure in Europe any great number of good specimens of Bush Box over thirty inches high, for last season there were more than 120,000 plants used in planting one Newport garden. Even a greater number would have been used, if it were possible to procure them in time.

With the increased popularity of the Buxus, the nurserymen and private gardeners have found it necessary to give it some thought and study. Buxus is always expensive, and many dealers and gardeners have met with heavy losses through ignorance of its proper care and from the attacks of insect pests. Many of our growers believed that a severe winter was its only enemy, but more recently, however, they have found out at considerable expense that such is not the case.

The Buxus makes its entire growth during the months of June and the early part of July. At this season of the year, it requires the greatest amount of care and watching in order to obtain perfect results. Thousands of plants are lost during the growing period from lack of water together with the ravages of the Leaf Miner, Oyster Shell Scale, and Red Spider.

The Boxwood likes shelter from the cold winds but is soon injured by any close covering that comes in contact with its foliage. I have also found that if the snow is left lying against the plants for several days, the leaves will sometimes turn brown and die. A strong string tied around the plants to prevent them from being broken with the snow is all the protection that I give them in winter. The plants require an abundance of water during June and July; spray the foliage every day if possible. It will wash off the aphid, kill the red spider and help keep the Oyster Shell scale under control, thereby increasing the health and beauty of the plants.

The Oyster Shell scale is very injurious to the Boxwood if it is not discovered in time and properly sprayed. If patches of yellow, unhealthy looking foliage appear upon any part of the plant, it is well to break off a small branch of the diseased part and examine it very closely. It may be infested with this pest. Oyster Shell scale can be seen with the naked eye. The young shoots will be covered with a very small shell-shaped scale, sometimes so close together that they overlap each other like shingles.

If you should take a penknife and with the point remove one of these scales, turn it upside down upon the palm of your hand, and examine it closely, you would find that it contained a number of very small bluish white eggs. Because these eggs are so well protected while under the mother scale, I know of no way of destroying them with poison; so we must wait a little while for our revenge. Examine the plants again about June 15. At this time

the new growth upon the box will be about two inches long. You will then notice tiny white specks about the edge of the old scale. These white specks are the young scale coming forth to make a home for themselves upon the new growth. They sink their proboscis into the tender young shoots and there remain through their entire life robbing the plant of its sap and completing the deadly work which its parent so well began. At this time, which marks the tenderest period of the insect's existence, is the best time to attack it with some good contact poison. Use a force pump and a Bordeaux nozzle on the end of the hose; be sure and wet the stem of the plant as well as the leaves and spray thoroughly. If soluble oil is used for spraying box, be sure that the mixture is fresh and that it has not been allowed to heat by standing in the sun; this may cause the raw oil to become free and float upon the surface. In this condition the free oil will come in direct contact with the leaves of the plant and burn brown spots in them, thus disfiguring them for the entire season. I have found it a good plan to spray box early in the morning when the plants are covered with dew. If the oil is free, it will mix with the moisture upon the plants and the leaves will not be burnt.

The arch enemy of the Buxus is the *Monarthropalus Buxi*, commonly called Box Leaf Miner. It is a small fly about two-tenths of an inch in length and with a wing spread of one half an inch. It is colored a bright orange and its wings are pure white. The male and female have the same characteristics to the eye. This same fly is related to the Hessian fly, which is known as one of the worst destroyers of the wheat in the western wheat belt. It was first discovered in Newport by the writer in the spring of 1910, when it did considerable damage to the Boxwood upon the private estate of Edward J. Berwind. Although new to us in this country, the insect is well known in Europe and was probably imported to America along with the Buxus.

During the winter and early spring, the *Monarthropalus Buxi* makes its home between the two skins of the box leaf and feeds upon the tissue. Later in the season it develops into a fly, eats a small hole through the skin of the leaf and flies away to find a suitable place to lay its eggs in the soft new foliage. In a short time, the injured box leaves begin to turn brown and drop off, sometimes the plant being left entirely defoliated. Because of its habit, the Leaf Miner was thought to be hard to destroy. It was found to be impracticable to spray or fumigate the plants while the maggot was inside the leaf, because in such a case it would be necessary to use a very strong poison or gas which would destroy the leaf as well as the insect, if the poison penetrated sufficiently through the skin of the leaf.

I decided that in order to conquer the pest, we must learn more of its habits. At intervals I sent infested plants to Messrs A. E. Stene of the Rhode Island Agricultural College at Kingston, R. I., and H. L. Frost of Arlington, Mass. Mr. Stene discovered that this pest is only in the flying stage of its existence about ten days; this is usually in the early part of June when the new growth upon the Boxwood is very soft. During this time, the insect is very active. In the early morning they may be seen in great numbers hovering over the box plants. The female insect deposits her eggs not upon the surface, but forces them into the tissue of the leaf where they will be protected from all harm.

(Continued on page 252.)



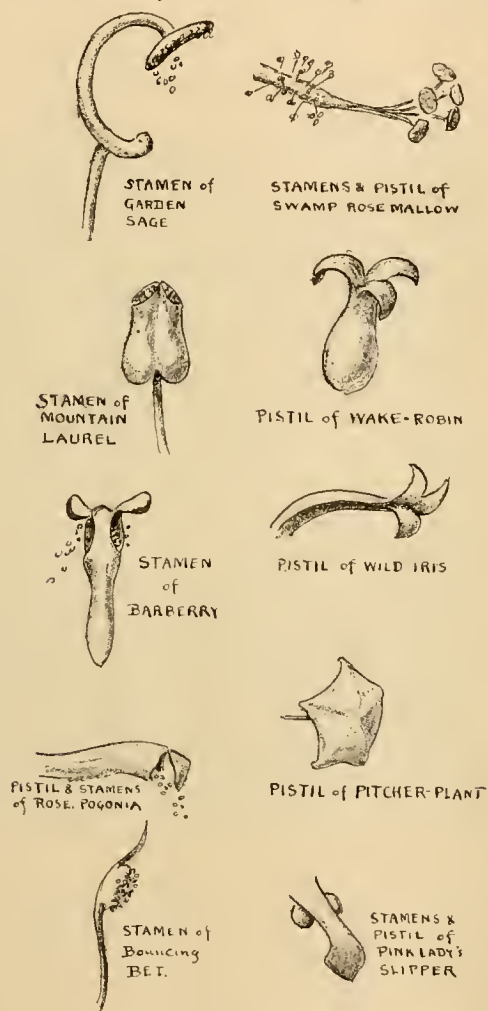
# How Flowers Work And What They Do

As the spring has really come at last, we will begin our excursions in search of our old friends, the wild flowers, and see what new acquaintances we can make this season.

But in order to make our studies truly profitable we must not be satisfied merely to know what the flowers are, but must also at the same time try to find out what they do, writes H. W. Faulkner, in *The Guide to Nature*. Flowers are not merely beautiful living creatures; they

of one flower to the stigma of another, for this makes the young seedlings more robust and better able to fight the struggle for existence. This shifting of the pollen from flower to flower is known as cross-fertilization, or cross-pollination, and Dame Nature takes the greatest pains to make sure that the pollen is crossed. She invents the most ingenious mechanisms for the purpose, employs insects of every variety, lures them with every charm of color, odor and nectar, and takes advantage of each one of their peculiar habits and tricks to make them work for the good of the flowers. But there are very few books which tell us anything about the strange mechanisms of flowers and the habits of the insects which visit them.

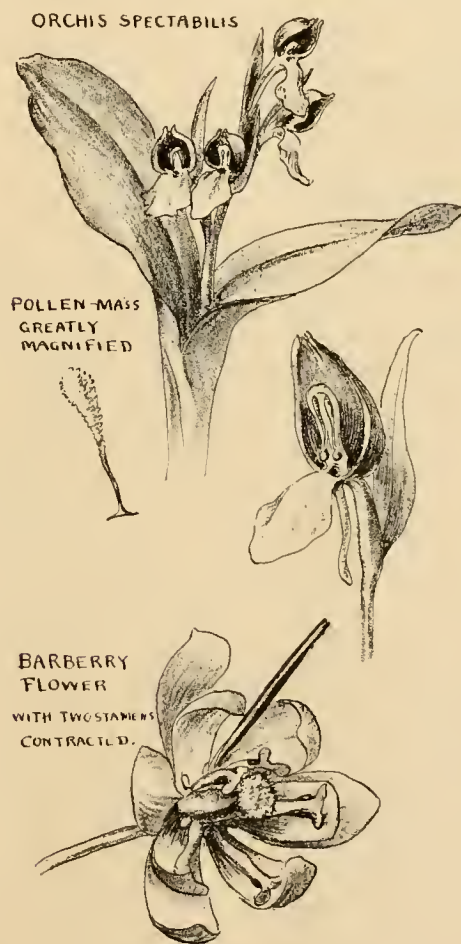
The botanics seem to confine themselves to the mere recognizing and classifying of our flowers, treating them as specimens, not as living creatures, with schemes and ambitions. Yet the subject is so full of interest that I hope my readers will accompany me in many excursions



Courtesy of *The Guide to Nature*.

are also exquisite and wonderful mechanisms whose workings are most interesting. Their mechanisms are for the making of seeds or for their distribution. Now in the making of seeds two substances must combine. Just as in chemistry two chemical substances must combine to form a crystal, so in botany two vegetable substances, the pollen and the ovule, must combine to form a seed which shall live and grow. The pollen, as we all know, is a yellow powder, and the ovule is like a little green bead. The pollen is produced by little bags or anthers on a long, slender filament; the two being the "stamen." The ovule is formed and concealed in a green vase, the "pistil," with a long neck, the "style," opening at the top in the "stigma."

The pollen is carried from the anthers to the stigma by various agencies, such as the wind, the bees and the birds, but it has been found that it is better for the race of plants to have the pollen carried from the anthers



this summer and will question a host of our native flowers as to those schemes and ambitions and try to find out the secrets of their lives.

It is always fun to collect something, such as stamps, coins, postcards or dried flowers. But let us begin a new kind of collection—one composed of the mechanism of the flowers. This will consist of sketches of the various parts, showing how they work, and before the season is over we shall have a line of inventions and discoveries to rival the Patent Office. We shall find the stamens and pistils of our plants exhibiting extraordinary variety and modifications, and will discover that each grotesque twist

and distortion of these organs is to help along the main purpose of the cross-fertilization of the flower.

In the sketches here given will be seen several stamens and pistils of quaint and odd forms. In May you will find several flowers which bear their pollen on one plant and form their seeds on the other. Gather and examine some jack-in-the-pulpits and you will find minute pistillate flowers on the "clapper" of one bell and staminate flowers upon another. The jack which makes the pollen fades before the season is far advanced, while the pistillate flowers develop into gorgeous bunches of red berries.

Examine the barberry flower with a strong magnifying glass and you will find it to be arranged like a minute sea anemone. Gently introduce the point of a pin into the cup of the flower and you will observe the spreading stamens curl toward the center as if alive and they will shed their pollen on your pin as they would do upon a bee's head. This barberry flower is a veritable sensitive plant and thus sends its charge of pollen away to another flower upon the furry coat of a faithful messenger.

In May, too, we have the showy orchis whose lovely blossoms with purple hoods and white bibs suggest the head of a monk with his cowl. Here the pollen is in the form of two clubs, and these are found in two small pockets where they can attach themselves to the head of an insect visitor. You can "play the bee" by using the point of a match or a pencil and can withdraw the pollen masses from their pockets just as the insect does.

### THE PLEASURES OF ROCK GARDENING.

(Continued from page 230.)

and cool. Keep the crevices well filled and make provision for any special plants if necessary, ramming the soil well in with a stick so that the structure will be firm and will not give way through settling afterwards. In every instance place the rocks so as to give a variety of choice in the matter of situation for plants requiring different aspects. With plants such as *Ranunculus*, *Saxifraga longifolia*, and the like, planting should be made almost horizontally so that the water can run out of the rosettes, otherwise it would surely rot and destroy them.

Always arrange in one or two places projecting rocks which have a striking appearance, and these will form ideal locations to plant such varieties as the encrusted family of *Saxifragas*, *Silenes*, and many others. They will not need to be disturbed for several years, as they will be quite at home in such places. In forming pockets, make them of various sizes and large enough to hold several plants of one kind in a mass; by so doing one will have a good display and a more decided and charming effect.

The walks in and about the garden should be as informal as possible, with a few stones placed here and there to walk upon. Should any rocky steps be introduced, keep to the same informality, for the more unshapely they appear, the more natural will they look. In planting, arrange the larger growing plants on the higher parts of the garden, and the smaller ones, as far as possible in the low recesses. By adopting this method the rock garden appears larger than it really is. Great care should be taken to avoid planting the early kinds all together unless one wants to have one part of the garden in bloom at one time and the other part at another. Great care should also be taken to blend the colors when planting, so that they do not clash at blooming time.

After planting give a thorough watering and do not let the plants lack for moisture while they are making new growth. A spraying over during very hot days will give them a nice fresh appearance. As regards the time for planting, I prefer the month of April so that the plants may be well established by the following winter.

In order that they may become well established, the main thing is, to not permit them to lack for water until they become fixed. Another thing I should like to mention is, in making holes for planting, remove sufficient soil to allow the roots to be comfortably inserted without being curled and twisted up in all manner of shapes. Nothing is more detrimental to plant growth than this. Remember also, that the greatest number of rock plants are lost by not being planted firm enough.

The rock garden makes an appeal that is undeniable and it will no doubt become as popular in this country, as it is in England, in landscape gardening and the planning of estate.

Extracts from paper read before Morris County Gardeners' & Florists' Club.

### WORK FOR MONTH OF JUNE.

(Continued from page 234.)

house doors standing wide open and the wind blowing through strong enough to blow one's hat off and not a sign of mildew round the plants. It is the cold, raw, damp draughts that harm roses, and growing them as hardy as possible during the summer will tend to make them better to handle during the winter months.

Don't neglect the carnations, whether they are growing in the garden or under glass. They need pinching from time to time to cause to break and produce flowering shoots. Cultivate regularly to keep the weeds in check.

*Chrysanthemum* cuttings put into the sand at this time will make fine stock in six-inch pots by fall.

*Crotons* are now growing freely, and pinching out the ends of the shoots may be done to keep them in shape. Ferns will be benefited by a dose of liquid manure during the summer months.

*Palms* and other decorative plants should be thoroughly sponged and cleaned of all scale and other pests. As soon as the rush of replanting, potting of *Chrysanthemums*, etc., is over, this work may be proceeded with.

### THE BUD OR SINGLE ROSE VASE.

THERE are many places such as on milady's writing desk or bureau, etc., where just one beautiful rose, with the luxurious green foliage placed in a bud vase, makes a very pretty ornament. In addition to the straight tubes there are a number of vases in quite a variety of form and material. The glass tubes are etched and some are cut while tubes of hammered copper are antique, and fit in nicely with desk furnishings.

Artistic wooden receptacles made of mahogany with a glass tube center, looking something like a slender candlestick, have recently been introduced; also, some of wood with the new black and white striped effects. The accompanying illustration shows but a few of these vases. Other patterns are offered of several tubes joined together, which are more elaborate, but lack the exclusiveness of the individual vase.—*American Florist*.

### OVERHAULING THE FERNS.

WHERE many ferns are grown and a rush is anticipated when annuals and bedding have to be handled in large quantities, it would be well to overhaul the ferns now and repot any such as need it.

A good rich compost with plenty of flaky leaf mould and enough sand to make it porous is needed for ferns. Never over-pot. It is far better practice to shake off the old soil and repot into a clear, dry pot of the same size than to use a pot that is too large. In the latter the soil is likely to become stagnant and sour, and the plant will suffer in consequence.

## From Here There and Everywhere

### DAHLIAS FOR GARDEN EFFECT.

In years gone by the Dahlia was looked upon as an almost indispensable autumn flower, but now we often hear the opinion expressed that Dahlias are almost useless

for color effect in the garden. The reason is not far to seek, for the older varieties of the decorative class hold their heads of bloom on stout stems well above the foliage, whereas most of the modern varieties introduced under the name and disguise of improved sorts possess the unpardonable fault of weakened stems, hiding their heads of bloom beneath a dense green mass of growth and foliage. Happily, some of the older varieties good for garden color-schemes are still to be obtained, while the new Pæony-flowered race bids fair when better known to outrival the old show Dahlia for massing. Now, by thoughtfully choosing the right varieties, it is possible to create truly wonderful autumn



*Dahlias Planted in the Garden for Decorative Effect.*

color-schemes with dahlias. It needs only a glance at the accompanying illustration to make this point clear. Here is seen a bed in which the flower-heads are borne on stout stems well above the foliage. From all directions the white flowers show up clearly, and make a bright and telling spot upon an autumn landscape.—*Exchange.*

### AUTUMN IN THE ROCK GARDEN.

Most owners of rock gardens are apt to think that after June, or at latest, July, the charm of that part of their garden is gone.

To a certain extent this is true. Those who know Switzerland will realize that the spring and early summer are certainly the times when alpine plants are at their best. But this all makes the problem of how to avoid a bare autumn rockery all the more interesting. In autumn quite a respectable number of plants may be had in bloom by those who arranged their plans well. It is considered rather bad management if the flower-borders are quite bare at one period of the season, unless, of course, they are planned for a special month. Why should not this apply to the rock garden? I will enumerate some of the plants that will flower in fall. It is a great help if plants of small growth and quite suitable to such a position are grown, even if they are not alpine, and use is even made of annuals to fill up gaps. Of small carpeting plants, *Franklinia*, with pretty gray foliage and a small pink flower, and *Ionopsidium caule*, an annual with pinkish mauve flowers, are both good. The latter is particularly suitable for an edging. *Linaria alpina* is a graceful, feathery little plant. Of the *Heaths*, *Erica Searlii* and *E. vagans alba* make a very satisfactory mass of dark green, studded with white. *Vittadenia triloba* is a small and most useful plant, not often seen. It has a

Daisy-like, pinkish white flower, and is covered with blossom most of the year. It deserves the very highest recommendation. Both *Corydalis dicentra* and *C. lutea* are good. Though neither is a showy plant, their foliage makes a pretty soft-looking mass, and their flowers are not to be despised. The latter grows well in a wall. Stray flowers may be found on many plants which have really done their flowering season. *Hypericum reptans* and *H. Coris* will make a welcome patch of yellow. *Potentilla Miss Willmott* flowered early in the summer, and in autumn a mass of silvery pink blossoms. In a damp spot a red *Mimulus* makes a handsome patch of color. It is worth noting that though it does best by the side of water, it will also grow in quite a dry situation. *Tunica Saxifraga* and *Androsace coronopifolia* (rather similar in appearance) are both good.

To sum up for the benefit of those who are on the lookout for autumn-flowering plants, the following may give useful ideas: *Gentiana asclepiadea*, *Commelina*, *Mimulus*, *Corydalis dicentra* and *C. lutea*, *Franklinia*, *Iberis gibraltarica*, *Oenothera macrocarpa*, *Thrift*, *Linaria alpina*, *Tunica Saxifraga*, *Androsace coronopifolia*, *Ericas*, *Hypericum reptans* and *H. Coris* and *Veronica*. For foliage, *Sedums* of sorts. For a few stray flowers, *Geranium lancastricium*, *Campanula turbinata* and *C. t. pallida* and *Violas*.—*The Garden* (English).

### THE PLUME POPPIES.

In the wild garden, open parts of the woodland, or even at the back of a large herbaceous border where plants of a bold and distinct growth are required, the Plume Poppies, *Bocconias*, should find a place.

Two are eminently suited for such positions, these being known respectively as *B. Cordata* and *B. microcarpa*. Both are hardy herbaceous plants, and during the summer each attains a height of about nine feet, the large shoots having a very much branched habit. The flowers, though small, are produced in profusion during July and August, and form plume-like masses from which the plant derives its popular name. The two kinds do not differ very considerably, *B. microcarpa* being the best colored of the two. These Plume Poppies will grow in almost any soil that has previously been well dug, though a rather clayey medium will give the best results. When planting in the herbaceous border, care must be taken not to place them near weaker-growing and choicer plants, as they are voracious feeders and take a vast amount of nourishment from the soil which their roots traverse. Propagation is easily effected by division of the roots in early spring, a season when they may be transplanted. A mass of these plants in the wild garden is very pleasing.

### PLANTING LILIES.

In the open garden, in pleasure-ground, shrubbery, or woodland there is room to plant or group the Lilies with a free hand. *L. auratum*, as indeed others, would appear particularly happy in the peat and leaf mixture that usually obtains for *Rhododendrons*, or where these latter thrive, as a rule, it is not at all difficult to make many Lilies permanently happy.

That this lovely race of bulbous plants appreciates the companionship of other things in this way I firmly believe, and with so great a mass of root-fiber around there is no likelihood of undue moisture for the Lilies. Moreover, there is protection of a natural kind in spring from damaging frosts without unduly encumbering the Lilies with artificial covering, while again in summer the surface is sheltered from a burning heat that is not welcomed by any Lily in cultivation. For these reasons, therefore, there is much in favor of planting Lilies where shrub growth, while not overwhelming, will afford a timely protection at two seasons, if not indeed in winter also, when more or less at rest. It should not, however, be thought that peat is essential to their successful culture, as in light loamy soil they do exceedingly well, and even when planted by thousands in the open fields, minus shelter of any kind, they give many splendid spikes.

## Of Interest to Estate Owners

The National Association of Gardeners maintains a Service Bureau which is at the disposal of all who may require the services of efficient gardeners in their various capacities.

The association seeks the co-operation of estate owners in its efforts to secure opportunities for those engaged in the profession of gardening who are seeking to advance themselves. It makes no charge for services rendered. It endeavors to supply men qualified to assume the responsibilities the position may call for.

Make your requirements known to

M. C. EBEL, Sec'y, National Association of Gardeners, Madison, N. J.

# NATIONAL ASSOCIATION OF GARDENERS

WILLIAM N. CRAIG, President,  
Brookline, Mass.

OFFICIAL COMMUNICATIONS

M. C. EBEL, Secretary,  
Madison, N. J.

## A COMMENT ON THE ESSAY CONTEST.

Edwin Jenkins, of Lenox, Mass., one of the judges, in submitting his decision on the contest comments as follows:

"The general high level of excellence of these essays made it very difficult to say which was best. Especially those treating on 'Horticulture as a Profession from the Viewpoint of the Gardener.' Methought, however, there was just a wee bit too much pains taken in most cases to give a dictionary definition of the word 'horticulture' as the essays were mostly for gardeners to read.

"There seemed to be a general feeling of satisfaction and a disposition to boost rather than 'knock' the profession, which is quite as it should be, for nearly every line of work is, to some extent, good or bad, as the workers make it so, though of course every profession has its inherent limitations.

"The writer cannot agree with the proposition that the profession of horticulture as understood by the gardeners generally should rank with the learned professions such as law, medicine and the ministry. For whoever enters these or other such professions must go to school and college until they are about twenty-five years old before they can commence to practice, having spent several thousand dollars in education before they are able to earn a cent; whereas, the gardener is supporting himself and sometimes able to save a little from the time he leaves the grammar school, and in spite of this hundreds of gardeners are as well off financially as many lawyers, doctors and clergymen.

"Many of the essayists recognize the truth of this but there is a small undercurrent of discontent as to the social standing of the gardeners. I think the troubles here are more imaginary than real, and largely 'up to' the individual to gain his standing in the community in which he lives. But enough of criticism—commendation, hearty and wholesouled, is the idea I wish to convey.

## FIELD DAY AT CROMWELL, CONN., JUNE 21.

In response to the request in the April number of *The Chronicle*, under National Association of Gardeners' notes, for suggestions as to a conveniently located place between New York and Boston, to hold a Field Day of the association, we take pleasure in extending to both the members of the National Association of Gardeners and American Association of Park Superintendents an invitation to visit us on Wednesday, June 21. We selected a day in the middle of the week, as it will probably be more convenient to the majority to be away at that time rather than at the end of the week.

Those coming from Boston can leave there at eight o'clock in the morning, reaching Hartford a little after eleven o'clock, and can come to Cromwell by trolley. Those coming from New York at eight o'clock can reach Middletown by way of Berlin at a little after eleven, and our establishment at eleven-thirty.

We look forward to greet a large assembly of gardeners and park superintendents at Cromwell on June 21.

A. N. PIERSON, INC.  
By W. R. Pierson.

As the time is too short to have official action taken on the foregoing invitation through an executive meeting, the Co-operative Committee assumes the privilege of bringing the invitation to the attention of members, and requests the local co-operative committees to announce the same at their local meetings. The trip will be interesting, educative and entertaining, and should bring out a large gathering.

## APPRECIATING THE MONTHLY ESSAYS.

Mr. C. Ebel, Secretary.

Your communication enclosing essays issued by the National Association of Gardeners was duly received and allow me to say in reply that the New Haven County Horticultural Society appreciates very much the opportunity to receive such favors, and begs to assure you that these papers will be read before the Society at its regular meetings. Will you be kind enough to convey to the National Association of Gardeners our heartiest thanks for this kindness and our best wishes for its continued success as the champion of Horticulture.

To my mind, there is no better food for thought by gardeners especially—of whom there are quite a number in our organization—

than is contained in these theses that you have sent and I do not know of any movement that would tend to advance Horticulture more than the circulation of these essays among the several horticultural societies throughout the land.

W. C. MCINTOSH, Secretary.

## NEW MEMBERS.

The following new members have been added to our roll during the past month: John Thomson, Rye Beach, N. H.; Joseph Hilbert, New York, N. Y.; John J. Ashe, Jr., Red Bank, N. J.; Harold Graham, Shrewsbury, Mass.; Sidney G. Comer, Southampton, N. Y.; Sidney R. Well, Eggertsville, N. Y.; Robert Taylor, Sewickley, Pa.; John Carman, Sewickley, Pa.; A. A. Leach, Pittsburgh, Pa.; David Hothersall, Wilmington, Del.; George C. McDonald, Newport, R. I.; James F. Gardner, Somerset, Mass.; Joseph T. Clarke, South Lancaster, Mass.; Peter A. Keene, New York, N. Y.; G. Strassenburg, Lake Forest, Ill.

## AMONG THE GARDENERS

### RESOLUTION ON DEATH OF JAMES MacMACHAN.

At a special meeting of the Tuxedo Horticultural Society, Tuxedo, N. Y., held on April 18, 1916, the following resolution was adopted on the death of our fellow member, Mr. James MacMachan:

"James MacMachan was one of the organizers of this society, and throughout his association with it contributed much to its development and activities. His expert knowledge, keen intelligence and enthusiastic interest in all things of his profession, and his industrious and energetic application to whatever he



*The Lake James MacMachan.*

undertook won for him a high place in the regards of his associates. His quick sympathy and genial disposition attached many to him in real and lasting friendship. In his passing away we have lost a member of our society and community valued for his efficiency, respected for his integrity, and esteemed for his many and marked qualities of mind and heart."

Mrs. James MacMachan was appointed superintendent of the George E. Baker Estate, Tuxedo Park, N. Y., to succeed her late husband. Her appointment is an evidence of the high esteem in which she and her family are held by Mr. Baker and also an appreciation of the many years of devoted services that her husband rendered.

(Continued on page 248.)

# American Association of Park Superintendents

## OFFICIAL COMMUNICATIONS.

EMIL T. MISCHE, President, Portland, Ore.      R. W. COTTERILL, Sec.-Treas., Seattle, Washington.

### ASSOCIATION NOTES.

Wm. S. Egerton, of Albany, N. Y., after fifty-one years of active service in park work, has retired from the profession voluntarily, and in so doing has tendered his resignation as a member of the association.

Mr. Egerton served four years at Prospect Park in Brooklyn, then thirty-nine years with the Albany park department, followed by eight years as a practicing landscape architect, a record of landscape service equaled by but few men in this country. He has been a member of the association for the past fifteen years, and was its president in 1904.

In his letter of resignation Mr. Egerton states:

"In severing my membership with the association I wish to emphasize that I have enjoyed the organization very much, and nothing has marred the pleasure of so long a membership. I shall always look back with great pleasure to many personal friends and friendships formed, and wish to extend my regards to them all, and to every member of the association."

The retirement of Mr. Egerton from the profession is a distinct loss, which will be keenly regretted by all concerned.

James E. Fitzpatrick, who was appointed as superintendent of parks of Terre Haute, Ind., on January 1, 1916, has the distinction of being the first applicant for membership in the association this year, being endorsed by Secretary Wood Posey, who has been a member for several years.

Mr. Fitzpatrick has been connected with the Terre Haute park work in various capacities for several years, and is planning to attend the New Orleans convention.

Wm. R. Hancock, who was formerly superintendent at Fergus Falls, Minn., has transferred to Bozeman, Mont., where he is commissioner of parks and cemeteries. Mr. Hancock is a junior member of the association.

At the request of the joint committee on nomenclature constituted by the American Association of Nurserymen and the Ornamental Growers' Association, President Mische has appointed as a committee from our association to co-operate with the general committee, the following:

Hermann Merkel, of New York; Theodore Wirth, of Minneapolis, and John Dunbar, of Rochester.

David Campbell, superintendent at Syracuse, has followed in the footsteps of Superintendent Manning of Baltimore, and taken unto himself a wife, having been married on April 29 to Miss Clara M. White.

A fitting tribute was recently paid to Chas. M. Loring, the "father of the Minneapolis park system," by the citizens of Minneapolis in the way of a "Loring Day," when appropriate ceremonies were participated in by the public generally, and particularly by the public schools.

A feature of the day was the planting of trees by the school children of the city, the trees, "Loring Elms," being furnished by the park department. The press of Minneapolis published special illustrated supplements reviewing Mr. Loring's connection with park work in that city, and it is the plan to make an annual affair of the proposition.

### PRESIDENT'S REVIEW OF PARK REPORTS.

#### Harrisburg, Pa.

Continued efforts to acquire all of the river frontage from Iron alley to McCleay street for park purposes have resulted in success and in so doing Harrisburg has furnished an example which may well be emulated by smaller cities throughout the country.

It would be desirable to include a plan of property discussed in any annual report if the work is to be presented with the same clearness to the minds of readers as it is to those who are conducting operations.

Harrisburg is one of the many cities which have adopted the commission form of government, and by virtue of the change abolished the old park commission for a commissioner of parks and public property.

In the change of charter the city created a city planning commission with Mr. Warren H. Manning as advisor. This insures close co-operation with the work of the park department, indeed one of the avowed intentions of the new commission is to devote time to the completion of the parkway system.

#### Winnipeg, Canada.

The 1915 report just out is replete with a record of activity and advance. In recent years this city has had a tremendous growth in population and park development has kept pace therewith.

Over fifty miles of street parkings are maintained and planted with trees, almost two miles having been added during the past year. Construction of these parkings (presumably tree planting, water supply and turf established) was done at a cost of 14.6 cents per square yard as against 15.2 cents for previous years. Chairman Sandison, of the Parks Board, is making an urgent plea to have a dam constructed to have impounded the waters of the Assiniboine River. He discusses new buildings for the zoological exhibit, suggests a lighting system when the city again begins to develop rapidly and of fences he preemptorily states—remove them altogether. In declaring his fellow citizens are as amenable to being taught to protect their own property as people of any other city, he voices a hope rather than a fact. Public park properties must be protected not only from despoilation by promiscuous trampling of vegetation, but to insure security to women and children against the vicious, debased and scheming criminals. Fencing and lighting are two of the best allies of thorough policing and are too often delayed in installation.

Fortunately it is a rare exception to have a conspicuous park official give expression to such views and of those with Mr. Sandison's long experience, we believe he has the distinction of being the first. Furthermore, it is fortunate for Winnipeg that this is a prominent exception to the judgment the Board's chairman has brought to bear in conducting park affairs during a long period of park progress.

In the detailed report of Superintendent Champions, note is made that the swimming pool at Sargent Field is in use. We should like to have learned more of the details of its operation, such as the number of persons served, season's length, number of attendants required, charges made and cost of operation, it being one of the best outdoor swimming pools in Canada. Some of the difficulty in park work in the interior prairie and northern latitude, is brought forcibly to mind by reading that all shrub beds must needs be deeply trenched. The new conservatory at Assiniboine Park has been completed and meets with public approval. A municipal nursery is again urged upon the Board and with the activity in street planting it is marvelous that it has not long since been established. Oddly enough, the source of the trees has been the surrounding woods from which stock was collected. An excellent feature of the report is the detailed statement of disbursements, showing the amount and purpose of each

expenditure and the party in whose favor the warrants were drawn.

#### Newton, Mass.

The annual report of the Forest Commissioners records the average cost of trees planted, a total of 632, was \$1.03 for each tree and guard and \$1.19 for planting, or a total of \$2.22 complete in place. 1,600 trees distributed on streets and highways of a small city like Newton is quite a creditable showing. To devise a means of determining the value of shade trees, in order to use it in controversies between individuals and corporations injuring or killing trees, a formula of easily and quickly establishing the value has been prepared. Tables have been prepared and are now on file in the office, whereby the approximate value of a tree of any size and species can be obtained. Presumably the table is acceptable to both contestants and it is to be hoped that a complete description of the method will be given in a later issue. Though it cannot in the very nature of the case establish the aesthetic or peculiar personal value of a tree, it would serve as a basis of arriving at a value likely to have great weight before a court. Gauged by the standard evolved, the estimated value of the street trees of Newton is given at over a million and a half dollars.

#### New Orleans, La.

The report of the New Orleans City Park Improvement Association, composed of thirty-three officers, shows the disbursements for last year to be about \$60,000. It will be both interesting and instructive to visit the convention city and make observations relative to its parks. The city offers varied and convincing illustrations of many phases of park work and is an excellent field for study.

#### New Bedford, Conn.

The twenty-first annual report gives considerable space to the exercises attendant upon the erection of a statue in Buttonwood Park. A St. Louis capitalist in memory of his boyhood days in New Bedford, presented the city with a work by George Julian Zolney, of St. Louis.

#### National Parks.

Franklin K. Lane, Secretary of the Interior, in a report on national parks states: In casting up the assets of the States as a landed proposition, I have made no mention of one of the most delightful of our national enterprises. To build a railroad, reclaim lands, give new impulse to enterprise and offer new doors to ambitious capital, these are phases of the ever widening life and activity of this nation.

The United States does more—it furnishes playgrounds to the people which are, we may modestly state, without any rivals in the world. Just as the cities know the wisdom and necessity of open spaces for the children, so with a very large view the nation has been saving from its domain the rarest places of grandeur and beauty for the enjoyment of the world. And this fact has been discovered by many only within the last year. Having an incentive in the expositions on the Pacific Coast and Europe being closed, thousands have for the first time crossed the continent and see one or more of the national parks. That such mountains and glaciers, lakes and canyons, forests and waterfalls, were to be seen in this country, was a revelation to many who had heard, but had not believed. It would appear from the experience of this year that the real awakening as to the value of these parks has at last been realized and that those who have hitherto found themselves enticed by the beauty of the Alps and the Rhine and the soft loveliness of the valleys of France, may find equal, if not more stimulating satisfaction in the mountains, rivers and valleys which this government has set aside for them and for all others.

#### Hartford, Conn.

The 1915 annual report is particularly interesting by reason of Superintendent Parker's report. He attributes the origin of the play movement to 1898 (some call Boston's Charlesbank the beginning), that it took more definite form about ten years ago. Eight years earlier the playground attendance in Hartford was about fifty thousand visits, while last year there were 1,800,000, being an increase of 700,000 over the previous year. It is estimated that this year the attendance will be over two million. In cost the change has been from \$500 eight years ago to \$1,900 last year and it is still mounting.

Mr. Parker's discussion of recreation is made the theme of very pertinent announcements. A close observer with a philosophical bent and broad sympathies with society, he endeavors to standardize the practice of serving the public on public property; he speculates on the governing principles and freely intersperses comment with reasoned deductions.

"While I have not enough data or knowledge of conditions to formulate with any degree of accuracy, the needs and purposes of recreation in Hartford, or to tabulate or classify their development or purposes for age or other conditions, yet the principle underlying it seems to be, so far as public recreation is concerned, that every individual should have a fair opportunity to develop

and maintain their muscular and other functions of the body in accordance with their sex and age; that no one should be compelled to learn evil or to live in its midst unless they prefer to do so."

Classifying the different ages as they group themselves, he outlines them thus: (1) Under one year; (2) between one and four years; (3) between four and eight years; (4) between eight and twelve years; (5) between twelve and sixteen years; (6) between sixteen and twenty-one years; (7) between twenty-one and twenty-eight years. Providing for both sexes in this large subdivision would be formidable task. Ordinarily the grouping is children with individual proclivities, adolescents and adults, which, when doubled for both sexes, means six areas, or where grouped it requires an area for each sex of adolescent age, a children's compartment and an adults' field, four in all.

We would be prone to consider the proposal too theoretical and too impractical to tell off hand the necessary areas implied, but Mr. Parker evidently has full appreciation of that trouble and states: "While I speak of separate provision, I do not mean necessarily that they shall be in separate fields or areas, for usually there is no objection to their being together on the same playground, providing each group finds its own wants supplied." He strikes a note that reverberates wherever students of municipal park affairs are active, when he states that "the part a city should have in the recreation of its people, is still problematical."

Advertising the parks by paid advertisements in the daily press is suggested as a legitimate idea and who could refute it? But better still, why not induce the publishers to assign reporters especially to parks and write informative articles which are better than routine advertisements. Rochester and Boston seem to have the knack of doing that very well.

Administering the unemployed situation featured a novel method. Seemingly, park work was provided for some with an inferred understanding that payment would be returned by the recipient—work being only a medium to relieve the transaction from charity or any warranted feeling of accepting it. Considerable of the moneey so expended has been returned, and is, on occasion, to be used as a revolving fund until it is exhausted.

Its merit consists in enabling prompt relief to be offered and is made without security or promise to return; it is left entirely optional with the receiver whether or not to return any or all of it. Mr. Parker declares that the plan has worked well.

#### AMONG THE GARDENERS.

(Continued from page 246.)

Harry Jones, until recently gardener on Dr. J. C. Ayer's Estate, Glen Cove, N. Y., has secured a similar position on the R. A. Strong Estate, Quaker Ridge, Portchester, N. Y.

Peter G. Brough, formerly gardener on the H. Fiske Estate, Bernardsville, N. J., has taken a similar position on the "Wenga Estate," Armonk, N. Y.

Maurice J. Collings, formerly of the Billings Estate, Curles Neck, Richmond, Va., is now gardener on the B. S. Clark Estate, Litchfield, Conn.

David Hothersall, recently resigned as superintendent on the George Bullock Estate, "Yeadon," Oyster Bay, N. Y., to accept a similar position at "Namour," Wilmington, Del., the estate of Alfred I. du Pont.

H. Taylor, formerly at Eastover Farm, Oyster Bay, N. Y., has succeeded David Hothersall as superintendent at "Yeadon," Oyster Bay, N. Y.

William Ford, formerly on the Stuart Blackton Estate, Oyster Bay, N. Y., secured the appointment of superintendent of the A. E. Smith Estate, Centre Island, Oyster Bay, N. Y.

Alexander Robertson, formerly on the D. G. Dery Estate, Catauqua, Pa., has secured the position of superintendent on the estate of Mrs. A. S. Alexander, Roslyn, N. Y.

Andrew P. Clarkson, formerly of Dedham, Mass., has secured the position of gardener to Mrs. August R. Meyer, Kansas City, Mo.

Peter Morrison, formerly gardener to E. C. Henderson, Cold Spring Harbor, N. Y., is now gardener to Mrs. O. H. P. Belmont, Great Neck, N. Y.

David Ridpath, after a record of nine years as assistant and foreman on the Constable Estate, Mamaroneck, N. Y., under James Stuart, gardener, has accepted a position as head gardener to J. W. Johnson, New Brunswick, N. Y. On April 18 he was married to Miss Anna Aitchison at the home of her brother, Thomas Aitchison, gardener to Nathan Strauss, Mamaroneck, N. Y.

# DIRECTORY

NATIONAL ASSOCIATIONS, LOCAL SOCIETIES AND GARDEN CLUBS WILL BE FOUND IN JANUARY, APRIL, JULY, OCTOBER, NUMBERS.

## HORTICULTURAL EVENTS

American Dahlia Society Show, Auspices American Institute, 25 West 39th street, New York, September 26-28.  
 American Institute Chrysanthemum Show, New York, November 8-10.  
 American Sweet Pea Society Show, Bar Harbor, Me., July.  
 American Gladioli Society Show, Boston, Mass., August 10-12.  
 Garden Club of America Meeting, Lenox, Mass., June 27-28.  
 Horticultural Society of New York, Fall Exhibition, American Museum of Natural History, November 9-12.  
 International Garden Club, Outdoor Flower Show, Club Grounds, Pelham Bay, New York, June 1-4.  
 Lenox Horticultural Society, Summer Show, Lenox, Mass., June 27-28.  
 Newport, R. I., June Exhibiton, Newport Garden Association and Newport Horticultural Society, June 28-29.  
 Newport, R. I., Mid-Summer Exhibiton, Newport Garden Club and Newport Horticultural Society, August 17-18-19.  
 Oyster Bay Horticultural Society, Rose Show, June 13. Dahlia Show, August 3.  
 Short Hills Garden Club, Short Hills, N. J., June show about 15th. Dahlia show, September.  
 Westchester and Fairfield Horticultural Society, Summer Show, Mamaroneck, N. Y., June.

## MUNICIPAL ARBORICULTURAL AND HORTICULTURAL SOCIETY OF NEW YORK.

The last meeting of the Catalpa Society of Gardeners, New York county, was held on Tuesday evening, April 11, 1916, at Baabes assembly rooms, New York City. In point of attendance it was the largest number present in some time. All branches of the profession were well represented. There were forester-arboriculturists, head and foremen gardeners, nursery men, greenhouse men and outside men.

President Ryan called the meeting to order at 8:30 p. m., and stated that the object of the session was to reorganize the society along lines that would be in keeping with the profession, and to nominate and elect officers for the ensuing year.

It was decided to give the society a new name, to be known hereafter as the Municipal Arboricultural and Horticultural Society of New York, with meeting rooms at 1534 Third avenue, New York City.

The nomination and election of the following officers took place:

President, John M. Griffen; vice-president, John E. Ryan; treasurer, Thomas Driscoll; financial secretary, David Schweizer; recording secretary, William F. Mulligan, 1390 Second avenue, New York City; corresponding secretary, Albin Ketterer, 312 Willis avenue, Bronx, N. Y.; sergeant-at-arms, John Griffen; trustees, Bernard Dellinger, Joseph Hilbert and Jeremiah Reidy.

Several new members were enrolled. It was decided to invite fellow members of the profession in the boroughs of Brooklyn, Queens and Bronx to the meetings of the

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society, which will be held every second Tuesday of the month at 1534 Third avenue, New York City. Due notice will be given of every meeting in the current issues of *The Gardeners' Chronicle*. All members are affiliated with the National Association of Gardeners, and hope to improve conditions in the profession throughout the municipality.

WILLIAM F. MULLIGAN,  
Rec. Sec'y.

The first regular meeting of the newly organized Municipal Arborecultural and Horticultural Society of New York was held on Tuesday evening, May 9, 1916, at Baabs' Assembly Rooms, New York City, the new elected chairman, Mr. John M. Griffien, presiding.

The chair appointed a committee of three to draw up a new constitution for the society.

The question of admitting assistant gardeners to membership in the society was given full discussion, but on motion was laid over until the rules committee had completed their work.

The question of what standard of salaries the Bureau of Standards has fixed for gardeners was referred to the corresponding secretary for communication with that bureau.

The most important topic of the evening among the members present was the reading of the paper "Horticulture as a Profession from the Standpoint of a Gardener." Next in order came the general discussion of the present make-up of budget figures in relation to compensation for gardeners now in course of construction in the Department of Parks, Boroughs of Manhattan and Richmond, for 1917.

The next meeting of the society will be held on Tuesday evening, June 14, 1916, at Baab's Assembly Rooms, 1534 Third avenue. Gardeners from all boroughs are especially invited to join the above society.

WILLIAM F. MULLIGAN,  
Recording Secretary.

#### TUXEDO HORTICULTURAL SOCIETY.

The regular monthly meeting of the Tuxedo Horticultural Society was held on May 3 in the parish house, President C. Davidson in the chair. This being our annual ladies' evening the committee had spared no efforts to make it a success. There were a gathering of about 200 gardeners and their wives and friends. For the occasion a minstrel troupe was made up of local talent, and gave a very fine entertainment, after which all sat down to refreshments, which was followed by a dance. The minstrel show was such a success they have been invited to go to Arden, N. Y., and give the show, the proceeds to be given to charity. Our annual ball will be held on May 24 in the Town Hall.

THOS. WILSON, Secretary.

#### NORTHERN WESTCHESTER CO. (N. Y.) HORTICULTURAL SOCIETY.

The regular monthly meeting was held in the Firemen's Hall on April 20. President Alex. Thomson was in chair. This meeting had the largest attendance of the year, David Gordon bringing down his auto from Chappaqua with a party. Three were admitted to active membership and W. Webb was proposed. The executive committee was heard from and went over the schedule to the satisfaction of all. As the society is in good financial standing it was decided to give a silver cup, not to exceed \$50, for best 24 blooms at the Fall show, on October 27, 28 and 29. The exhibits were judged by D.

Gordon, W. Wille and W. MacDonald. Alex. Thomson received 90 points for Mignonette and 75 for Snap-dragon; John Connolly 90 points for Sweet Peas. He also exhibited, for curiosity, a very large Mushroom, a monstrosity. Mr. Carl Kochen gave his lecture of Apple trees and spraying, and went thoroughly into all details.

A. G. ROSS, Sec'y.

#### LENOX HORTICULTURAL SOCIETY.

The May meeting of the Lenox (Mass.) Horticultural Society was held on Wednesday the 10th.

The schedule for the fall exhibition was discussed. Members voted to adopt the 1915 schedule with a few necessary alterations. The class for twelve blooms of Chrysanthemums in not less than six varieties disseminated in 1916 was altered to twelve blooms in not less than four varieties. This was decided on owing to the apparent lack of good novelties this season.

A magnificent new Orchid *Odontioda*, "Gladys," from A. N. Cooley, Esq., of Pittsfield, was awarded a First Class Certificate and a vote of thanks given to Mr. E. J. Norman for *Cereus*, frandifloras. A paper entitled "The Use of Native Plants for Ornamental Planting" was read and well discussed. Several members spoke of the poor success which attended their efforts to transplant the native flowers and shrubs, especially was this so with the Mountain Laurel.

The next meeting is on June 14.  
J. H. F., Asst. Sec.

#### NEW LONDON HORTICULTURAL SOCIETY.

The New London Horticultural Society held its regular monthly meeting in the Municipal Building, State Street, Thursday the 13th inst.

After the business session Mr. Irving W. Davis, of the Connecticut Experiment Station, gave a very interesting address on the "Gypsy Moth Pest." The lecture was illustrated and Mr. Davis was assisted by Mr. M. P. Zeppe, of the experiment station, who operated the stereopticon. The lecture was particularly interesting and was listened to with close attention.

The president, Donald Miller, had on exhibition two sprays of the Century plant from Florida.

STANLEY JORDAN,  
Secretary.

#### GARDENERS' AND FLORISTS' CLUB OF BOSTON.

The Gardeners' and Florists' Club of Boston held a Field Day at the estate of General Stephen M. Weld, Dedham, Mass., on May 15, about one hundred and fifty members and friends being present. The beautiful rock gardens here were the centre of interest and they contained a wealth of bloom. The many varieties of *Primula*, *Ambretia*, *Arabis*, *Alyssum*, *Iberis*, *Viola*, *Saxifragas*, *Sedums*, etc., made a grand show in addition to numerous interesting bulbous plants not commonly cultivated. General and Mrs. Weld served a lunch to the visitors. All enjoyed the outing thoroughly.

At the meeting of the Gardeners' and Florists' Club of Boston on May 16 Thomas Coles, head gardener to General S. M. Weld, Dedham, Mass., lectured on Rock Gardens, their construction, planting and care. The paper was a splendid one and brought out a spirited discussion. The members had many interesting rock plants on exhibition which gave added interest to the lecture.

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**HOLYOKE AND NORTHAMPTON GARDENERS' AND FLORISTS' CLUB.**

The regular monthly meeting was held May 2 in the Park Commissioner's Office, City Hall, Holyoke. There was but a small attendance of members, due to the fact that many were badly hit by the Spring fever. Lucius E. Wilson, of Springfield, was present and spoke entertainingly of the purposes of the Eastern States Agricultural Exposition, which is to open in West Springfield next October. Permanent buildings are now in course of erection, and the speaker suggested the possibility of arranging for a big Flower Show there at some future date. There was but one exhibit, an exceptionally fine plant of Hydrangea Itaska in a 9-in. pot, grown and exhibited by George Strujnell, and which was deservedly awarded a Certificate of Merit. He has promised to tell us how to go and do likewise.  
H. E. D.

**OYSTER BAY (N. Y.) HORT. SOCIETY.**

The regular monthly meeting of the Oyster Bay Horticultural Society was held on Wednesday, April 26, in the Firemen's Hall at 7:30 p. m. President A. Walker called the meeting to order. The secretary read a large number of letters from ladies and gentlemen offering prizes for the coming shows. The president appointed Messrs. D. Hother-sall, Wilson and Humphreys as judges for the evening, and their decisions were as follows: Best pot Schizanthus, society's prize, Joseph Robinson; best vase Stocks, cultural certificate, Joseph Robinson; best vase Antirrhinums, cult. cert., F. Kyle; best vase Carnations, hon. mention, C. Milburn; best three Cauliflowers, hon. mention, C. Milburn, and basket Spinach, hon. mention, C. Milburn. A prize of \$5 was offered by an anonymous donor for 25 Carnations at the May meeting. Mr. Joseph Robinson gave a very interesting talk on growing Stocks in 4-in. pots. An essay by F. P. Jensen, Missouri, was read in a very able manner by James Duthie, which was greatly enjoyed by all present. May exhibits: One vase flowering shrubs, 12 Tulips, and two Cauliflowers.

JOHN T. INGRAM, Sec'y.

**NASSAU COUNTY HORTICULTURAL SOCIETY.**

An extra large number of members were in attendance at the regular monthly meeting of the Nassau County Horticultural Society which was held in Glen Cove on Wednesday evening, May 10. President James McDonald presided. Final arrangements were made for holding a tulip show on May 19, and also a rose show in June. It was found necessary to change the date of the rose show, which had previously been set for June 14, and it was left to the executive committee to select another one. Ernest Westlake was appointed to act as manager.

While the main classes in these exhibitions will be devoted to tulips or roses, as the case may be, there will also be classes provided for other reasonable flowers, plants and vegetables. Secretary Gibson read a large number of letters which he had received offering prizes for our coming autumn exhibitions.

The essay "Horticulture as a Profession from the Standpoint of a Gardener," by John Johnson of New York, which was received from the National Association of Gardeners, was listened to with appreciative interest by the members present. The judges of the exhibits were Messrs. Henry Gant, James Gladstone and Harry Goodband.

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## DEEP DIGGING

THE thoroughly practical man as well as the scientific, agree on the great value of deep digging. To such men, the present talk about worn out and abandoned farms and failing food supply is all nonsense. The remedy is a simple one. Gardeners of the old school claim a man owning one acre of ground has really two, if he cares to plow and cultivate it deep enough.

Land is very much like a banking institution. You can draw interest and gains according to the amount of intelligent labor and fertilizer you invest—usually with compound interest—but if no deposits are made, the land or bank soon becomes insolvent. There is plenty of land in Europe, still producing good crops, that has been in cultivation since long before America was discovered, and worn out land is really a disgrace, showing bad management rather than fault of the ground itself.

The one prime necessity for keeping the ground in good heart, and so capable of producing good crops, is deep digging or plowing, as the case might be—especially on heavy lands. However good the top spit of soil may be, if it is underlaid with undisturbed hard-pan, it is not likely to produce good crops. It must be remembered that plants can only take up the foods necessary to their growth while in solution. In other words, they cannot eat or absorb solids, so there must constantly be sufficient moisture in the soil to dissolve the plant foods that may be in contact with the roots.

A shallow soil, underlaid with hard-pan, dries out in a very short period. If the same kind of ground is dug deeply or sub-soil plowed, it will be much more retentive of moisture, thus conserving it during the dry weather, as it acts like a sponge, holding it rather than allowing the moisture to run off as it does through the myriad little channels that are always formed in undisturbed soil.

Sandy soils are least retentive of moisture, especially if underlaid with a gravelly sub-soil. Such soils are loose in texture, and deep digging is not so essential; but an abundant supply of organic matter in the form of stable manure or green manure crops, is always advisable.

The loamy soils and retentive clays are the ones it is most important to dig deeply. It would surprise many gardeners that have this class of land, if they would deeply trench their ground in the fall, throwing it up in ridges so as to allow the frost to get down deeply and disintegrate the soil. It would produce much better crops and be much easier to work, and would yearly improve rather than deteriorate under such treatment.—*National Nurseryman.*

## THE BOXWOOD AND ITS ENEMIES.

(Continued from page 242.)

To successfully kill the Leaf Miner without injury to the plant, it must be sprayed with some good contact poison while in the fly form. One of the above named gentlemen found that the fly was easily killed by spraying it with soluble sulphur. It is very important that the spraying be done as soon as the fly comes out of the leaf and before it gets an opportunity to lay a crop of eggs in the new foliage of the Buxus.

In 1912 I sprayed the Leaf Miner on June 2, 4, and 9; in 1913 we sprayed June 6 and 9; in 1914 we sprayed June 15. In 1915 only a few flies were seen. After the first spraying with soluble sulphur in 1912, the ground under the box plants was colored red with dead insects.

Buxus Auria and Buxus Sempervirens were the first to be attacked with Leaf Miner. Sempervirens Suf-fruticosa was also attacked, but the injury to this variety was not so great because the foliage is smaller and more dense. When watering has been neglected, this last

named variety appears to suffer most from attacks of the Oyster Shell scale and the red spider.

With me, Buxus Arborescens has been little attacked with the Leaf Miner. This useful variety is used extensively for growing into pyramid form. If allowed to grow without being sheared, it will very soon make handsome specimens. Untrimmed Boxwood has come into favor with some of our leading landscape men who are paying fancy prices for large plants. Sempervirens Suf-fruticosa is much prettier and more valuable for this purpose but is very slow in growing.

I consider Buxus Macrophylla the most beautiful variety to grow into specimens to plant singly upon the lawn or terrace. This charming Japanese box is quite distinct from the European varieties. The foliage is larger, round and of a dark glossy green color. It is very hardy and does well when planted in shady places. It is seldom attacked with insects.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., required by the Act of Congress of August 24, 1912, for April 1, 1916.

STATE OF NEW JERSEY } ss.  
COUNTY OF MORRIS

Before me, a notary public in and for the State and county aforesaid, personally appeared Geo. A. Burniston, who, having been duly sworn according to law, deposes and says that he is the business manager of the GARDENERS' CHRONICLE OF AMERICA, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are:

Name of—  
Publisher, The Chronicle Press, Inc., 286 Fifth Ave., New York, N. Y.  
Editor, M. C. Ebel, Madison, N. J.  
Managing Editor, M. E. Ebel, Madison, N. J.  
Business Manager, Geo. A. Burniston, Madison, N. J.

2. That the owners are: (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent. or more of the total amount of stock.)  
The Chronicle Press, Inc., 286 Fifth Avenue, New York, N. Y.  
M. C. Ebel, Madison, N. J.  
Geo. A. Burniston, Madison, N. J.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent. or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) There are no bondholders, mortgagees or other security holders.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

Geo. A. Burniston, Business Manager.  
Sworn to and subscribed before me this 5th day of April, 1916.

[SEAL.]

F. I. Morrow.  
(My commission expires August 5th, 1920.)

## GREENHOUSE SHADING

Write for particulars.

E. A. LIPPMAN, Manufacturer

6 HIGH STREET,

MORRISTOWN, N. J.

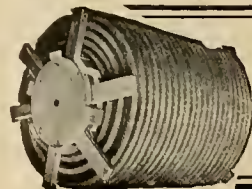
## HARRY BALDWIN

Manufacturer of

GREEN-HOUSE SHADING

LATH ROLLER BLINDS

MAMARONECK, N. Y.

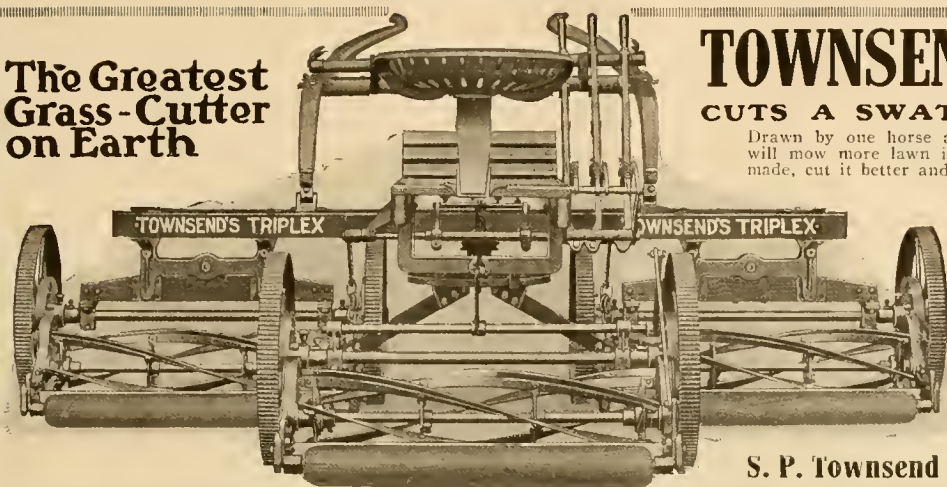


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In all lengths, 14c. per foot; with couplings. Unequaled at the price. Remnants shorter than 25 feet, 10c. per foot, coupled

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on Earth**



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**CUTS A SWATH 86 INCHES WIDE**

Drawn by one horse and operated by one man, the TRIPLEX will mow more lawn in a day than the best motor mower ever made, cut it better and at a fraction of the cost.

Drawn by one horse and operated by one man, it will mow more lawn in a day than any three ordinary horse-drawn mowers with three horses and three men. (We guarantee this.)

Does not smash the grass to earth and plaster it in the mud in springtime, neither does it crush the life out of the grass between hot rollers and hard, hot ground in summer, as does the motor mower.

Write for catalog illustrating all types of Lawn Mowers.

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PLANT FOOD

FOR  
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MAGIC HUMUS is a pure plant food un-leached and unburnt. Its analysis proves that it contains pot-ash, phosphoric acid, nitrogen and Compost in available form.

MAGIC HUMUS COMPOST possesses the body and fibre to absorb and retain Nature's moisture after it is put into the ground and spreads its fertilizing elements through the soil.

Months are occupied in the preparation of MAGIC HUMUS. It reaches the garden free from weed-seed and can be agreeably handled.

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Seven 100-lb. Bags, \$5.00. Single Bag, 100 lbs., 90c., f. o. b. New York or Jersey City.

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**NATURAL HUMUS.** Is the best for making new lawns, gardens, etc.

*Write for descriptive catalogue  
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Promises, even though made with the best intentions, are usually very uncertain, unless the source of the promise is backed up by a firmly established reputation for reliability and dependability.

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*We go anywhere in the U. S. to submit plans and prices.*

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*The Insecticide that  
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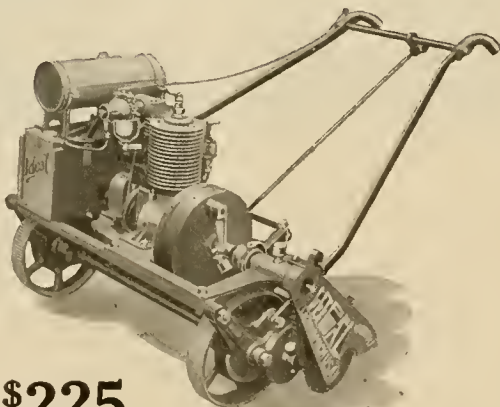
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**Aphine**  
*The Insecticide that  
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 of many species*

# Ideal

Junior  
 Power Lawn Mower



**\$225**

## Give YOUR Lawn Better Care

PROPER lawn care this season will count greatly toward a permanently beautiful sward. Start your lawn care *right* this year. This summer use the *Ideal*, the lawn mower that pushes itself. You can give your lawn *twice the usual amount of care*, more *efficiently* and more *economically*, too.

The *Ideal Junior Power Lawn Mower* for 1916 offers all the features on which *Ideal* has built its splendid reputation, with many new refinements and improvements—simple, reliable clutch; automobile throttle control; gearless differential. It stands unexcelled in the field of lawn mowing machines.

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# GARDENERS' CHRONICLE

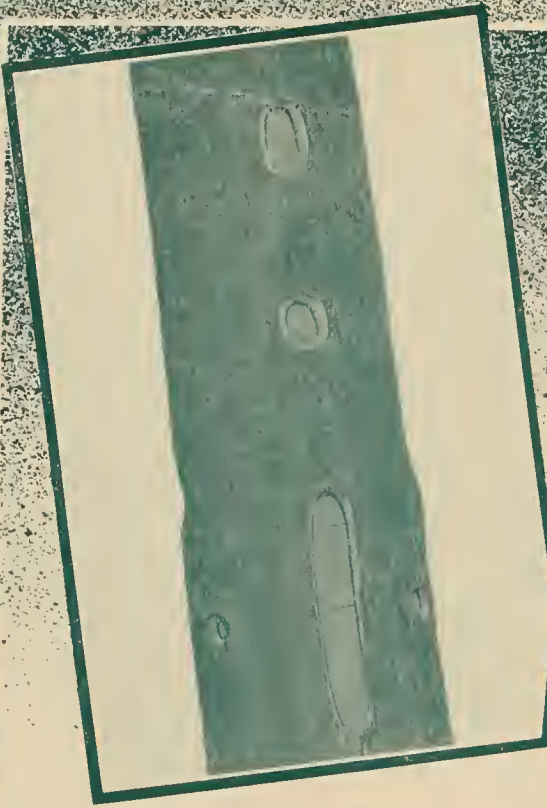
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A  
HORTICULTURAL DIGEST



PARKS & GARDENS

ILLUSTRATED



One year's healing over the Davey fillings. Nature responds to the art of Davey Tree Surgeons.

## A typical endorsement of Davey Tree Surgeons

*A letter from Chas. J. Webb—and one from his gardener*

"I am very well satisfied, indeed, with the work done by your firm, at my home in Elkins Park.

"I had some fine old trees which I was fearful would not last much longer, but after seeing the manner in which you have fixed them up, I am sure they will last for many years to come. It makes me feel especially well satisfied with your work, after the severe ice storm we have just had, to find the trees practically undamaged.

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Yours respectfully,

(Signed) Chas. J. Webb.

(Estate at Elkins Park, near Philadelphia.)

"I want to give you my opinion of the work done on this place by your men some sixteen months ago.

"I made an examination of the trees, especially the concrete part, a week ago, and it is really surprising how the young bark has grown over the fillings, in some places nearly covered the bolt heads used for bracing up the cavities. For one season's growth it is remarkable and shows the work was done properly, which is more than some firms can do. We find a sample job done here by a well-known name which had to be torn out and done the right way by the Davey men. Your way of filling cavities is the only way and can be seen here by anyone interested."

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(Signed) John W. L. Gatenby,  
Gardener to Chas. J. Webb, Esq.

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SINGLE AND DOUBLE EARLY TULIPS  
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In many new varieties in various types

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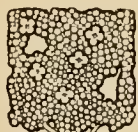
SPIREA, FREESIAS, MONTBRETIAS, Etc.

*Be up to date and write for this list*

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SEED MERCHANTS AND IMPORTERS

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OUR large assortment of choice tub plants offers you an exceptional opportunity to secure specimens to beautify your stoop and terraces; to add color and dignity to your formal garden; or to fill in the gaps in your planting that it is too late to remedy in other ways. Here are a few by way of suggestion:



**Wistaria**—Splendid Japanese dwarf standards 3 to 5 feet high having exquisite pendulous blooms often 2 feet long. These are exceptional specimens even for us to offer.

**Oleanders**—Pink, white and red standards in 12-inch pots, 4 to 7 feet tall. We haven't seen their equal anywhere.

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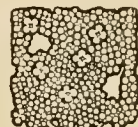
**Bay Trees**—In spite of the war we managed to import a surprising lot of

bays in all shapes and sizes. Those who ought to know say, "there's not a stock that equals them in size, quality and quantity."

**English Laurels**—Pyramids, 6 to 8 feet, genuine English growth every one of them. Fine specimens we call them.

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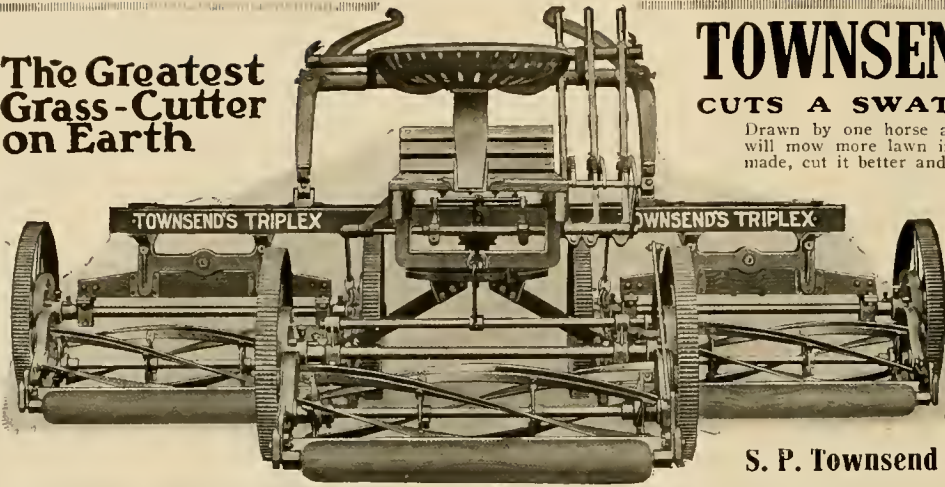
**Prices**—Send for prices on any or all these items. Delivery will be prompt. Packing done carefully and securely.



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**JR**

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Grass-Cutter  
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**CUTS A SWATH 86 INCHES WIDE**

Drawn by one horse and operated by one man, the TRIPLEX will mow more lawn in a day than the best motor mower ever made, cut it better and at a fraction of the cost.

Drawn by one horse and operated by one man, it will mow more lawn in a day than any three ordinary horse-drawn mowers with three horses and three men. (We guarantee this.)

Does not smash the grass to earth and plaster it in the mud in springtime, neither does it crush the life out of the grass between hot rollers and hard, hot ground in summer, as does the motor mower.

Write for catalog illustrating all types of Lawn Mowers.

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If your mind is tending towards a conservatory—then we have a notion our new catalog will meet that tendency more than half way.

It's not the usual catalog—therefore, it logically contains many unusual conservatories and greenhouses—albeit every one is a practical one.

You will find it full of suggestions and teeming with a surprising number of the things you want to know. In short, it sort of anticipates your questions.

It is sent only on request.

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WE build arbors, trellises, espaliers, garden arches, tree and flower-bed guards and special wire construction for garden purposes.

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for lawns and gardens keep in permanent alignment for many years and are heavily galvanized to prevent rust. We also build tennis-court enclosures and backstops, chicken-run and dog-kennel enclosures, aviaries, farm and pasture fences, stock paddock, etc.



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### Lilium speciosum Melpomene magnificum

An improved type of Lilium speciosum rubrum.

	Doz.	100	Case
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Pure white; reflexed petals.

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9- to 11-in. bulbs, packed 150 in a case.....	\$4.00	\$30.00	\$42.50
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Consult our Midsummer Catalogue, now ready, for the Newest Winter Flowering Spencers and the best Strawberries and Perennials.

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"The planting season may have seemed short, but no matter, Moons have a stock of potted Roses and Vines that can be planted any time during the summer. There are also some varieties of Evergreens that can be transplanted during the month of June. Write them now for particulars and prices."

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EVERY PLANT WORTHY OF MERIT

THE BOBBINK & ATKINS Heart-Cypress Plant Tub  
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"We Plan and Plant Grounds and Gardens Everywhere"

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Rutherford, N. J.

1916

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READY JUNE FIRST



New American Varieties of 1916  
American Everbearing or Fall-Fruiting Varieties of  
Recent Introduction  
Laxton's English Varieties

### STANDARD VARIETIES

NOTE—We wish to impress upon all intending purchasers of pot-grown Strawberry plants that all our stock is exceptionally strong and well rooted. ORDER AT ONCE and we will reserve stock. Give date of shipment required.

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Telephone 6138 Barclay. Between Broadway and Church St.

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Plant Hill's evergreens of known quality and growth. Make your property more attractive — more valuable — a place of beauty and refinement. We are evergreen specialists — 55 years' experience. Greatest selection obtainable in America. Over 50 million of the choicest and hardiest varieties. Large and small trees supplied in any quantity. Lowest prices. Expert advice and handsome Evergreen Book illustrated in colors free. Avoid disappointments — plant Hill's evergreens — famous for over half a century. Safe delivery and satisfaction guaranteed. Write today. Get our free book.

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## DREER'S POT-GROWN STRAWBERRY PLANTS

The best varieties, both new and old, and best methods of planting to raise a full crop of strawberries next year are fully particularized in

### Dreer's Mid-Summer Catalogue

Also Celery, Cabbage, and other vegetable plants. A select list of decorative plants Palms, Ferns, etc.; Seeds of old-fashioned Hardy Perennials and other flowers for summer sowing. Seasonable Farm Seeds, etc.

Write today for a copy, FREE, and please mention this magazine.

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¶ Please give particulars regarding place and say whether married or single man is wanted. We have been supplying them for years to the best people everywhere. No fee asked.

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FOR LAWNS, WALKS, GOLF GROUNDS, ETC.

Sweeps all grass, leaves, twigs, stones, and other litter. Gathers what it sweeps. Reduces labor from hours to a few minutes.

The Everwear Sweeper is an effective, rapid, labor-saving machine, constructed on correct sweeping principles, and gathers what it sweeps. The Everwear will sweep up every particle of cut and dead grass, leaves, sticks, stones, and other litter, carry and deposit where you wish. The action of the brushes is "broom like"; and you will note from the illustration that the sweepings are thrown forward into the receptacle, leaving no chance for particles of grass and litter to escape.

MADE IN TWO SIZES ONLY—24 inch and 28 inch widths.

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**WILSON'S New Crop**  
fine German Flower Seeds

have arrived safely. Send for Catalog

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Published monthly in the interests of both amateur and professional flower growers.

50c. per year—3 years for \$1.00

The Gladiolus as a flower has been wonderfully improved and is rapidly becoming the fashion. Important developments are looked for in the immediate future.

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*Manufacturer of*

GREEN-HOUSE SHADING

LATH ROLLER BLINDS

MAMARONECK, N. Y.

## Tree Heliotrope

THE Heliotrope has been grown for many years in tree form and used for bedding in Europe, to the admiration of every American visitor. Why not have some in your own garden? We can supply them on stems two to four feet high with branching heads at prices ranging from \$1.00 to \$2.00 each per plant, according to height and quality.

## Hardy Chrysanthemums

Best in the World. The Largest Collection. Try Our SPECIAL INTRODUCTORY OFFER of 50 Assorted Plants for \$5.00.

Sent PREPAID to any reader who mentions the CHRONICLE when ordering.

**CHARLES H. TOTTY**  
MADISON, NEW JERSEY

## For Immediate Effect

### HYDRANGEA OTAKSA

Nice shapely plants in tubs, just coming into flower. \$3.00 to \$5.00 each.

### BEGONIAS and CYCLAMEN

From 3 inch and 4 inch pots.

### BOUVARDIA

White, pink and red.

### FIELD GROWN CARNATIONS

Good, clean, healthy plants for July and August delivery.

### PEONIES FOR FALL PLANTING

The finest varieties.

### FOR 1917

We shall offer a new yellow greenhouse rose—in color a glorified Sunburst. It is a rose you will want to grow.

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**A.N. PIERSON INC.**  
**CROMWELL GARDENS**  
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If you contemplate buying semi-established, established or imported Orchids, consult us first.

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We specialize in supplying the private trade.

Let us figure on your requirements—our quality is second to none.

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Send for our price list.

**G. E. Baldwin & Company**

Orchid Collectors, Growers and Importers

Mamaroneck Box 98 New York

## Pot Grown Strawberry Plants

Pot grown Strawberry Plants if planted now will furnish a good crop of fine berries next season.

The plants we offer are all well grown, true to name and healthy stock.

<b>AUGUST LUTHER.</b> Extra early, very productive and good size.	<b>HUNN.</b> The largest variety grown; late.
<b>BEDERWOOD.</b> One of the best early varieties.	<b>MARSHALL.</b> Large, dark, crimson color; midseason.
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<b>CHESAPEAKE.</b> A very large late variety.	<b>OOM PAUL.</b> One of the largest berries; very productive.
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# GARDENERS' CHRONICLE OF AMERICA

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## *Things and Thoughts of the Garden*

By The Onlooker

NO one can doubt the value of the double flowered English Daisies; they are sold as numerous as the beautiful and bright flowered pansies. Curiously, these English Daisies were first of all raised and developed on the Continent, and really fall into two sections, the broad, flat petaled type, and the round quilled petaled type, best seen in the old bright crimson-red variety, one of the neatest and prettiest flowers of the year. This, with *Scilla sibirica* are two of my favorite flowers, both very humble, but both of much merit in many ways. It was not long before names were given to special varieties of these double daisies, but few bother with names now-a-days, although there is one that really deserves to be kept apart. It is named Alice and is a very bright rosy-pink double daisy, distinctive and charming. Another old-fashioned variety is the "Hen-and-Chickens" Daisy, grown by those who love old flowers and which is represented by a central plant which throws out a wheel-like array of daisy flowers around it, these forming little plantlets. The great value of these flowers is their brilliancy, continuity, as well as their early flowering. They come in almost as soon as the frost leaves the ground, and continue until well in June, when the heat seems to wear them out. Once plants are obtained they can be divided and are easily carried over in cold frames if protected sufficiently from the frost, or can be sown indoors in pans and brought on for early planting.

\* \* \*

Our Spring season is so comparatively short that planting has to be done in a hurry, and those who do much outdoor gardening have long ago learned the value of early planting. This is where the advantage of having one's ground prepared the year before is most emphasized. Roses, and a large variety of hardy plants must be got into the bed or border while the ground is still cool and before the sun has become powerful, as it is even in May. Not all the mulching and watering that one can give to the plants makes up for the loss of a good early start. At the same time, if plants are put in late the mulching and watering are most essential.

\* \* \*

We have seen two examples recently of attempted early Summer shows, neither of which proved to be really successful. They were held in the East, and had every advantage, but it would appear that gardeners are too busy with the work in hand at this season

to be able to give attention to the exhibition that is held at the end of May or early in June.

\* \* \*

Sometimes Privet hedges grow very tall, and the owner wonders whether he dare cut them back. There need be no fear as to the cutting back, even if the limbs are inches thick. They can be cut or sawn back with every assurance that given a little time they will break in the Spring. This work should be done during the Winter, or certainly before the sap starts to rise. The Privet is very tenacious of life. I planted some Golden Privet recently which evidently had got a bad drying in transit, although the roots seemed in good shape, and thinking that some of the plants had really died, as they showed but little signs of life, I pruned them hard back. These plants are going to make much the best of the lot, as the stems of a quarter of an inch or more are simply bristling with neat little buds, while those that were not pruned or cut back, have growths at the tips, but are bare otherwise.

\* \* \*

Talking of pruning hedges: Beech and Holly can be cut back very hard also with every assurance that they will break. To see some of the daring work that is done in this respect almost staggers one, and of course for one or two years there is a considerable bareness, but if the plants are healthy they will overcome that deficiency. Speaking of Holly brings to mind the fact that this is a bad tree to transplant, and when trees have to be removed, the utmost care should be taken to keep the ball of soil intact, and to water well after replanting. This, it might be stated, applies to most shrubs and trees, but to the Holly very particularly.

\* \* \*

A friend recently had the offer of some large clumps of Oriental Poppy that were in full vigor. He took the utmost pains with them, but as the initiated would expect, the plants collapsed as soon as they were planted in their new situation. He wonders whether they will recover and flower. Alas, this assurance could not be given him, although it was pointed out that there was every chance of the plants becoming established in time. Doubtless they would go into that quiescent state that Oriental Poppies assume after the flowering, and might be expected to throw up their crop of Winter leaves by the end of Summer. These remain evergreen, the plant of course starting into its Spring growth the next April. September is about the only good time to try to transplant Oriental Poppy, which at all times is a bad subject to shift.

When should the German Iris be transplanted? In European gardens where the Summer is on the whole cooler than here, these are best divided and transplanted after flowering, that is to say in July; new roots and new growth are then made most liberally. The same is also true of the Hellebores, the Christmas and Lenten Rose family. By the way, there are few of the nursery firms that try to keep the various sections of the German Irises separated. This is perhaps just as well, although those who make a close study of Irises like to think of the Pallida, Squalens, Variegata, Amoena and other groups. Peonies and Irises are among the finest of the early Summer flowers and succeed in every section of the United States. We still want finer flowers among the latter, but this is where good cultivation materially helps. At the same time there are raisers of these that are now getting bolder and larger blooms. Pallida dalmatica represents the ideal, with Mme. Chereau, Queen of May, Mrs. H. Darwin, Florentina, Siwas and Falvescens among those that every one of us likes to have in any collection of these German or "bearded" Irises. In addition to these there are the Chamæiris or dwarf type, which are simply miniatures of the bigger ones. They flower early and are fine for edgings or for the rockery.

\* \* \*

Among the hardy plants that I put out this year was an old favorite, namely *Nepeta Mussini*, a gray, crinkled leaved, semi-trailing plant of which I think there must be two forms, one more compact than the other. The latter would undoubtedly be a very fine subject for the rockery, but the other would also be suitable, as it never attains a greater height than one foot and spreads longitudinally, while it flowers the whole Summer through. These are in the whorled, verticillate form, well known to the family to which it belongs, and are of a good blue-lavender color. The gray foliage and the color of the flowers give a misty blue effect. This plant I have seen used immensely well for making broad edges to big formal beds in geometrical flower gardens, and most earnestly commend it to the notice of those who have not so far grown it. It is a hardy plant, becoming suffruticose, and carries through the Winter if covered lightly with dry leaves. It is easy to propagate from cuttings, and altogether is a fine plant either in its dwarf or laxer growing form. I discovered however, what I had read about but never had seen before, namely that cats have a particular failing for the leaves and stems of this *Nepeta*. Twice my young daughter called my attention to puss eating the plants, but I paid no heed until the continued attentions of Mistress Puss attracted me to where the plants were, and there sure enough were only the skeletons remaining. It does not sound very encouraging certainly, but do not despair even if some plants grow beautifully less—an easy means of protection can be devised. It will be interesting to know whether others have suffered in this way.

\* \* \*

How about the Beans this year? They have taken an unconscionable time to come through the soil owing to the colder weather, and in my particular soil, which cakes and runs together, they had a struggle to break through. Some of those that were helped look rather yellow and resentful of man's interference; evidently the cotyledons like to come through the soil very gradually.

\* \* \*

How many of the Gladioli are hardy, and are there

degrees of hardiness among the varieties? The question is asked because a few corns are throwing up their growths here and there in the flower borders in places no more protected than where others have died out completely. Of course we know that Gladioli should be lifted and stored in the Fall, but occasionally some get left. Can Mr. Tracy or other of your experts give us a list of those that have proved hardiest?

\* \* \*

Sometimes a mistake is made surely, in applying a heavy cold mulch of manure to Rose beds, and even to hardy borders, before the sun's rays have had time to warm the soil. The better plan in the case of Roses that have been mulched during the Winter is to remove all the material, whether dry or not, and after the pruning, fork over the soil, and when it has become mellow-warmed, then is the time to apply the mulch. Stable manure, which has not the close qualities of that from the cow stable, never causes any damping off, but the heavier cow mulching does have that tendency, in the case of some of the more succulent subjects.

\* \* \*

Some one pointed out the other day a colony of double Daffodils, the flowers of which had gone blind, and asked why. Of course this could not be answered right away without an examination of the bulbs to discover whether these were affected in any way with basal rot, or to discover the consistency and quality of the soil. Daffodils like a moist bottom, but they do not like a cold wet bottom of soil, nor they like a soil that is very rich; nor an acidulous soil. The only thing to be done with Daffodils that have gone blind like that, and it is a more or less common failing with bulbs that are naturalized in the grass, is to lift them after they have finished their growth in Summer, dry them, replanting well apart in soil that is seen to be properly drained, and which contains a goodly proportion of calcareous matter such as lime or old mortar rubble, that is, lime from the interstices of old buildings. Unfortunately this is somewhat of a scarce commodity where frame houses predominate.

\* \* \*

The Rhododendrons are now in bloom. The best position for Rhododendrons is in the semi-shade of woodlands, where they are protected from cutting, drying and winds in Winter and Spring, and from the morning sun; this latter striking them from the East while they are frozen does much harm in Winter and Spring, and it is for that reason that a sheltered and partially shaded situation should be chosen. In Winter a mulch of leaves, dried ferns, hay or straw, or even long stable manure should be placed around the roots, and over the soil between the plants; this ensures a supply of moisture continually from beneath, an essential to their well being. In regard to soil, it should be stated that no lime must be present, or be incorporated, as this they detest. On limey formations, where the Rhododendrons are desired, it is necessary to excavate large beds two feet deep, taking away all the limey soil, and filling in loam, peat and leaf mould in equal proportions and mounding this up, or if this isn't done the limey water percolates from the surrounding ground and gradually kills the Rhododendrons. Dwarf varieties like *Rhododendron dahuricum* and *amœna*, usually called *Azalea amœna*, are good subjects for a rock garden, and there are others recently introduced from China that seem to be hardy for forcing for the greenhouse.



# Constructing and Planting a Rock Garden

By Thomas Cole, Massachusetts

THE best position for a rockery is one which is open and free from the shade and drip of trees, and away from the formal part of the garden. However, as it is not always possible to have ideal conditions, we must do the best we can with the conditions as we find them.

My remarks refer to a garden built on a natural group of rocks which "are surrounded by trees—evergreen and

30 degree angle. The nearer all plants are to being flat the better the plants will do, and the less the trouble the frost and rains will cause.

It will be necessary to protect the plants in winter and a covering of about two inches of clean straw is the best. Leaves are the poorest material for this purpose.

Evergreen plants of soft growth are badly damaged by having the covering material come in direct contact with them. Some method should be adapted to keep a small air space between the covering material and these tender plants.

The Alpine Rhododendrons, *Leucothoe* and evergreen Candytuft require protection from the sun during the winter and a thin burlap is the best thing to use.

Watering will be necessary several times during the summer. It must be applied with care or much harm will be done by washing the soil away from or onto plants of small growth.

Those plants which lose their foliage and are more or less dormant during the summer should be kept as much



*A View of General Stephen M. Welds' Rock Garden on His Estate, Dedham, Mass., Showing the Phlox Subulata in Flower.*

deciduous. There are also some of both kinds scattered through it and it is never free from shade at any part of the day.

In constructing the garden the pockets, bays and crevices were cleared of rubbish which had accumulated in them and refilled with a compost of loam, sand and gravel and broken brick after making sure of good drainage by filling in a good layer of broken stones.

Where it was necessary to insure a sufficient depth of soil stones were set up in as natural a manner as possible and plants of erect and trailing habit set in the joints as the work progressed. After a year's growth the plants will cover up the artificial appearances and give a natural finish to the work.

In setting up the stones the soil must be well packed around them and the joints made tight or else the rains and frost will cause the soil to fall out and destroy the plants.

Another important point is, the stones must lean into the soil and not out from it or the water will not go into the plants where it is needed.

This built up work should not have more than about a



*A View of General Welds' Garden, Showing Primulas Planted Along the Rocky Stream.*

as possible separate from those requiring water in large quantities.

The various species of plants to be commented on may or may not be true Alpine or mountain plants. That they grow well and look well among stones or rocks is their chief value. They are quite at home under trees, and when once established will thrive for years. I have omitted any reference to ferns because it is impossible to touch all sides of the subject in one evening.

This list of plants is arranged in the order of their

blooming as far as possible, and the Crocus will be the first to be considered.

Crocus, of which there are numerous species, should be planted chiefly along the approaches to the rockery because of the untidiness caused by the ripening foliage. A few of the choice varieties could be planted in inconspicuous places in the main part of the garden and some later growing plants set with them to fill the space after the Crocus are past. Those species which flower between November and March are of little use in this section owing to the climatic conditions. Should it be necessary to have these flowers in a large bed or mass, *Trillium grandiflorum* and *Scilla nutans* and *S. nutans alba* could be planted with the Crocus, as they would come into bloom after the Crocus were past and keep up the display of bloom as well as hide the decaying foliage of the Crocus.

The Snowdrop is one of the most charming of spring flowers. There are about half a dozen species all very much alike in appearance. They can be used in any de-

flowering bulbs similar in growth to some of the Scillas with flowers a delicate blue marked through the center with a darker shade.

The Spring Meadow Saffron, *Bulbocodium vernum*, is one of the best as well as earliest of spring bulbs for planting on rockwork. The flowers are rosy purple and appear before the leaves. They sometimes bloom before the Crocus.

There are no spring flowers of more value in the rock garden than the various species of Daffodils. They are perfectly hardy and vary much in color, size and form. The few kinds that bloom during autumn and winter cannot be grown out of doors in this part of the country. *N. Cyclamineus*, *N. Bulbocodium*, *N. gracilis*, *N. juncifolius*, *N. triandrus albus*, *N. moschatus* of Haworth, *N. minor* and *minimus* and many others are splendid varieties in a rock garden. The large Hybrid *Narcissi* always seem to me to be out of place in a rockery.

The beautiful *Iris reticulata* is the only species of bulbous *Iris* that has proved satisfactory with me. Many



*Primulus.*

*Helleboris Niger.*  
(*Christmas Rose.*)

*Trillium Grandiflora.*

sired number, as the foliage ripens quickly and can be cut off without injury to the bulbs.

The Spring Snowflake, *Leucojum vernum*, is allied to the Snowdrop and is a pretty plant with drooping bell-like white flowers marked with green inside and out. The Summer Snowflake, *Leucojum aestivum*, differs from *Leucojum vernum* but little, growing somewhat taller and blooming a few days later. These plants are disappointing at first but when well established are sure to do well.

The hardy Squills or Scillas are indispensable to every rock garden as they are beautiful and flower early. *Scilla sibirica*, *Scilla amoena* and *Scilla bifolia* are the earliest to flower. *Scilla campanulata*, *S.c. rosea* and *S.c. alba* are a little later while *S. nutans*, and *S. nutans alba* are the latest to bloom.

*Chionodoxa Luciliae* has beautiful blue flowers gradually merging into pure white in the center and about an inch across. There is a pure white variety which is very pretty.

*Puschkinia scilloides* is another gem among the spring

other kinds were tested, but they either failed to live through the winter or died out after once blooming. This *Iris* comes into bloom with the Crocus and is perhaps the most beautiful of spring flowers. The flowers are violet and yellow and sweet-scented.

*Camassia esculenta*, blue, and *C. Leichtlinii*, white, are quite pretty and bear a loose raceme of numerous flowers on stout stalks one to three feet high. *C. Cusickii* is similar in color to *C. esculenta* but taller growing, and the bulbs are subject to a disease which kills them out after a few years.

The Grape Hyacinths are not out of place when planted in the rock garden. The flowers are bell shaped and white or blue in color, borne in dense racemes on stalks 8 inches high.

The Dog's-Tooth Violet, *Erythronium Dens-Canis*, is a very lovely plant with flowers rosy purple or lilac, borne singly on short stems and drooping gracefully. *Erythronium Americanum* bears yellow flowers on stems 6 to 9 inches and is not so reliable as the first mentioned kind.

There is only one of the many Star of Bethlehems or Ornithogalums I have tried and that is *O. Arabicum*. These plants do the best when left undisturbed for years.



*A General View of General Welds' Rock Garden, Showing Hydrangea viciolaris Clinging to Large Rock.*

The Spring Star flower, *Triteleia uniflora*, is a plant that deserves a place in any list of spring flowers and after it is established will flower freely. The flowers are white with a bluish tint.

All these bulbs or bulbous rooted plants can be depended on to thrive in any kind of soil or any situation. The flowers last longer in shady situations than when exposed to the sun all through the day. The display of bloom can be considerably prolonged by making plantings in various exposures.

The time of their commencing to bloom depends on the weather. This year was the latest of any, being April 2. The earliest date I have any record of is March 7, in 1910.

I have omitted tulips because I have used none for the rockery so far, except *Clusiana* and one or two other small varieties.

*Helleborus niger*, the Christmas rose, comes into bloom with the earliest bulbs and has large white flowers borne singly on stems six inches high. A number of other varieties of *Helleborus* thrive well in a rockery.

The Alyssums, of which three kinds have been tried, are fine early flowering plants. *Alyssum saxatile* and *Alyssum rostratum*, both having yellow flowers, are the handsomest. *Alyssum montanum* has

been a failure. They do best in dry sunny positions and bloom in the latter part of April.

The *Doronicums* are good plants for dry places where little else will thrive, the best is *Doronicum austriacum*.

The Windflowers are plants that should have a place in any rock garden. They thrive in any partially shaded position and are not particular as to soil. The blue flowered *Anemone blanda* is the earliest to bloom. It is the most difficult to establish of any of this class of plants, but well repays for any trouble with it.

*A. apemina* blue and *A. apemina* alba, *A. ranunculoides* yellow, *A. Nemerosa* white and the double flowered variety which sometimes has lilac or purplish colored flowers. The blue variety of the Wood Anemone, *A. Robinsoniana*, is perhaps the finest of this class of plants.

*Anemone Hepatica*, or *Hepatica triloba* as it is sometimes called, should never be planted in sunny positions. The colors of the flowers are blue white and red, single and double. The double white variety is rare and high in price.

*Anemone Pulsatilla* has proved very unsatisfactory. It dies out no matter in what position or soil I may plant it.

The Primroses are a very pleasing class of plants for the rock garden and give a long display of beautiful flowers commencing with *P. denticulata* and its varieties before the earliest bulbs are past and ending with *P. pulverulenta* about the last week in May.

*P. Denticulata* and the variety *Cashmeriana* have their flowers in globular heads on stalks a foot or more in height. The color varies from dark lilac to pure white.

The Polyanthus and common type of Primroses are the next to show their varied colored blooms. They may be had in shades of white, yellow, and red. The flowers are of good size and carried on stout stems well above the foliage. The Polyanthus have their flowers in trusses. Those of the Primrose are on single stalks. *Primula Cockburniana* has scarlet flowers and must be replaced every year as it is only of biennial duration. *P. Sieboldi* comes in numerous fine named varieties in many colors and some have fringed petals. *P. rosea* pink, *P. Veitchii* pink,



*Another General View of General Welds' Rock Garden, Showing Character of Pockets Between the Rocks.*

*P. Bulleyana* yellow, *P. Japonica*, colors crimson to white, and *P. Pulverulenta* crimson, these Primroses are all easy to grow and perfectly hardy. The Japonica and

Pulverulenta self-sow themselves freely and are apt to be troublesome to keep in bounds. Pulverulenta sometimes dies out in winter. Most of these plants require renewing once in three years. They can be divided early in spring or after blooming. I like to raise the new stock from seed because the seedlings give the finest blooms.

*Adonis vernalis*, *Adonis amurensis* having *Anemone*-like yellow flowers and *Eranthis hyemalis* with yellow flowers surrounded by a whorl of shining green leaves are both pretty spring flowers and easy to grow.

Bloodroot, *Sanguinaria Canadensis*, is also a pretty plant when set in good size clumps. They are seen to best advantage when planted among deciduous shrubs.

The Virginia Cowslip, *Mertensia Virginica*, is a strikingly beautiful plant sending up graceful panicles of blue flowers. It will seed itself very freely and grow vigorously in any place.

*Mertensia ciliata* flowers later and is not as fine as *Virginica* but is worthy of a place in the rockery.

The *Trilliums* are grand when in bloom, especially the White Wood Lily, *T. grandiflorum*. They show to good advantage when planted among hardy ferns. They are also one of the best plants to associate with the earliest flowering bulbs to screen from view the withering foliage of *Crocus* and other bulbs. If planted about a foot apart they make a complete mat of green dotted with white flowers as pure as any lily. *Trillium sessile* and sessile *Californicum* and *Trillium undulatum* while interesting cannot be compared to *grandiflorum* for beauty. They will thrive in any moist position or even in a bog but to have the foliage fully developed they must be in the shade.

*Orobis vernus*, (Spring Bitter vetch) has pretty blue pea-like flowers, grows well in dry positions and is a very attractive plant about a foot tall. The white flowered form of this plant should also be grown.

Where they can be given a very moist situation the *Trilliums* are easily grown plants of compact habit sending the fine yellow flowers well above the leaves. The Orange globe has proved to be the best of the several kinds I have tried.

There are no plants superior to the *Phlox* for rock gardening. Of the erect growing kinds *Phlox divaricata* and *divaricata alba*, are the best, the first named has lilac purple flowers and the latter white or whitish blossoms. They do well in all situations where they are in sunlight part of the day and have good drainage. *Divaricata Laphami* is worth having, it is later in blooming and much taller growing than the first named varieties. The lasting qualities of the flowers are not equalled by any plant I am acquainted with.

*Phlox subulata* when seen in large masses creeping among or over half buried stones is a gorgeous sight. They are fine plants for covering dry or stony banks or to hide from view any artificial effect caused by the way stones are set.

A place in full sunlight is necessary. While they will grow in shaded situations they are sure to give few flowers poor in color. There are a number of varieties of this plant differing only in the color of the blossoms, which vary from white to magenta with a deeper shade in the centre.

The worst trouble with these prostrate evergreen plants is to keep the foliage in good condition through the winter. If protected with a covering the foliage rots and they sunburn badly if left without protection. However, as they quickly produce new leaves the unsightliness is soon removed. The new *Phlox Arendsi* is worth considering as a subject for the rockery if put in a suitable position.

The Rock-Cress, *Arabis albida*, is a fine plant of trailing habit and in rich soil is rampant growing. The flowers are white and very showy. The double flowered form is also a fine plant and blooms later than the single variety. The variegated form is also very useful and can be used for the same purpose as the other kinds. They flower before the trailing *Phlox* and are just as good as cover plants or to droop over stones. They do best in full sunlight.

*Arenaria balearica* is a trailing plant which when planted near rocks or stones will soon cover them with small green leaves and white starry flowers. *Arenaria montana* flowers in summer and in other characteristics is similar to the first named. They both grow and flower well in partial shade.

The well known *Vinca minor* is a useful trailing plant for sunny or shade positions. The white flowered variety *Vinca minor alba* is the same as in leaf and growth as the type.

*Pachysandra terminalis* is a dwarf evergreen herbaceous plant having short spikes of small white flowers. Wild Ginger, *Asarum Canadense*, and *Asarum Virginicum* are good cover plants for the rough parts of a rockery.

The Partridge-Berry is a neat trailing evergreen and has white flowers. It flowers in summer and bears red berries and grows best in shady positions.

The *Violas* or tufted pansies are useful to give brightness to a rockery. I like to have them in fair sized colonies in separate colors.

*Viola gracilis* is a very fine plant, and bears fine purple flowers in dense tufts early in spring. It will not live through the winter unless planted in a well drained bed.

*Viola cornuta* and its varieties are easy to establish. They require frequent division to have them flower freely.

The native wild violets will need to be kept in check or they will become a pest and choke out weaker growing subjects.

Forget-me-nots are too well known to require any remarks and they are welcome additions in a rockery.

The *Aquilegias* flower late in May and are very beautiful in habit of plant and color and form of flower. I treat them as annuals as many plants perish during the fall and winter months. They require a well drained position in partial shade. There are so many varieties all beautiful that it is impossible to single out the best. A few good kinds are *A. chrysantha*, yellow, *A. caerulea*, blue and white, *A. alpina*, blue; there are also numerous strains of hybrids.

The Hairbells or Bellflowers, *Campanulas*, have not been a success. Of the many tried only *Campanula Carpatica*, blue, and *carpatia alba*, *C. persicifolia* and its white variety have lived and flourished. *Campanula rotundifolia* has done very well. It is a large bloomer and the small drooping blue flowers are very pretty. I am inclined to the opinion that lack of sunshine is the main cause of failure with these beautiful rock plants, our rock garden having considerable shade.

The mossy evergreen *Saxifragas* has not been a success. They did well until about mid August when they turned black and perished. I attribute the trouble to the dews and the early morning sun striking them before the foliage was quite dried. Given a northern or western exposure I think better results would be obtained. *Saxifraga peltata* does best in wet positions

(Continued on page 280)

# Growing a Year's Vegetable Supply\*

By John S. Dvig, Massachusetts.

TO obtain a supply of vegetables, the year round, without the aid of a greenhouse, is a big proposition to carry out successfully, but it can be accomplished if one has the use of a good root-cellar and a good deep frame, the latter to be used as a hotbed during the early part of the year, and as a place for storing certain vegetable plants in the fall, for winter use.

A good supply of mats and shutters is required for protection during the early part of the year, and also for the fall and winter months. The frame should be at the least three feet deep and thoroughly drained. There are a great many different kinds of frames advertised, but what I consider the best for the purpose of a hotbed and storage, is a deep pit of the depth above mentioned of cement or brick walls with frame work set on top. It should be built in a sheltered position with a southern exposure so as to get the full benefit of the sun. The best hotbed sash that can be had should only be used as it is necessary to have good material to work with to obtain the best results in raising young vegetable plants, and to bring early vegetables to maturity earlier than would be the case if using poor material, always in need of repair, and that contracts and expands according to the climatic conditions.

The root-cellar should be rat and water-proof and well ventilated and must have sufficient windows to let in the light.

A good supply of loam, leaf mold, old and well decayed manure, and sand should always be on hand, and should be stored away in a place in the fall where it can be reached when required in the early spring for use in the hotbed.

The vegetable garden is best situated in a sheltered position, with a southern exposure, well drained and free of rocks, and should have a good irrigation system throughout its whole area. If the soil is heavy it is better to be well trenched and manured in the fall and given a good topdressing of lime in the spring before forking it over with the digging fork. Light soils, I consider, give the best results if just ploughed over in the fall, and well manured and spaded over in the spring.

Vegetable seeds should be bought of a reliable seed firm, of which there are many in the United States. The amount of vegetables to be grown will depend on the size of the family to be supplied the year round. The seed list is the first consideration and should be made out as early as possible, so that the seeds will be on hand when the time arrives for sowing. As to the varieties of the different vegetables, I will leave them out of this essay as most gardeners, professionals and amateurs as well, have their own fancies.

The time for preparing the hotbed varies, according to the different latitudes, and as a basis I would suggest from the beginning of February until the middle of March, according to latitude. In making up the hotbed good strawy stable manure is the best, mixed with leaves if they can be obtained, as they help to modify the temperature and help to retain the heat longer than if the manure is used alone. When filling the frame with it tramp it well and see that there is sufficient moisture to create fermentation, otherwise, if too dry, it will not heat properly. A layer of half rotted leaves should be spread over the surface and then the compost put in to a depth of three or four inches. The first seed to be sown is lettuce, followed by radishes, and carrots, which can be

grown to maturity in the hotbed. A second sowing of lettuce is necessary so that nice plants can be had for transplanting outdoors when the ground is in working condition and the weather is favorable. After that the following vegetable seeds should be sown, viz.: Tomatoes, peppers, egg plant, and, if desired, sweet corn. Cucumbers and summer squash can be sown in pots, two or three seeds to each pot, and plunged in the hotbed, later to be transplanted in the open ground, which will come in bearing from one to two weeks earlier than those sown outdoors.

The next in order of sowing is early cauliflower, early cabbage, leek, celery and onions; the latter to be supplied to the consumers from the frame. Tomatoes, peppers, egg plant, celery and also the second sowing of lettuce should be transplanted in the hotbed and grown on, and thoroughly hardened off, then transplanted outdoors as soon as their respective season comes round for transplanting which varies according to latitude.

If the ground has been prepared as before mentioned all that will be required before transplanting or seed sowing is raking and leveling it. The ground should be measured off and stakes put in to mark where rows are to be, either for seeds or plants. I firmly believe in the rotation of crops as a necessity to success in growing vegetables and no same crop should be grown on the same land year after year.

The distance apart for planting is also an important factor in growing good vegetables, and I submit a list of measurements here that I consider the best. Lettuce should be planted eighteen inches between rows and twelve inches from plant to plant; cauliflower, cabbage, brussels sprouts, two and a half feet between rows and two feet from plant to plant; egg plants and peppers three feet each way; tomatoes four feet each way; leeks two feet between rows and nine inches from plant to plant; celery three feet between rows and nine inches from plant to plant.

The same importance should be attached to seed growing outdoors. Peas vary according to height of variety, from two and a half feet to five feet between rows; onions eighteen inches between rows, and when the plants are large enough for thinning, two to three inches from plant to plant; the same for parsley; parsnips two feet between rows and one foot from plant to plant; dwarf beans, two feet between rows and when sowing the seed, the seed can be dropped in the row from three to four inches apart; pole lima beans, four feet between hills each way and four plants left to a hill when thinning; potatoes two and a half feet between rows and eighteen inches between tubers; sweet corn three feet between hills each way; cucumbers, squash, etc., twelve inches between hills each way.

Throughout the Summer months the hoe should be used freely to keep down weeds and to keep the surface of the soil loose. Staking and tying and also thinning out and watering should be thoroughly attended to.

A sharp lookout should be kept for insects that infest all vegetable plants and the destroying of same should be regularly attended to. There are so many different kinds of insecticides on the market that there is no excuse for vegetable plants to be eaten up and ruined by bugs if the grower has the time, and help,

to attend to the crops as he should have. I always use an automatic sprayer for spraying and find it both economical and labor saving. For all leaf eating bugs arsenate of lead is the most effective spray to use and should be applied to the plant on bright sunny days, so that it will dry on the foliage and not wash off with the first shower of rain. It should only be put on such plants as squash, cucumbers and pumpkins before the fruit is set, but should never be applied to such plants as lettuce, beets, spinach or parsley. For the onion and carrot fly, dust the young plants as soon as they appear through the ground with a mixture of six parts lime and one part flowers of sulphur and repeat the dose once a week until the end of May. The above mixture I find also very effective against cutworms. For Aphis on lettuce, carrots, and celery, spray with a non-poisonous insecticide. For rust on celery a mixture of Scotch soot and lime applied to the plants before blanching is beneficial; also Fungine is very effective. For the tomato worm a mixture of the following ingredients should be made up, viz.: Bran, molasses, Paris green, and the juice of two oranges. A little of the above mixture laid on cabbage leaves, should be placed among the tomatoes in the evening and removed again the first thing in the morning before any domestic animals or fowls get around.

A succession of sowings is necessary to keep up the supply of fresh vegetables throughout the season; also for a winter supply. Lettuce should be sown every ten days until the end of August; peas from April until July every two weeks; dwarf beans from May until the end of August every two weeks; beetroot from May until the middle of July every two weeks; early cabbage and cauliflower second sowing in April, and in May for late and winter varieties.

The hotbed, after all the plants have been moved outdoors, is a very useful place for raising radishes, cress and pepper grass throughout the summer, and in September it can be partly filled with lettuce so as to keep up a supply until the middle of December.

September is a good month to begin harvesting the crops. Squash and pumpkins are the first two crops that should be lifted and stored. Next come onions, beets, carrots, cauliflower, endive and celery, also potatoes and rutabagas. Endive, cauliflower and leeks are best transplanted in the frame, a part of which has been emptied of the manure, admitting air on all favorable weather conditions. Celery should be transplanted in the root-cellar with boards separating each row of plants, watering carefully and only when the plants require it. Onions, after they have been well ripened, should be tied up in bunches and suspended from the roof of the root-cellar; cabbage should also be suspended singly from the roof, head down. Potatoes, squash and pumpkins keep well when spread out on shelves in the root-cellar, covering the potatoes with a layer of marsh hay or other similar material. Beets, carrots, salsafy, rutabagas and parsnips should be buried in sand in the root-cellar, as sand keeps the roots in a fresh plump condition and prevents shriveling. Only part of the parsnip crop should be harvested in the fall, leaving the rest in the ground until spring, as a good freezing improves the flavor greatly.

During the winter months look over the vegetables at least once every two weeks and remove any that show signs of decaying, but if the cellar is well ventilated and the frost kept out there should be very little loss through decay.

## PRUNING FRUIT TREES

THE chief objects of pruning are (1) to let light and air into the trees and bushes; (2) to induce the formation of well-shaped trees and to furnish them with fruitful wood.

The remark is often heard that an amateur cannot prune his own trees, and there is a great deal of truth in it, for, generally speaking, he is much too tender-hearted to cut his trees to anything like a sufficient extent. Neglect in this direction invariably leads to a thicket of growth and very poor fruit; and when once a tree has reached this stage it may take years to bring it back to a fruitful condition. With standard and bush trees it is imperative that the centers of the trees should be kept open. It so often happens that a tree may be vastly improved by the removal of a large branch in the center.

It would be impossible to emphasize too strongly the importance of using a really sharp, strong pruning knife. Apart from the inconvenience of a poor knife, it should always be remembered that a clean cut will heal much quicker than a jagged one, and this is a matter of vital importance, since the worst disease to which fruit trees are heir, viz., canker, can only enter the tree by way of a wound when the inner tissue of the tree is left exposed to the air. For this reason it is advisable after removing large branches to cover the newly cut surfaces with tar or white lead. There are a few hard and fast rules in pruning that should always be borne in mind. For instance, one should always prune to a bud pointing outwards, since the growth made by the branch will be in the direction of the leading bud. Again, one branch should never be allowed to cross another.

For the first few years of its life the young tree receives very severe pruning at the hands of the nurseryman. This treatment is essential for the foundation of a sturdy, fruitful tree, and it is afterwards left to the fruit grower to continue the good work of the nurseryman. In the early stages the pruning is done primarily with the object of forming a bush or tree of the desired shape, the knife is used freely, many branches being shortened to one half their length, otherwise straggling, unshapely trees will result. Those trees that were planted last autumn require severer pruning than established trees.

It must be borne in mind that both the Apple and Pear in most cases bear their fruit on short spurs or side growths of stunted appearance. One object in pruning is to convert the ordinary side branches into fruit-spurs, and this is accomplished by cutting back the side shoots to within two or three buds of the main branch. This is well and clearly seen in the case of cordon trees, which should be furnished throughout their entire length with fruiting spurs, and the object in pruning a bush, pyramid or trained tree is to make every branch resemble a cordon. There is an axiom in fruit growing which runs "once a spur always a spur," and it is generally understood that fruit-spurs should never be pruned. But it sometimes happens—more especially with trained Pear trees—that even the fruit-spurs are overcrowded, and in such unusual instances they should, of course, be thinned. Pruning should be completed within the next few weeks.

Unlike Apples and Pears, Plum trees resent severe pruning, and they are often best left alone. Except in very young trees, which require hard pruning, a simple thinning of overcrowded wood is all that is necessary; and there is a wide difference of opinion as to whether pruning is best done in the summer or winter.

\*Essay that won ex-President Everitt's (National Association of Gardeners) gold prize in Class 4, under nom de plume Ivan.

# The Plant And Its Food\*

By Burt L. Hartwell, Rhode Island

IT is true that life is a mystery and that it will remain a mystery in spite of the efforts of a multitude of investigators and observers for at least a long time to come. The life of a plant is shrouded with a full share of the so-called mystery which is assigned to life in general; if by mystery we refer to what is unknown. However, by asking ourselves questions concerning the growth of plants and searching the literature diligently for the answers, a fairly clear conception may be obtained in time of what is transpiring in the vegetable kingdom about us. We shall, of course, fail as yet to find answers to a great many of our questions, and the reply to others will be like that often attributed to the Yankee—merely another question. Yet the search is worth the candle, for aside from economic considerations, an intense interest and pleasure rewards the searcher in the world of plants.

It is hoped that a few glimpses may be given which shall be sufficiently plain to cause some of the mysteries to disappear; others will be left untouched and unnoticed as furnishing more suitable subjects for the disagreement of doctors and for the theories of specialists. Words which have been coined to designate a particular part of a plant or some phenomenon concerning its growth, and which are more or less unfamiliar, will be avoided as much as possible for it is desired to relieve you of a burden of difficult names so that the mind may be left free to consider the plant as a whole.

The culmination of the growth of the plant is the production of the seed and as from the seed again proceeds the new plant, our attention may well be directed to this starting point. Warmth and moisture acting upon the food stored in the seed bring about chemical and physical changes which result in the tiny sprout and the rudimentary root. The supply of food from the seed being soon exhausted the little plant is obliged to change its mode of life in order to secure nourishment from the air and soil. To understand how it is possible for the young plant to shift for itself, a glance through the microscope must be taken at the make-up of our little individual. Thin slices or sections stained successively with different dyes, reveal the fact that various layers and parts behave very differently as regards their ability to absorb the several dyes, one portion taking one color and another portion a different color, and it becomes possible, thereby, to differentiate, and to call by name, these various colored parts. As it is always easier to remember faces than names, let us confine our attention to the picture and not trouble ourselves much with the names.

The entire plant will be found to be composed of tiny cells, some comparatively long and narrow, others short and wide. Without the help of the microscope one would hardly suspect this and would certainly have no conception of the different parts constituting the living cell itself. The entire envelope or covering of each cell, called the cell-wall, is a somewhat rigid, porous layer which changes in composition as the plant grows older, gradually becoming tougher, until the contents of the cell die and become absorbed. Wood is composed of these dead, toughened cell-walls. In every living cell, within and pressed against the cell-wall, is a substance which is called protoplasm, having many properties in common with the white of an egg. In some cases this substance nearly fills the cell and again large spaces are left in the central portion with bands only of the protoplasm streaming through them. The protoplasm is not a homogeneous substance, but contains portions of greater density and

more or less definite form, notably the nucleus, to which are attributed somewhat poorly understood functions. Even in those cases where the protoplasm comprises but a small part of the cell-contents, it conforms closely to the inside of the cell-wall and acts as a door-keeper, determining what shall pass into the interior of the cell, or out through the wall. The spaces within the cell, which are left unoccupied by the protoplasm, are filled with the sap of the plant. This sap is composed of water carrying in solution the food which serves partly for the formation and nourishment of the protoplasm which in turn builds up the cell-wall. Picture to yourself thousands of such cells modified into a great variety of forms and descriptions, some so long and so devoid of protoplasm as to be little more than tubes for the rapid transit of water and food-stuff, others again which are dead and comprise only the woody walls for supporting and bracing purposes, and you will have before you a plant, and will be in a position to trace some of the operations going on in the same.

Considering the amount of attention which is given to fertilizing crops, it might seem as though nearly all of the plant's supplies are obtained from the soil, but we know that carbon which makes up so large a part of the plant comes from the carbonic acid gas in the air. This is the gas which is exhaled from the lungs of animals, and the plants perform a great service for us by preventing an undue accumulation of this gas which would interfere with respiration. The plant also uses oxygen from the air.

The organic substance of the plant is formed by the agency of sunlight acting in connection with the green coloring matter, especially in the leaves. Carbonic acid gas and oxygen are not the only raw materials necessary to the formation of organic matter. There must be present also, water and certain saline substances or salts. The water and salts are obtained from the soil and are transported to the leaves through the long tubular cells which have already been mentioned. Water is not only needed in the elaboration of the organic matter, but also to replace that lost by evaporation from the leaves, etc. There is, then, during active growth, a continual movement of water and dissolved substances from the soil to the leaves. Here some of the water evaporates leaving an accumulation of salts to be used in conjunction with the carbonic acid gas for producing such substances as protoplasm and starch. A number of chemical elements, or component parts of salts, so-called, are required by the plant. The most of these are usually present in sufficient amount even in our worn-out soils, but continuous cropping has depleted the supply of others to such an extent that it has become necessary to add them to the soil before a maximum crop can be grown.

You have all become familiar with the names of the ingredients, nitrogen, phosphoric acid and potash, which are most frequently lacking in an available form in our older soils. Here then lies the food problem as far as concerns plants. We search far and wide for these three ingredients, bringing nitrogen from Chili, potash from Germany and phosphoric acid from our southern States. We endeavor to choose the form most readily assimilable after being mixed with the soil, and the proper mixtures to apply. Nitrogen is the most expensive ingredient of plant food, and when we consider its price, about 20 cents per pound, it is plain that the success or failure of farming operations may depend upon our judgment in the selection and use of materials containing this element.

Whatever may be the nature of the nitrogenous material which is applied to the soil, nitrates must be formed eventually before the nitrogen can be best utilized by plants. For example, dried blood, about one-eighth of which is nitrogen, must first undergo putrefactive fermentation or decay, brought about by the action of molds and micro-organisms, and the products thus obtained are acted upon by bacteria within the soil, which possess the power of changing them into nitrates, familiar examples of which are the nitrate of soda which is used as a manure salt and nitrate of potash or the medicinal saltpeter. The nature of such a salt as nitrate of soda may be better understood if we consider the substances from which it can be made. If the acrid, sour substance known as nitric acid be combined with caustic soda lye in certain proportions, a solution of nitrate of soda will be formed. Upon evaporation, the crystals of the salt will separate. This is a compound then composed of the nitric acid and the soda, and although less than one-sixth of it is nitrogen, the remainder is just as truly a part of the salt, and is in no sense an adulteration. Phosphoric acid and potash likewise constitute only parts of compounds or salts. A so-called complete commercial fertilizer is simply a mixture of salts or substances which contain nitrogen, phosphoric acid and potash along with the ingredients which are parts of the compounds as truly as the soda is a part of the nitrate of soda, although they may not be essential as plant food. This explains in part, why the sum of the nitrogen, phosphoric acid and potash may perhaps constitute no more than one-fourth of the fertilizer.

Although no single ingredient of a complete fertilizer can act independently of the others we have learned to associate certain tendencies of growth with the individual ingredients. If it is desired especially to promote the growth of leaves regardless of maturity and fruit production an abundance of nitrogen is used; whereas if the life cycle, including the production of fruit or seed, is to be completed early a liberal amount of phosphoric acid must be supplied. Potash does not seem to have so much influence on maturity as the relative amounts of nitrogen and phosphoric acid, but it is of special importance in connection with plants which produce large quantities of carbohydrates, such as starch and sugar.

Animal manure and most brands of commercial fertilizers contain all three of the ingredients which have been considered above, but since for special purposes they may need supplementing it is important to be acquainted with the composition of the more common sources of plant food ingredients.

Nitrogen may be supplied in nitrate of soda, sulphate of ammonia or dried blood, the rapidity of action decreasing in the order named. Phosphoric acid becomes most quickly available when added in acid phosphate. Bone and tankage contain not only phosphoric acid but nitrogen and are fairly quickly available. In normal times potash is secured in the soluble sulphate and muriate. Wood ashes not only supply potash but also lime. Their main beneficial effect is frequently because they counteract or neutralize an injurious degree of soil acidity.

Most vegetables are sensitive to soil acidity, on which account it is important to give attention to the needs of the soil for ashes or lime. These substances also have important physical effects, and likewise promote the activity of the beneficial bacteria.

No food can enter the plant except it be in solution. It becomes necessary, therefore, to learn whether any changes take place in the fertilizing material after it is applied, which would render it insoluble and thus incapable of being taken up by the plant. Phosphoric acid

in particular, even when applied in a soluble form, is inclined to combine with oxides of iron and aluminum existing within the soil and become insoluble before it can be utilized by the crop.

The salts when once in solution within the plant are, as we have seen, carried through the tubular cells principally, till they reach the green parts where a portion of them is used in connection with the formation of organized matter.

One of the first products which makes its appearance in connection with the processes carried on in the green matter of the plant, with the help of the sun's light, is the well-known substance, starch; it assumes a beautiful color when treated with a solution of iodine and its granules may then be easily seen with the aid of the microscope in thin sections of leaves. This same substance then, which constitutes so large a part of our food, is first formed in connection with the green coloring matter or chlorophyll of plants, i. e., principally in the leaves, and later in the life of the plant is found stored in special parts. The tuber of the potato is simply a thickened portion of the underground stem which serves principally as a receptacle for starch. How did the granules of insoluble starch find their way from the leaves to the tuber? It would be impossible, obviously, because of their insolubility, for them to pass from cell to cell through the cell-walls. It becomes necessary then to take into account certain ferments which have been found within plants and which perform functions similar to those taking place within our own bodies. Our saliva contains a ferment called diastase, which assists in converting our starchy food into sugar. The same ferment occurs within the plant; it acts upon the starch granules observed within the leaves, bringing them into solution or converting them into sugar.

Movement away from the leaves can now begin through the cell sap, which, as was pointed out earlier, occupies the inner portion of many cells and serves among other purposes, to carry food for the nourishment of the protoplasm with which it is in contact. The layer of protoplasm which lies within the wall of every living cell, is capable of allowing the sap and its contents to pass through and come in contact with the cell-wall through which it permeates to the adjoining cell. The flow of sap from the leaves, containing the substances which are produced there, is not entirely from one short cell to another, but takes place also through long tubes similar to those which partly conveyed the water and dissolved salts from the soil to the leaves. These long tubular cells placed end to end form canals which pass entirely through the plant. The canals which serve to carry crude material to the leaves lie alongside of those which conduct the more finished products in the opposite direction and consisting as they do of numerous forms differently marked and pitted on the inside, make up a bundle which indeed has received the name of vascular bundle. Numerous bundles of this kind are distributed throughout the plant with branches striking out in all directions. The tiny veins which may be seen by the unaided eye in leaves, represent some of these branches. These bundles and their branches serve then, as a means for the more rapid transference of material from one part of the plant to another. This material, it should be remembered, must be in a liquid or semi-liquid condition when it is in transit and in view of the fact that it is frequently in a solid state at the beginning of its travels and that it is usually deposited as a solid finally, it is apparent that many physical and chemical changes must take place. These changes appear all the more complicated when the materials themselves are insoluble in the cell sap, and instead of simply dissolving as sugar would,



must undergo chemical changes into some soluble compound.

An indication has been given of the manner in which starch is brought into solution by the action of the enzyme, diastase. So many of the changes in organic matter are attributed to agencies of this kind that it may not be out of place to consider them a little more fully. An enzyme is a ferment which is unorganized or has no life. It is, however, a product of life. In fact, many of the changes which were supposed formerly to be due directly to the action of lower forms of life are really not brought about by the organisms themselves, but by unorganized or lifeless ferments which they secrete and which are called enzymes. The alcoholic fermentation resulting in the production of carbonic acid gas and which is exemplified by the action of yeast in bread-making, is not dependent upon the living yeast plant, but may be caused by an extract made from it. Likewise the enzyme diastase is extracted from sprouted barley; it is more commonly known as malt and is used in the process of beer-making for converting the starch into sugar. A number of enzymes in the human body have become fairly familiar to us such as diastase and ptyalin in the saliva, pepsin in the gastric juice and trypsin in the pancreatic juice, but it may not be so generally recognized that similar ones, with similar functions to perform occur in plants and assist in changing the insoluble substances into compounds which may be utilized by the plant as food or be easily transferred from one part to another.

Many complex chemical changes take place within the plant; in fact it may be looked upon as a laboratory in which one set of unstable compounds is decomposed to furnish ingredients from which other more stable compounds may be synthesized or built up. Enough has perhaps been said to impress one with the complexity of the changes going on within the plant; it is not the purpose of this paper to compile in detail the views which are held concerning the multiplicity of changes, especially as these views frequently cannot from the very nature of

the case be substantiated by experimental proof, but rather to throw a little light upon the subject in a more general way. Years of patient investigation by men who are satisfied to devote their lives to the study of these intricate questions and whose encouragement comes not from their fellowmen, who are too frequently unappreciative of their efforts, but from the thought that they are assisting in the search for truth, will be necessary before some of the questions will be answered. Some of the answers will very likely prove of immense economic value and will repay ten-fold all the expenses connected with obtaining them. Who could have predicted for example when the chemist Wöhler succeeded half a century ago in producing a small amount of aluminum as a laboratory experiment by reducing its compounds with metallic sodium that we would today be using aluminum wire for conveying electric power from one locality to another. It required years of progress in technical chemistry resulting in a marked cheapening in the cost of producing metallic sodium before aluminum could be put upon the market at a sufficiently low price to replace copper in certain instances, but the principle underlying its manufacture was discovered more than a half century ago. Some of the principles underlying plant-growth will some day be understood because of the beginnings which are being made today towards their discovery; thus it is that one generation must start the work which another generation shall complete and apply practically.

\*Extracts from a lecture before the Rhode Island Horticultural Society.

During the hot weather it is pretty hard to get a good crop of asters. In many places artificial watering can be resorted to, and when this is done it should be done thoroughly so that the water has a chance to soak down a foot or more. When the surface is sufficiently dry, stir it up with the hoe. It is surprising how much moisture can be retained by repeated hoeings.



*View from the Terrace in Front of Bartow Mansion, Pelham Bay, New York City, the Club House of the International Garden Club, During Its First Summer Flower Show. Spread on the Lawn Are the Tents Which Housed the Indoor Foliage and Flowering Plants, Orchids, Cut Flowers, Etc. Groups of Magnificent Evergreen in Competition Are Seen in the Illustration (See Page 289).*

# Work for the Month of July

By Henry Gibson, New York

**J**ULY, as far as the garden is concerned is supposed to be one of the least important months.

Everyone has been busy planting and cultivating to keep down the weeds, and now one must start to cultivate to conserve the moisture in the soil.

July is the turning point, either one grows lax, in the uninteresting fight against weeds and drought, or else strive our hardest to keep things growing with both hose and hoes. Weeds must be kept down at all costs. It is a fact that a crop of weeds will evaporate more moisture from the soil than would be lost from the bare surface provided the ground be kept cultivated.

When watering do it thoroughly. The little and often plan is one to be deprecated inasmuch as it only serves to bring the tiny feeding rootlets near the surface to be dried out and killed by subsequent drought. Let the water soak down far enough to make capillary attraction continuous, so that when the surface becomes dry from evaporation the water will rise from the lower levels, to supply the needs of the plants.

Annuals that were sown out in the open ground early in the season will now need to have their final thinning for flowering purposes. The distance apart to thin the different species will depend on the habit of growth, of the plants, and whether dense masses of inferior flowers are preferred to a small quantity of first-class blooms. The fertility and nature of the soil has also to be considered.

In good loamy soil rich in fertilizers more space can be given the plants than in sandy or heavy clay soils not so rich in plant food. For some of the very tall plants, such as *Rienus*, *Cosmos*, *African Marigold*, and some of the branching annual sun-flowers, 18 inches to 2 feet is not too much space to give.

Asters Ten-Week stocks, Balsams, Zinnias, *Celosia*, *Calendulas*, *Nasturtiums*, and plants of a similar bushy habit should be thinned to 10 inches to 12 inches apart.

Dahlias should be tied to the stakes as they advance in growth. They are easily broken by the wind when allowed to go untied for any length of time.

Do not make the ties so high that they will cut into the stems as they increase in thickness. The tarnish plant bug which so often gets in his fine work on the Asters and *Chrysanthemums*, is also very partial to the Dahlias, as soon as the hot weather sets in. It is good practice to anticipate the visits of this destructive pest by dusting the terminal points of all growth with *Pyrethrum*, or Persian powder. Dust them often and early when the plants are damp with dew, but not wet.

## SWEET-PEAS

The cooler the roots of the sweet-peas can be kept during the hot weather the better will be the quality of the blooms. In order to do this the ground should be thoroughly soaked with water at least once in every two weeks, and a mulch of litter applied to the surface. As the heat increases look out for insect pests. *Aphis* and redspider are the most common ones.

## THE VEGETABLE GARDEN

As soon as some of the earliest crops are out of the way, fork up the ground, and lighten it with sand, and

leaf-mold if it is of a heavy nature, and sow seeds of such biennials and perennials as you want to grow for another season.

Don't be tempted to lie back, in this department just because the planting is about all done. The weeds will thrive, and the drought may be a lengthy one.

Be liberal with the water. Vegetables are succulent plants, and need lots of water to be fresh and green. Frequent hoeings form a dust mulch on the surface that prevents too rapid evaporation of water from the soil.

If cut-worms are giving you trouble, try the poisoned bran remedy. Mix five parts of bran to one Paris green, and put as much as you can hold between your fore-finger and thumb near each plant where these pests are doing the damage. Choose a dry evening for this work when there is not any likelihood of there being rain.

Vegetables, particularly cabbage, beans and cauliflower, are subject to wilts and rots, caused by bacteria. Care should be exercised when cultivating not to injure them as the bacteria gain entrance through wounds.

By shading the lettuce with cheese cloth its usefulness may be prolonged during the hot weather.

## SUMMER PRUNING OF FRUIT TREES

The object of Summer pruning is to increase the number of fruit buds and fruit spurs. A fault not unfrequently to be found with many who practise Summer pruning is that all the suckers are removed from the young trees, leaving a long bare stem.

This is bad practice for two reasons. First, there are no fruit buds or spurs on the lower parts of the branches, and consequently the area upon which the tree can bear fruit is limited to a small portion of the outer end of the branches.

Second, the leverage produced by the fruit being at the end of the branches is so great, that they either lie on the ground and the fruit becomes soiled, or else they break with the load.

It is, however, often possible to correct this error when the Winter pruning is being done. This causes the dormant, or adventitious buds to grow. When a good growth of these suckers, or sprouts as they are often called, has been made they can be pinched back, and fruit spurs will form, upon the limbs near the trunk which is the proper place for them.

The time for Summer pruning depends a good deal upon the climate and period of growth. Pruning in June would not be effective if there is a period of growth after the Summer dry spell. Instead of fruit spur developing branches would be formed on the limbs. Under these circumstances pruning will have to be deferred until later in the season. The physiology of Summer pruning is largely a matter of food supply. The food that is elaborated within the trees would naturally pass on to the leaves, but in the case of a Summer pruned tree it is arrested in its transit from stem to leaf, and the food is stored at the end of the stem. Thus at this point a strong food bud is usually secured. As a fruit bud is only a better fed leaf bud the reason is at once apparent.

# The Preservation of Our Wild Flowers

MUCH has been accomplished within the last few years in securing proper protection for our feathered friends, through arousing a country-wide interest towards the preservation and propagation of our native birds. The time now seems at hand to make an equally strong appeal for the preservation and protection of our native plants and to discourage their wanton destruction, which, if not checked, will eventually result in the complete extinction of some of our most favorite wild flowers.

L. P. Jensen, of St. Louis, Mo., in an address before the American Association of Park Superintendents, at its convention at San Francisco last fall, cited the following as some of the principal reasons for the destruction of and consequent disappearance of our native plants.

1. The entire cutting out of woodlands for timber, in the wasteful American way, for the making of land for the growing crops.

2. The destruction of undergrowth in woodlands for the making of pasture for stock.

3. The destruction of undergrowth for no other purpose, than that, of a false idea of tidiness.

4. The wanton destruction of woody flowering plants, by persons gathering flowers.

5. The pulling up of entire plants when gathering flowers.

6. The removal of plants from their native habitat, for the purpose of transplanting, by persons who have no conception of their growing requirements. And

7. Last, but not least, the lack of popular education on the subject of plant preservation and protection.

Mr. Jensen, in speaking of the common practice of destroying woodland property, said:

"The first act of most persons coming into possession of a parcel of natural woodland, is to improve (?) it by cleaning out all the undergrowth of shrubs and herbs. This practice is so very common, that any one, who happens to have the contrary view on this matter, is looked upon, by his neighbors, as somewhat irrational.

"I have personal knowledge of many a place, whose charm consisted of its native growth of redbud, flowering dogwood, crab-apple, hawthorn, native roses, varieties of viburnums, sumac, bittersweet, native grapes, intermingled with asters, golden rods, purple cone flower, butterfly weed and other attractive and desirable native plants, which have been changed, with an idea of improvement, by completely destroying these natives, and replacing them with a few beds of annual flowering plants.

"I have one particular instance in mind, where I had been called upon to work out a design, which would adapt a ten acre parcel of natural woodland to the requirements of a country home for a well-known St. Louis physician, who is a great lover of botany.

"This parcel of land is located on the bluffs overlooking the Mississippi River, over which some splendid views were secured, simply by the removal of a few branches. By retaining most of the native growth of plants, and by careful selection of additional planting material, the result has been most pleasing and satisfactory.

"One of his neighbors, who had employed the usual clearing up process in the development of his place, thereby utterly destroying its charm asked me, what

he could do to make his home grounds more attractive. To this question there seemed only one answer, restore the greater part of that which you have destroyed. Unfortunately it would take many years and much work to do so.

"Woody plants, whose value consists principally in their great number of beautiful flowers, are often exterminated by thoughtless persons, who break the plants to pieces for the gathering of an armful of flowers, which in most cases wither and are thrown away along the roadside. They do not realize that their act creates wounds, which seldom heal, but which give opportunities for the spread of diseases, which through the wound, enter the tissues of the plant, resulting ultimately in its destruction.

"Other plants, growing in the loose and mellow leafmold of the woods, are destroyed by gatherers of flowers, who carelessly pull out the entire plant.

"The popularity of nature study is responsible for the destruction of many plants, because most authors and writers on this subject neglect to call attention to the importance of plant protection.

"In the vicinity of cities the woods are denuded of their former wealth of ferns and flowering herbs, by persons who wish to transplant them into their gardens, but who do not realize that these plants require a soil and situation which is not often to be found, or provided on a city lot or in the country garden border. The result in such cases is always the ultimate death of the plant."

Appealing to have this thoughtless extermination of our woodland plants halted Mr. Jensen urged that it is evident that some of our most interesting and beautiful native plants are in need of our protection, and that the matter of their protection is of sufficient importance to be considered by every one interested in the perpetuation of the beauties of nature.

Teachers, writers and speakers endeavoring to popularize our native plants, should always call attention to their need of protection, and how and why they should be protected. Much good might be accomplished in this manner, and all of us should come forward with a helping hand in this movement of education. Here is where the superintendent of public parks and the superintendent of large private estates may be of the greatest service to the cause, by introducing these plants in the parks whenever, and wherever, an opportunity presents itself. He should study the habits and requirements of those plants which are becoming scarce, in his locality, and find suitable places for them, thereby giving them absolute protection. He should inform the school authorities and the public about the presence of those plants in the parks, at the same time calling their attention to interesting facts concerning these plants, their beauty, scarcity in the locality, and the importance of their protection wherever found. Then you are not only preserving the plants, but also educating the public to an appreciation of our native flora.

Each one will be required to study his own locality, to determine which plants are becoming scarce, which are already extinct and which are apt to become exterminated in the near future. Certain plants should be protected everywhere, for example, the orchid family, the members of which, owing to the peculiar form of their flowers, are adapted to fertilization by but few insects, and consequently, many of these plants, not being fertilized, fail to produce seeds, which results in slow perpetuation of the species.

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NEW PLANTS FROM CHINA.

THE third expedition into China to discover new plants suitable for introduction into the United States has been completed by F. N. Meyer, plant explorer of the U. S. Department of Agriculture, who recently returned to Washington after a three-year trip in the far East. As a result of this expedition through the center of China, of the many specimens secured, the specialists regard as most significant the jujube, a fruit new to this country, which may be suitable for use in the Southwest; a wild peach resistant to alkali, cold and drought, the root system of which offers great possibilities as a grafting host; certain Chinese persimmons larger than any hitherto known in this country; a number of aquatic food roots and vegetables which offer promising possibilities for the utilization of swamp land; some thirty varieties of vegetable and timber bamboos; and a number of Chinese

vegetables, bush and climber roses, shrubs and trees.

Of scientific rather than commercial interest is the discovery on this expedition, near Hangchau, of a hickory tree, the first found in China. The existence of this tree, together with the facts that the sassafras and tulip trees are common in both countries and the Chinese tea box tree is closely related to the sweet gum of the South, confirms the fact that the flora of the southeastern United States and that of sections of China are closely related. Another discovery of botanical interest was the finding in a remote and hitherto unvisited valley in Tibet of a hazel tree 100 feet high, a surprising departure from the hazel bush. Elsewhere English walnuts were discovered in a wild state; and the discovery of the wild peach is regarded as significant because it seems to establish that the peach may have been a native of China rather than of Persia, to which its origin has been ascribed. The discoveries of native and hardy oranges and other citrus fruits, a number of which have been brought to this country for breeding work, give added evidence that China was the home of the orange, which was introduced into other countries probably by early Portuguese travelers. Similarly many plants commonly ascribed to other countries, such as the wistaria, chrysanthemum, lilac, azalea and certain peonies and rambler roses, have been developed by the Chinese, although because they reach Caucasian use through other nearby nations, their Chinese origin often has been overlooked.

The wild peach discovered in China, and now brought to this country for the first time, is considered of great interest although its fruit is not desirable. Investigation in its native habitat showed that the roots of this plant are not as susceptible as our native peach to alkali in the soil, while it will withstand cold and does not require much moisture. Experiments are under way, therefore, to determine the usefulness of the rootstock of this peach for grafting with different hardy American varieties. If success is achieved, the specialists believe that they can develop peach trees which will make possible the raising of peaches in the Southwestern or alkaline sections.

Of special interest also are the collections of aquatic food plants secured in the recent expeditions. These include water chestnuts, water nuts, and a number of aquatic bulbs, as well as the water bamboo. The Chinese, the explorer found, have mastered through centuries of experiments the process of using swamp lands for the raising of food crops, and their success is believed to point to commercial possibilities for some of our swamp regions where reclamation by drainage is not practicable. Whether the American farmer would ever be willing, however, as a commercial enterprise, to grow crops which call for cultivation in water-waist deep is open to question.

To lovers of flowers the new Chinese rose known as the *Rosa ranthina* should be of special interest, particularly in view of the fact that there is at present a great demand for yellow roses. This bush has small, light yellow flowers, but its great quality is its hardiness which will enable it to flourish in the North even as far as Canada. The chief promise of this rose, however, lies in the fact that it will in all probability lead to the production of new hardy types of yellow roses adapted to cultivation in America. In addition, the explorer found a number of new rambler roses, particularly certain yellow ramblers which, if locally successful, will meet a demand for a climbing rose with a flower differing in shade from the crimson and pink flowers of the well-known rambler varieties.

## THE MAIDENHAIR TREE.

*(Ginkgo biloba.)*

OF the many trees which are worth while because of their beauty or usefulness, perhaps no single one is less known or appreciated than the so-called maidenhair tree (*Ginkgo biloba*). The ginkgo deserves careful consideration. Certainly it would be hard to find another tree which is so free from both insect and fungous pests, stands the climate so well, and is apparently so unaffected by poisonous gases which are fatal to some of our most satisfactory trees. Combining these necessary qualities with unusual beauty, it would seem that the maidenhair tree should be more widely used.

Young maidenhair trees are tall and slender, resembling the Lombardy poplar in type, but later horizontal branches appear which ultimately cause the trees to assume the appearance of spreading oaks. Ginkgos in this country from fifty to seventy-five years old measure forty to sixty-five feet in height and have trunks with a girth of from five to ten feet.

In the Missouri Botanical Garden there are a number of fine specimens of this tree, and visitors are constantly commenting upon the singular character of their leaves, which are unlike those of any other American or European tree, reminding one of the maidenhair fern so much that the resemblance has given the ginkgo its common name. Although the ginkgo was at one time supposed to be a member of the pine family, the structure of the flowers, together with other peculiarities, has led to its placement in a separate division (the Ginkgoaceae) of the gymnosperms. It is not an evergreen, the leaves turning a beautiful yellow in the late fall before falling.

The maidenhair tree, together with the cycads, instead of following the method of fertilization in the higher plants, has retained the swimming antherozoids so characteristic of the ferns. The ginkgo and cycads thus form a most interesting bridge across the gulf which formerly was thought to separate the fern and fern-like plants from the seed-bearing plants. Although the habit and appearance of the tree are strongly suggestive of our deciduous flower and seed-bearing trees, the fertilizing apparatus is far more suggestive of the ferns and mosses, a reminder of the time when all plants were fitted for an aquatic habitat and provided with antherozoids possessing organs of locomotion with which to swim through the water to the egg cell.

Probably there is no other existing tree to which Darwin's term of "living fossil" may be so truly applied as the ginkgo. It is apparently the sole survivor of a race which narrowly escaped extinction, the reason for which we can only vaguely speculate upon. While fossil remains, found in the Palaeozoic, have led some to assume that the maidenhair tree could be traced back to this era, it is not until we come to the Mesozoic that the ancestry can be established with any degree of certainty. There is abundant evidence, however, of the practically world-wide distribution of members of the ginkgos in the oldest of the Mesozoic floras, and the remains of the leaves as well as the flowers and seeds indicate a surprisingly close resemblance to the existing maidenhair tree. It is as though a near relative of the Megatherium, or some other prehistoric monster, had managed in some unknown way to persist to the present date.

Although at one time growing from Australia, Cape Colony, and South America to northern Europe and all over North America to Greenland, the ginkgo in the

present epoch was apparently confined to China and Japan. Even here it is not believed to exist wild, in spite of the statement of Mrs. Bishop, in her "Untrodden Paths of Japan," that she found forests of wild maidenhair trees. Wilson in his "A Naturalist in Western China" attributes the preservation of the ginkgo to the care of the priests. He says "The world at large does not realize how deeply it is indebted to religious communities for the preservation of many trees. In Europe, for example, most of the best varieties of pears originated in the gardens attached to religious establishments in France and Belgium and were introduced into England and other countries after the battle of Waterloo. In China, where every available bit of land is devoted to agriculture, quite a number of trees must long ago have become extinct



*The Maiden-Hair or Ginkgo Tree.*

but for the timely intervention of the Buddhist and Taouist priests. The most noteworthy example of this benevolent preservation is the maidenhair tree (*Ginkgo biloba*). This strikingly beautiful tree is associated with temples and shrines, court gardens of palaces, and mansions of the wealthy throughout the length and breadth of China, and also in parts of Japan. But it is nowhere truly wild and is a relic of a very ancient flora."

From the Orient the ginkgo has again been distributed by cultivation until it is found over almost as wide an area as in Mesozoic times. It probably was brought to this country early in the last century, but no authentic account of its introduction can be found. The first tree which flowered in Europe appears to have been a male plant at Kew, which bore flowers in 1795. In France the ginkgo is commonly called *l'arbre aux quarante écus*, or "forty crowns free," for the fol-

lowing reason, which is quoted from Loudon's interesting account:

"In 1770, a Parisian amateur named Pétigny made a voyage to London in order to see the principal gardens; and among the number of those he visited was that of a commercial gardener who possessed five young plants of *Ginkgo biloba*, which was still rare in England and which the gardener pretended that he alone possessed. These five plants were raised from nuts that he had received from Japan, and he set a high price on them. However, after an abundant *dejeuner* and plenty of wine he sold to M. Pétigny these young trees of ginkgo, all growing in the same pot, for 25 guineas, which the Parisian amateur paid immediately and then lost no time in taking away his valuable acquisition. Next morning, the effects of the wine being dissipated, the English gardener sought out his customer and offered him 25 guineas for one plant of the five he had sold the day before.

"This, however, was refused by M. Pétigny, who carried the plants to France, and as each of them had cost him 120 francs, or forty crowns (*quarante écus*), this was the origin of the name applied to this tree, and not because it was originally sold for 120 francs a plant. Almost all the ginkgo trees in France have been propagated from these five imported from England by M. Pétigny. He gave one of them to the *Jardin des Plantes*, which was kept for many years in a pot and preserved through the winter in the greenhouse, till 1792, when it was planted out by M. André Thouin, who gave the above relation in his lecture; but as the situation was not at all favorable to it, this plant was not much above forty feet in height in 1834, and had not then flowered."

## CONSTRUCTING AND PLANTING A ROCK GARDEN.

(Continued from page 270.)

where the thick creeping root stock can attach itself to a flattish stone. It's a very striking plant. The leaves are shield-shaped standing a foot or so high and a foot across. The flowers white or pinkish stand well above the foliage. Deciduous.

*Saxifraga cordifolia* and other varieties of the large leaved section are useful and ornamental and thrive in sun or shade.

*Saxifraga aizoon* valuable for its tufts of silvery leaves has proved hardy but does not grow with vigor.

*Iris cristata* and *Iris cristata alba*, are easily grown plants and like a sunny position among small stones.

*Iris arenaria* is more curious than beautiful and a vigorous grower.

*Iris pumila* and *Iris germanica* are worth some place in a rockery as they are not at all difficult to grow in dry and sunny situations.

The perennial Candytuft *Iberis sempervirens* is indispensable for rockwork and thrives in dry or wet situations. Partial shade does not hurt them. They brown up in spring sun. *Daphne cneorum*, *Euphorbia polychroma*, and the Solomon's Seal, *Polygonatum multiflorum* are all attractive and thrive in any situation not too heavily shaded.

The *Epimediums* will grow and bloom freely in places where the sunlight seldom or never strikes them. They are the best plants I know of for holding the soil of steep banks in place and for planting in vertical fissures. The white flowered and yellow kinds are the showiest.

*Vancouveria hexandra* is similar in appearance to *Epimedium* and thrives under the same conditions.

The Bugle flowers, or *Ajuga*, are good plants for shady banks or spots where the soil is shallow or stony.

*Acæna microphylla*, and *A. sarmentosa* are pretty plants for ground cover, but have not proved reliably hardy.

*Saponaria ocymoides* and *Saponaria versicolor* are both pretty flowered trailing plants and very useful; they will flower well in slight shade. They have long fleshy roots and require deeper soil than the *Phlox subulata*.

The Climbing *Hydrangea*, English Ivy and *Euonymus redicans* are useful for covering stones or the faces of natural ledges. The Ivy must be protected from the late winter or early spring sun or it will burn. Burlap is the best material to use for that purpose.

The *Polemonium* and *Dodecatheon* can be relied on to give pleasure in any half-shaded spot.

The *Gentiana*, *Linum*, *Thymus*, *Achillea*, *Dianthus*, *Silene*, *Cerastium*, *Stokesia*, *Gypsophila* and *Veronica* are all sun loving plants and will not thrive immediately beneath trees of any kind. The shade from deciduous trees is not harmful unless very dense and of long duration.

*Gentiana acaulis* is a beautiful flower of good size and color, easy to handle. The plants should be set among half buried stone chips.

*Gentiana verna* is pretty but difficult to establish.

*Silene alpestris* and *Silene maritima*, *Acantholimon glumaceum*, *Androsace Chumbyi*, *Cerastium tomentosum* and *biebersteinii*, *Heuchera*, and *Stellaria Holostea* all these have done well although in the shade part of the time.

In closing I wish to say that *Dictamnus fraximella albus* never shows to better advantage than when growing between tall rocks.

*Hemerocallis* is another plant that can be grown set between large rocks or stones.

The *Ranunculus* are satisfactory plants for rockeries. *Ranunculus amplexicaulis*, *R. aconitifolius flore-pleno*, and *R. acris flore-pleno* are the best we have tried.

The number of plants to be had for planting rock gardens far exceeds the list I have named and only by experimenting is it possible to prove their value for use in this country.

Extracts from paper read before the Boston Gardeners' and Florists' Club.

## USEFUL BIENNIALS

THE term "biennial," though decidedly misleading, inasmuch as it is made to include many plants which are really perennial, is a very convenient one, and to gardeners it usually means a plant sown one year that will bloom the next, and then die. Biennials certainly include some of the most beautiful and most indispensable garden flowers, and when we see wall-flowers, Canterbury bells, sweet williams and evening primroses, we are made to think of our childhood's days.

The uses of biennials are very numerous and varied. All gardeners are familiar with their more obvious uses, such as for spring bedding, but of late it has become the fashion to place biennials in the mixed border along with annuals, instead of keeping the border for perennials only. Biennials are also useful for placing on a sloping piece of rockwork to provide bright color in the early summer; for brightening up the boundaries of shrubberies, and for other purposes. The blooms of sweet williams and Canterbury bells,

which are given in such profusion, are splendid for home decoration.

The following list includes plants which are really perennial, although they are more usually treated as biennials in one of the ways described below. Among the most important are Canterbury bells, single and double varieties, and calycanthena forms in many beautiful colors: Bellis, double daisies; Alyssum saxatile, for edging purposes; Oenothera Lamarckiana, fox-gloves in variety, hollyhocks, good named sorts; honesty, purple and white; pansies, single and double; rocket, Silene pendula, sweet william, named sorts; Scabious, Verbascum in variety, and wallflowers in variety.

As regards the culture, there are two ways of going to work, and in cold districts I confidently advise gardeners to sow during February or March in heat, and treat in the same way as half-hardy annuals, planting out, however, not in the front borders, but in the mixed border. The plants so treated will bloom in the autumn of the same year, and will flower very thoroughly during the summer of the succeeding year. This, of course, does not apply to such subjects as wallflowers and myosotis.

The method more generally adopted is to prepare a fine seed bed in a rough frame any time from May to the second week in July. On this sow the seeds thinly, covering only lightly with soil. Keep watered, and as soon as large enough, prick out the seedlings into boxes of loamy soil, and keep in the frame for a month or so. Then plant out in a well-prepared site, or the reserve plot, keeping the plants well watered and hoed. Finally transfer to their flowering quarters in the front borders, or in the mixed borders in October.

Many can be sown out of doors, and pricked off straight away on to the reserve plot. In cold districts it is better to transfer all plants, except those used for spring bedding, into a rough frame, planting out in February or March. Soot water is useful in the early stages of growth, and during the second year plants such as Canterbury bells, hollyhocks, sweet williams or verbascums are greatly benefited when in bloom by an application of weak liquid manure twice a week. *The Gardeners' Magazine* (English).

### AMONG THE DAHLIAS

**P**LANTING should be completed by the end of June, although excellent results may be had from plants set out as late as July 10.

It frequently happens where green plants have become pot-bound before being planted that they are slow in starting, and usually the growth made is heavier at the top while the lower part fails to develop. In such cases the plant should be cut back to the hard wood to induce a fresh break from the base. All vacancies that appear at this time should be examined and all decayed tubers and those not showing a break should be replaced with tubers showing a good shoot, or by green plants kept for replacing.

In July finish all planting by at least the 15th. Go over the plantings of May and June and if there are losses, replace them. Attend to the staking and tying as growth progresses, and see that all labels are properly attached for easy identification. We are now approaching a season when we are apt to have a dry and hot spell, and a sudden check in growth is the result, followed by rusty foliage and a quantity of twiggy shoots. The Dahlia enthusiast should guard against such a result and keep the cultivator moving

regularly a couple of times a week and give an occasional soaking with the hose.

Toward the end of the month a number of varieties will be showing flower and should have a light dressing of bonemeal worked in around the plants, and a good mulch placed on also. Where half-rotted stable manure is employed as a mulch it is not necessary to use the bone. As the flowers begin to show color be on the lookout for rogues or those wrongly named and either throw out or label correctly. It takes some courage to throw out a plant when in bloom even if it be a poor variety. In such cases mark it "N. G." or "Discard."—*American Dahlia Society Bulletin*.

### INTENSIVE CULTURE OF STRAWBERRIES.

**S**TRAWBERRIES do best on a light, gravelly loam. If too sandy they burn up in a hot, dry spell, and a heavy clay will bake too hard. The ground should have a good coat of well-rotted stable manure spaded under to the depth of at least 10 inches, that the plants may take a deeper root the better to withstand extreme heat.

Set young, thrifty plants between July 15 and September 1, 12 inches apart, in beds of three rows each, allowing 2 feet between the beds for a path, both for cultivation and for picking.

The beds must be kept entirely free from every kind of growth, except the plants from which you are to get your fruit. The runners must not be allowed to grow long enough to drop down and take root, either before or after bearing.

When bearing for the first time the plants will put forth but one cluster of leaves and one of bearing stems. If during the first bearing year the plant is kept free from runners from spring until fall, thus throwing back on itself its surplus strength, it will produce several other heads or cluster of eyes, from each of which it will throw out a cluster of leaves and bearing stems, and there is where you get your great productiveness. If, during the second year, the same plan is kept up the plants will push out a few more heads, and that is about the limit of the plant's usefulness. It is then better to start a new bed, changing the location, if possible.

The first year will produce the largest berries, but not the greatest crop. The second year is the banner year, when size of berry and product are both considered, as third-year product may be as large, but the berries will run smaller.

Mulch the beds, and the best material for that purpose is to cut green grass before it has run up to spear or seed and cover the ground thick with it just before the berry stems begin to lop over with the weight of the berries, which they will do quite early if the crop is heavy. One day's sun will wilt the grass so that it will lie close to the soil and keep in the moisture. If kept on the mulch will prevent weeds from growing the remainder of the season.

For keeping a bed up to its full bearing capacity, have at all times some thrifty runners ready for transplanting to replace any plant that might be injured. If taken with the soil attached a thrifty runner can be moved without retarding its growth.—*Fruit Grower*.

The young of most song-birds are fed to a great extent on the soft larvæ of insects, of which there is usually an abundant supply everywhere. Many mother-birds, however, like to vary this animal diet with a little fruit-juice now and then; and the ripened pulp of the black-berry, strawberry, or mulberry, will cheer the spirits of their nestlings. Such fruits are easily grown, and they make a pleasant addition to the birds' menu.

## THE VIBURNUMS

THE viburnums rank high among shrubs or small trees in ornamental planting for both private and public places. They make all grounds beautiful in summer with their flowers and foliage, in autumn and winter their fruit is attractive and excellent food for the birds. They are hardy, easily handled, and soon responsive. Many are natives, and so are suited to our soil and conditions. Their cultural requirements are not difficult, they need good soil with plenty of humus, and do not object, in some species, to ill-drained land. Little care is needed in pruning, not much more than the removal of some odd stems in aged plants, and they can be cut level with the ground if the necessity arises where plants are old or misshapen. If this is done in March and April, and some of the weaker growth removed, they replace themselves in a short time. There are few insects which trouble them, and they are almost free from fungous attacks.

Propagation is mainly from seeds, and, although the first year's growth is small, afterward it is satisfactory. Some trouble arises, because, while two seasons are generally required for germination, sometimes the seeds come up in one. It is suggested that the fruit be gathered early, before it is ripe, as shown by its color, and that it should at once be stratified with two or three times its bulk of sifted sand. The mixture should be kept cool and moist; there is no better way than to bury it, guarding against vermin, and clean it when ready to sow, either in January or February for planting under glass, or in April for planting in frames or seed-beds. If germination does not occur the first year, the boxes can be kept under observation; in the open air a covering of pine needles 4 to 5 inches thick, easily removed, will keep down weeds and keep in moisture, always important. If the seedlings appear in late summer, a covering of pine needles will protect them from frost. Other methods of propagation are given below where necessary.

The flowers are white, of different degrees of purity. It is the fertile and small ones which make the bulk of the cyme, but also in some species there are sterile or ray flowers, much larger and placed on the outer edge; in at least two varieties, the snowballs, the ray flowers alone are present. There is great difference in the fruit in color and size, some producing berries as small as bird-shot, others as large as a pea, while the colors include red, slaty blue, and deep purple, almost black; in one species there are green, pink, and purple fruits at the same time.

The following are kinds which, with a few exceptions, are in general cultivation:

*V. acerifolium*, the Dockmackie, is a native shrub, 4 to 5 feet high, and excellent for planting under large trees; it is very resistant to shade and the encroachment of established roots. It is not, however, either in fruit or flower, equal to many other species; the foliage is fair and sometimes takes on good autumn coloring.

*V. alnifolium*, the Hobble Bush, or moose-wood, better known perhaps as *V. lantanoides*, is another native shrub, a bush 10 feet in height, with large leaves and early bloom; the ray flowers are a pure white and striking; the waxy red fruit is very handsome. Altogether a taking plant, but unfortunately not in cultivation, as all efforts to grow it either from seeds or from natural layers hitherto have been failures.

*V. cassinoides*, the Withe Rod, is also a native; a symmetrical shrub 6 to 8 feet high, and wonderfully improved by cultivation. The foliage is bright and shiny, almost coriaceous, and the flowers are plenty and good. It is the fruit, however, which is most taking. It comes in August and September, lasting for a month. Green, pink or reddish and dark purple berries are seen together in the clusters, and are so handsome that they are gathered like flowers. It is one of our best shrubs; a little slow, perhaps, to establish.

*V. dentatum*, Arrow-wood, is another excellent native shrub, 10 feet or more high. The foliage is good, and so is the fruit, a small, dark slaty blue herry in copious clusters. This plant does

not object to ill-drained land. It is found on the borders of swamps and sometimes the roots are under water for long periods. It is not so good, however, as *V. venosum*, which it resembles.

*V. dilatatum* is a Japanese species, a hardy shrub 8 to 10 feet high, with the usual white flowers and small bright red fruit in autumn, quite different from the others. The foliage is dark green, somewhat rugose, giving a pleasing appearance to the plant, quite unlike other viburnums. It is not so commonly grown as most sorts.

*V. Lantana*, the Wayfaring Tree, is a European shrub or small tree, 12 to 15 feet high, and perhaps more often planted than any other viburnum. It has long been in cultivation, and is hardy, tough and inexpensive. A taking plant with good, somewhat downy foliage, and plenty of flowers and fruit,—purple berries which, however, disappear early.

*V. Lentago*, Sheepberry, is a native, a large bush or small tree 15 to 20 feet or more in height, with bright leaves, plenty of flowers, and large purple fruit which is very attractive in autumn. One of our best shrubs where a thick and tall growth is desired. Like *V. dentatum*, it does not object to moist soil, and is often found by brooks or ponds in swampy land.

*V. macrocephalum* is a Chinese variety, a shrub 10 feet or more high, and is sometimes planted; it makes a good specimen plant, foliage and flowers are both attractive. It should be given a sheltered place as it is not any too hardy.

*V. Opulus* is the Tree or Bush Cranberry found in our northern woods and in Europe and Asia. Three species are now described by botanists, but practically they are all the same to the planter. It is the European plant which is, and has been for many years, in common cultivation, and from it the Snowball, or Guelder rose, has been obtained. It is a tall shrub 12 to 15 feet high, with numerous white flowers, the ray or sterile flowers well developed, and quantities of large red fruits in autumn; these, however, are not waxy but soft and, although they last during the winter, they lose their freshness after severe frost. They are sometimes used in various ways in cooking, but always have a bitter taste; it is said that birds do not eat them. The fruit also has an unpleasant odor when decaying, and therefore it should not be planted too near the house; otherwise it can be used wherever a large shrub is required, and will keep in good condition a long time. It is easily renewed, as described below.

*V. Opulus var. sterile* is the common showy and well-known Snowball. The flower-cluster is made up of ray flowers only. It is propagated by layers (the old mound-layering can be used), by hardwood cuttings sparingly, and sometimes by division. It is attacked by aphides at times, which cause leaf-curl. The cure is a spray of tobacco soap, or, if bad (and this happens in old plants), cut level with the ground in March or April, thinning out the new growths when they appear; the plant will be renewed and bloom the second or third year.

*V. Opulus var. nana* is a curious dwarf form, 2 to 3 feet high or less, of compact growth, to be planted, not in shrubberies, but in a garden where a formal effect is wished. It seldom, if ever, blooms, and can be propagated by division easily.

*V. plicatum*. See *V. tomentosum*.

*V. prunifolium*, the Black Hawk, is a native shrub or small tree, 15 feet or more tall, and with a tree-like aspect. The foliage is bright and the flowers are a much purer white than in other species, like the tender *V. Tinus* (*Laurustinus*). The purple fruit is good but not so abundant. Give this plant plenty of space and treat more as a tree than as a shrub.

*V. pubescens* is a native shrub, 5 feet high, not often planted. It makes a pleasing variety and is rather graceful when well grown.

*V. Sieboldii* is a Japanese species, 8 to 10 feet high, with good foliage and flowers. It seems hardy, and is perhaps better used as a specimen than in shrubberies. It is not common in cultivation.

*V. tomentosum* is from Japan, and of comparatively recent introduction. It is a shrub, 6 feet or more in height, with spreading branches and good foliage, which colors nicely in autumn in favorable seasons. The ray flowers here are conspicuous, an excellent white, and abundant. The combination of flowers and foliage is unsurpassed.

*V. tomentosum var. plicatum (sterile)* is the Japanese Snowball, some time in cultivation before the type was introduced. The best and hardiest form (several are obtainable) is a shrub 10 to 12 feet high, with clusters of pure white flowers, all ray or sterile, and much like the common or Chinese snowball; it is a question hard to decide which of the two is the better. The foliage is dark green and admirable, particularly in autumn, when it is a good purple shaded with orange. Plant in good soil and a sheltered place either as a specimen or in a clump. The propagation of this and the type is by means of cuttings of hardened wood growing in a greenhouse, June and July, and is not difficult. —From *Landscape Architecture*.



# Department of Ornithology

Under the Direction of the Committees on Bird Preservation and Propagation.  
National Association of Gardeners, L. H. Jensen, St. Louis, Mo., Chairman.  
American Association of Park Superintendents, Hermann Merkel, New York, Chairman.

## THE NESTING SEASON

By PAUL B. RIES, ILLINOIS.

JUNE is the month when the periodical reproduction takes place among most birds in the northern temperate zone. It is true that some already have hatched their first brood, the notable ones being the song sparrow, meadowlark, robin, bluebird and bronzed grackle. But there are hordes of summer residents which arrive at a later date and which are barely settled for their household cares in the early part of June. The best examples of these are found among the orioles, wood-thrush, indigo bunting, scarlet tanager, swallows, rose-breasted grosbeak, bobolink, yellow warbler and humming bird.

Most of these birds have traveled great distances to their breeding grounds, in fact, the entire migration resolves itself into a flight to the breeding ground, and, later on into a departure from it to their winter homes. The well-being and future hope of existence is, therefore, largely dependent on the successful culmination of their period of reproduction.

The many dangers attending these annual flights to the breeding grounds increase as the birds near their actual homes. Worn and fatigued from the great distances traveled, they often arrive just in time to become the victims of our arbitrary springs when March weather is the order of the day for months until early June, when down-pours and torrents claim further lives. The young fledglings, too, often fall prey to these conditions and robins have been observed, who have built a fourth nest before they finally succeeded in raising a partial brood. June, too, is the month of blithesomeness among the birds. Their notes, recognized as a secondary sexual character, now attain their fullest expression. But aside from the sexual impulse, which actuates song, one may be pardoned for assuming that the song also comes from a happy heart. Weather also has a depressing influence on birds, especially blustery, disagreeable days, when little song can be heard, while any balmy, sunny spring morning, nature's own musicians are at their best.

As a rule birds are mature and mate when they are a year old, although the song and plumage of several species is still that of the immature bird. Apparently most birds choose a new mate every year, excepting swans, ostrich, owls, hawks and some other large birds. Birds also are content with one mate, with the exception, perhaps, of the wild turkey, prairie hen, some members of the grouse family, the great tailed grackle and red winged blackbird. The male cowbirds, on the other hand, outnumber the female of their species, which live in a state of polyandry.

Many of our birds, too, are one-brooded, notable examples among these being quail, bronzed grackle, blue jays, flickers, nuthatches, chickadees, the woodpeckers, goldfinches and others. Scientists like to assign this fact in a measure to an all-wise provision of nature, which singles out the many winter residents of the northern temperate zone, where natural food for many months is at a premium and insufficient to support great numbers. To offset these single hatches, one often finds a greater number of young to a single brood than is found among the birds of several broods. These latter as a rule have a full complement of eggs numbering four or five eggs to

each setting, while the one-brooded birds may lay as many as nine.

Another wise provision of nature is found in the fact that the earlier broods are largely composed of male birds. It is during the earlier part of the season that fledglings suffer greatly from inclement weather and birds of prey, among which, at this season at least, may be included the crow, blue jay and bronzed grackle. These three are notorious egg thieves and will feed fledglings of small birds to their own fledglings, which, at this stage, are constantly demanding enormous quantities of food. Many of the birds which nest in boxes or hollow trees escape these enemies, but are exposed to some extent to depredations of cat, squirrel, chipmunk, flying squirrel, white-footed mice and snakes. On top of this comes the birds' worst enemy, mere man, who through a well meant purpose, converts everything into a serviceable condition, cuts down underbrush and forests, fills decayed tree cavities with cement and cultivates the ground so thoroughly that little is left for nesting sites. All of these operations are reducing the safety of nest life, and a little forethought by each and everyone in providing suitable thickets and nesting boxes, would, in a measure, offset the harm done.

Not so many years ago farmers encircled their acres with dense hedges of sage orange, and, others, more thrifty, planted willows, which furnished ample fuel for the home fireside. It is true that the roots of these trees reached out into the plowed land and reduced the tillable acreage, but they returned many times the amount the crop lost by harboring feathered allies in such number that they kept in check hordes of insects and made crops possible at all.

Birds are also divided into two groups: those whose young leave the nest shortly after being hatched, which are called precocials, and those which require the protection of the nest after hatching, the altricials. In the case of the former, the nest served the mere purpose of a receptacle for the eggs; while in the case of the latter its usefulness is prolonged many days beyond the day of hatching, in fact, until the young are able to fly. The old nests in many instances serve their owner repeatedly, notably the eagles, osprey, phoebe, morning dove and, sometimes, the robin. If one is observant, one may note that wrens often will avail themselves of the shelter of an abandoned nest for their young or other small birds will occupy them occasionally as a roost for the night.

The architecture of bird nests is an absorbing study. Here we find some nests which are no nests at all, a mere depositing of the eggs on a slightly depressed gravelly surface, the mud and reed structure of grebe and loon, the subterranean burrows of bank swallow and kingfisher, also the pecked out hollow limb or trunk of the woodpecker, the crude cradle of the herons and morning doves, which are but a few loose sticks thrown together carelessly and barely dense enough to keep the eggs from filtering through. Further on we find nests composed of more staple material, such as leaves and sticks and paper, fairly well constructed as those of the brown thrasher and catbird, also the arched-over nest of the ovenbird and others. Then we find the many fine examples of nests composed of grass or moss; often lined with hair

or soft fibers. The beautiful nests of the phoebe consisting of soft materials; the cup-shaped mud-lined nest of robin and wood thrush; the durable nest of the wood pewee and cedar waxwing and the thistle-down structure of the American goldfinch; the pendant nest of the oriole, made from soft plant fibers or string; the semipensile nests of the vireos and the wonderful nest of the blue gray gnat catcher and humming bird, decorated and concealed with lichens.

The early morning hours are usually given over to nest building, which proceeds leisurely and deliberately. However, where the nest meets with a mishap in some shape or other and the time of laying with the bird interested is close at hand, they may be seen to complete a new structure with little cessation. The color of the eggs resembles those of the same species in a general way, much as individual blades of the ribbon grass are easily distinguishable as ribbon grass, but yet vary from every other blade of the same plant in the disposition of their markings. There is much to be learned yet on the nest life of many of our commoner birds, and its study is full of interest and surprises. Exact data on the length of incubation of the various eggs and the growth of the fledglings to the point where they are able to leave the nest is not yet to be had and should furnish much thought to an aspiring student. It is at this time especially that birds are repaying us many times for a little forethought and protection. When we note the active young robins and bluebirds stalking over the lawns actually transposed from grub and beetle into golden-throated songsters, completing a picture of harmony, color, song and poetry, we may well shudder when we think what might be if the grub and beetle held full sway and lived out their natural life of destruction instead.

#### BIRDS IN CEMETERIES.

THE following is one of the many favorable replies received by *Park and Cemetery* of Chicago, in answer to the question: "Do you believe the cemeteries should encourage the birds, and if so how"?

"Most decidedly, I believe we should encourage the birds; feed them, shelter them and protect them. In cemeteries, as a rule, there are lots of trees and shrubs and vines sufficient for sheltering and nesting purposes, but these can be greatly augmented by introducing artificial nesting houses, ornamental in their way as well as useful, and appropriately placed to suit the several genera of birds. And in most cemeteries there is open water, either as streams or lakes, sufficient for the feathered needs. Now about feeding the birds: In cemeteries in a broken or timber country there is generally a good deal of natural woodland and lanes or belts of trees and shrubs, say, including bird cherry, dogwood, wild roses, elderberry, June berry, sumach, barberry, hercules club, and other "berry" or small fruit bearing shrubs or vines, together with pokeberry, sunflower, coreopsis and other seed-bearing herbaceous and annual plants and grasses, and all of these bear food for birds. To these in a decorative way may be added many plants whose fruit enlarge the bird larder; for instance, the single roses, viburnums of sorts, yellow flowering current, snowberry, Indian currant, Japanese crabapples, benzoin bush, Boston ivy, junipers; in fact, most anything that will bear and ripen berries or other fruit.

Above all things, give elderberry, mulberry and hercules club the preference as Summer food. And some superintendents, like myself, who live in the cemetery, and have a big garden, but no scarecrow, are compelled

to pay toll to the birds in cherries, strawberries, currants, corn and other things, but bless you, there is enough in the yard for both of us. In Winter we feed the birds systematically. To make a man useful you have got to keep him busy, more especially a policeman, and that is why we have a good one. We have two policemen who patrol the cemetery faithfully all night—at any rate, before I go to bed—and they protect the grounds, including the birds, from night prowlers, both bipedal and quadrupedal of all kinds. It would ruin the day policeman if he had nothing to do but twirl his club, so in Summer time, in addition to patrol duties, he is also timekeeper and official mole-catcher; in the Winter time he is timekeeper and bird man. We buy mixed bird seed—grain, cracked corn, milled sunflower and some other seeds—and distribute this at certain feeding places, both on the ground and on little table-like boards, eight or nine feet up on the trees. A very little goes a long way. He also keeps a supply of suet in flat wire nests fastened to the trees. The whole thing is exceedingly simple and inexpensive, and our "Bobby" is so proud of his job that he thinks every bird in the cemetery knows him.

Wm. Falkoner, Supt. Allegheny Cemetery,  
Pittsburgh, Pa.

The chairmen of the Committees on Bird Preservation and Propagation of the National Association of Gardeners and The American Association of Park Superintendents would like to have readers send answers to the following questions:

Have you made any effort to encourage the birds, and if you have, what methods have you employed, and what results have you obtained?

Have you made an effort to educate the people of your vicinity on the value of encouraging and protecting our native birds?

Have you any personal observations or expressions on this subject, which might be of interest to the readers? If so, send them along for publication in the GARDENERS' CHRONICLE.

#### DARWIN TULIPS AS CUT FLOWERS.

AS cut flowers Darwins are hard to beat. If left on the plant for forty-eight hours after it opens then cut and put in water it will enlarge and grow to nearly double its size. By keeping them in the coolest part of the room and giving fresh water every day they will easily last a week in good shape. A vase in the window where the light can strike through the flower will bring out some beautiful shades not obtainable in any other flower.

There is a great difference of opinion as to the proper time and method of planting Darwins. Some advise extra early, some extra late, and some claim they should be planted at the same time as the early varieties. In my experience it is best to plant them the first or second week in October. That is right after the earlies are put in. I do not believe the bulbs will flower earlier or later by planting early or late. Last year I planted some September 15, some December 15, and some as late as March 15, and they all flowered at the same time, from May 25-30. Where we have such hard winters I advise planting at least five inches deep, and after the ground has frozen solid, by January 1, give a good mulch of leaves or straw. This mulch should not be removed too early in the Spring or an early growth will be frozen down. Let the Tulips show an inch out of the ground but not through the mulch before uncovering, then be very careful not to break off the tender shoots.—*Raymond W. Swett in Modern Gladiolus Grower.*

### THE ROSE-CHAFFER: A DESTRUCTIVE GARDEN PEST.

ABOUT the time of the blossoming of grapes, roses, and many garden flowers a long-legged beetle of a light ochre or yellowish-brown color, called the rose-chaffer or "rose-bug," makes its appearance in certain sections of the country and strips bushes and vines of blossoms and foliage.

These insects appear suddenly and in vast swarms in certain years, usually toward the middle of June in the Northern States and about two weeks earlier in the southern range, and overrun the garden, vineyard, orchard, and nursery. In about a month or six weeks from the time of their first arrival, generally after they have done a vast amount of damage, the beetles disappear as suddenly as they came.

Light sandy regions are greatly preferred by the insects as breeding grounds, and clay lands, unless near sandy soil, are seldom troubled with them.

For some time after the rose-chaffer was first noticed it confined its ravages to the blossoms of the rose. In later years it has extended its range of food plants until now it is nearly omnivorous. The rose and grapevine especially suffer from its depredations, but it is almost equally destructive to fruit, shade, and other trees and shrubs. In times of great abundance these insects completely destroy flowers and other ornamental plants of many sorts even attacking berries, peas, beans, and nearly all garden fruits and vegetables, corn, wheat, and grasses. Almost every form of vegetation is devoured.

The beetles do not confine their ravages to any particular portion of a plant, but consume alike blossoms, leaves, and fruit.

In their attack upon the grape they first devour the blossoms, then the leaves, which they completely strip, leaving only a thin network, and later the young berries are eaten. Whole vineyards and orchards are often devastated, and the fruit crop of certain sections of country destroyed. It is no uncommon sight to see every young apple on a tree completely covered and obscured from view by a sprawling, struggling mass of beetles.

The rose-chaffer is one of our most difficult insect enemies to combat successfully. Almost every appropriate method that has ever been employed against other insects has been tried against this one, and much has been written about this insect, but a thoroughly effective remedy is yet to be discovered when the insects appear in excessive numbers.

The greatest difficulty encountered is that any application that may be made is unsuccessful unless applied almost continuously. Poisons that will kill the beetle are not satisfactory when the insects are abundant, because of their comparatively slow action. The blossoms have already been entirely destroyed before the poisons have taken effect, and the dead beetles are constantly being replaced by others that come from the ground or fly from neighboring places. Every beetle on a plant may be destroyed one day, but on the day following the plant will again be completely covered by them. Moreover, it is difficult to spray an entire garden so that every bud and blossom will be coated with the poison.

The old-fashioned remedy of hand picking is of service when the beetles infest rose bushes, grapes, or other low-growing plants. The beetles may also be jarred from trees and bushes over sheets saturated with kerosene, but these methods are tedious and must

be practiced daily in the early morning or toward sundown to be effective. A number of useful mechanical appliances formed on the plan of a funnel or inverted umbrella, with a bag or can containing kerosene at the bottom, have been devised for the collection of the beetles as they are jarred from the plants.

Choice plants may be securely protected by a covering of netting, and when the process of bagging may profitably be employed, this method should be followed. Bagging, as is well known, prevents fungous or bacterial infection, and, in addition, flowers so protected are of superior appearance and quality. Bagging of grape clusters for protection against the rose-chaffer is often practiced and affords protection against other insect pests as well.—*From Farmers' Bulletin 721, U. S. Department of Agriculture.*

### DELPHINIUMS—POPULAR PERENNIALS

FEW plants contribute so much to the beauty of the garden as these five plants of the Crowfoot Order. There are in cultivation many species both annual and perennial, but the most important are the tall hybrid perennials. They are valuable for their wonderful range of lovely color and great variety in height, from one to ten feet. The colors range from almost scarlet to pure white, from the palest lavender up through every shade of blue to deep indigo; and for the variety and size of their individual blooms, some of which are single, some semi-double and some perfectly double, and all set on spikes ranging from one to six feet in height. About a dozen species have given rise to the cultivated forms.

The combinations in which they can be placed are numerous. They may be used in the mixed border, in masses or groups, in one or several colors, or associated with flowering plants or shrubs. Perennial Larkspurs thrive in almost any situation or soil; they are easily increased and are quite hardy. A deep friable loam, enriched with decayed manure, is a good soil for them, but they will grow in a hot sandy soil if it be heavily manured and watered. Every three or four years they should be lifted, divided and replanted, and this is best done in Spring, just as they are starting into growth. They may be divided in Summer after flowering; if this is done, cut down the plants before they produce seed, let them remain a week or ten days until they start afresh; then carefully divide and replant them, shading and watering until they are established. Late autumn division is not advisable. Delphiniums can be made to bloom for several months by continually cutting off the spikes after they have done flowering. If the central spike be removed the side shoots will flower and by thus cutting off the old flowers before they can form the base and keep up a succession of bloom. Another plan is to let the shoots remain intact until all have nearly done flowering, and then to cut the entire plant to the ground, when in about three weeks there will be fresh bloom. In this case, however, to keep the plants from becoming exhausted they must have a heavy dressing of manure, or applications of fluid manure. Bonemeal applied in Spring and lightly forked into the soil is beneficial. Top dressings of manure keep the soil moist and cool, give the plants a healthier growth, increase the number and improve the quality of the flowers.—*W. Saville in Southern Florist.*

In shipping cut blooms of Gladioli it is absolutely essential that they be shipped dry, after standing for a while in water.

## From Here There and Everywhere

**RANUNCULUS MONTANUS.** The Mountain Buttercup is one of the most tractable of its race, a plant of the easiest culture and producing, when doing well, a perfect sward of shining golden-yellow flowers. A fibrous-rooted species attaining 4 inches to 8 inches high, the plant produces tufts of dark, glossy, green leaves from which in April and May issue the sheets of glistening golden flowers not unlike those of the common Buttercup in color, though rounder and more densely clustered on the plant.

Native of alpine and sub-alpine pastures and woods, the plant presents no difficulty to the cultivator, and is usually a success in cool, moist, sandy loam, appearing to resent dryness more than aught besides. The accompanying illustration is useful as showing the free flowering of the plant, though no picture can convey an adequate idea of the richness of coloring when the plant is at its best.—*Gardening.*



*The Mountain Buttercup.*

**LIVERWORTS.** Almost, if not quite, coincident with that of trailing arbutus is the coming of hepatica or liverwort, writes Dr. W. W. Bailey in the *American Botanist*. It possesses, along with trailing arbutus, the habit of hiding itself amidst fallen leaves, the coy flowers usually appearing well in advance of the foliage. Yet the last year's three lobed leaves, now bronzy or purplish, generally accompany the blooms and very shortly one detects the new leaves neatly folded, or better, rolled inward, glossy green in their young state and clothed with silky hairs.

It is one of those plants that depend upon their calyx, rather than upon their corolla for their beauty. Indeed, it presents in this respect some deceptive features. At a varying distance from the white, pink or violet sepals appear three ovate bodies often so near the flower as to resemble a calyx. These are really bracts and are often remote enough to be recognized as such. The eight or ten or more sepals are all distinct, somewhat elliptical in shape and early deciduous. There are numerous stamens and pistils, all distinct. These features and the insertion of the parts on the receptacle, i. e. beneath the pistils, help to identify the plant as one of the multifarious group of crowfoots or plants of the buttercup family.

As is well known, this family possesses strikingly dissimilar members which yet possess marked characters, like those mentioned above, by which one learns to know them. Thus it may have both calyx and corolla or one circle of floral envelopes only, when it is always the calyx which is present. The petals, if there are any, may be long and spurred as in the columbine, or curious sacs as in goldthread or indescribable bodies, as in larkspur and

monkshood. The simple pistils usually free from each other are a marked feature as in our liverwort, but in the peony they are more or less united.

The name, liverwort, and its Latin equivalent, Hepatica, was given to our little plant from a fancied resemblance in the leaves to the form of the liver. There followed from this, by the ancient doctrine of signatures, a belief that the foliage was useful in complaints of that organ. I fancy it may be used, even now, by some persons with this idea in view. It is probably no longer found in any authentic pharmacopeia, but of it might be said what Asa Gray said of some other plant, "It is probably as efficacious as many other things."

**770,000 CO-OPERATORS.** Nearly 770,000 persons, largely successful farmers, are now aiding the United States

Department of Agriculture by furnishing information, demonstrating the local usefulness of new methods, testing out theories, experimenting and reporting on conditions in their districts—by helping, in short, in almost every conceivable way to increase the knowledge of the Department and to place that knowledge at the service of the people. This army of volunteers receives no pay from the government. Many of these co-operators are actuated solely by a wish to be of service to their neighbors. Others take part in this work because of their own keen interest in testing new methods, or in trying out for themselves crops either new to their own sections or imported from foreign countries through the Department's plant explorers.

It is estimated that at least one farm out of every twenty is working in some way with the Department of Agriculture and thus has become a center of advanced agricultural information for its community. In addition to the farmers who work directly with the Department of Agriculture, there are thousands of others who render a similar valuable service to the scientists and field workers of the State agricultural colleges and experiment stations.

With such a large number of farmers willing to work with the Department and the colleges and test out their recommendations, it is clear that a significant change has taken place from the day when the average farmer was decidedly skeptical about scientific agriculture and slow or unwilling to give attention to the recommendations of what many used to designate as "book farmers."

The wide use made by the Department of this large number of practical farmers indicates clearly how erroneous was the once prevalent idea that agricultural scientists held themselves aloof and that the Department of Agriculture consisted mainly of college-trained men, who were far more at home in their offices or laboratories than on actual farms.

**THE MARSH MARIGOLDS** Most of the members of this small family of plants greatly resemble one another in habit and flowers. They are spread all over the north temperate regions, usually growing in damp meadows and waterside places. In our native Marsh Marigold (*Caltha*) we possess one of the brightest and best of early flowering bog plants, and those who are considering the formation of a bog garden will do well to make free use of this when planting. Its favorite position, where it grows most luxuriantly and produces the largest flowers, is in valley bottoms of black muddy soil, on the edges of streams, or often partly submerged. Under these conditions the golden yellow flowers are particularly attractive, and fully justify a prominent position in the bog garden. *Calthas* should also be employed in beautifying the edges of lakes and other ornamental waters, by being planted in large groups. Once established, the plants increase freely by means of self-sown seeds, which germinate readily. Plants may also be increased by division of the roots in autumn or spring.—*Exchange.*

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### Of Interest to Estate Owners

The National Association of Gardeners maintains a Service Bureau which is at the disposal of all who may require the services of efficient gardeners in their various capacities.

The association seeks the co-operation of estate owners in its efforts to secure opportunities for those engaged in the profession of gardening who are seeking to advance themselves. It makes no charge for services rendered. It endeavors to supply men qualified to assume the responsibilities the position may call for.

Make your requirements known to

**M. C. EBEL, Sec'y, National Association of Gardeners, Madison, N. J.**

# NATIONAL ASSOCIATION OF GARDENERS

WILLIAM N. CRAIG, President,  
Brookline, Mass.

OFFICIAL COMMUNICATIONS

M. C. EBEL, Secretary,  
Madison, N. J.

## AN APPEAL FOR BOOSTERS.

(Addressed to Secretary.)

"Just a line to say I am settled here for the present. It is not what I had expected after all the twenty-four years of pleasure and hardship obtained in America. I thought our National Association of Gardeners were of more use than it is and as far as I can judge one has to be in the 'Swim' to get any advantage out of it. When you see men getting good positions with only a few years experience in some greenhouse where a few plants or flowers are grown for the shows and men well able to fill positions going around practically begging for a position, I think it about time we wake up and see if this state of affairs can't be changed."

The foregoing is a specimen of criticisms that reach the secretary's office from time to time, invariably from members who never respond to the call of a meeting where opportunity is offered to any and every member to bring to light any shortcoming of the association (real or fancied), and submit suggestions for its elimination.

The fact of the matter is that the great drawback to our association today is, and always has been, that but few members participate in its active affairs and, although the organization's affairs are as much the concern of one member as they are of another, the work is left to fall on the shoulders of a few.

The trustees, directors and officers, comprising the Executive Board, give up their time to the association's work whenever called on without compensation, bearing their own traveling expenses to attend the executive meetings, for unlike other organizations of its kind, there is no provision to reimburse the expenses incurred by executive members.

While it may be possible for a few to promulgate plans and campaigns for furthering the interests and usefulness of the association, it is impossible to successfully put them in effect unless the co-operation of the members at large is forthcoming. With such co-operation much could be accomplished to increase the organization's influence and usefulness in the horticultural field and thereby benefit its members.

The contention that men with but a few years experience are securing good positions over the heads of men more experienced and more qualified to fill such positions, is not a fault of the association, although it is a condition which should be more under its control and undoubtedly it will be as the association becomes better known and more of a factor in the field of ornamental horticulture in this country, brought about through an aroused interest on the part of its members to let its mission be known to estate owners and others requiring the services of gardeners. Then, and not until then, will it become possible to properly conduct the Service Bureau and have it recognized as the one reliable source to turn to to secure the superintendents, gardeners or assistants, best qualified to assume the duties that a position may call for.

Under existing circumstances positions are filled through various channels and this is detrimental to the profession and trade alike and discouraging in many, many instances to those who employ gardeners. For as it becomes noised through the trade that a vacancy exists, there is a general scramble, and keen competition, among gardeners of all standing (good and bad) to secure the position, in which those least fitted offer their services for a remuneration entirely out of accord with what the compensation should be and what is demanded by the more efficient gardeners. The result is that with the question of compensation the first consideration and credentials secondary, if the inefficiency of the gardener produces disappointment to the employer, he is inclined to judge the profession as a whole by his experience, though he is to blame in making his selection as he does.

This is but one evil within the profession that should be combated in the interest of better gardening and if the co-operation of all who have the interest of their profession at heart could be secured the association could do much in a short time to bring about marked improvement in this direction.

United effort in a constructive way can be developed into a powerful force, and our members are in a splendid position, where if they will but join hands and pull together, individually and through their local societies, co-operating with their national association, they can advance their profession and so elevate it to materially benefit themselves—one and all. It is all up to them, however,—no one else can ever undertake it for them.

SECRETARY.

## EXCURSION TO BAR HARBOR, ME., FOR ANNUAL EXHIBITION AND CONVENTION OF THE AMERICAN SWEET PEA SOCIETY.

The Gardeners' and Florists' Club of Boston has arranged for an excursion to Bar Harbor, Me., on the occasion of the exhibition and convention of the American Sweet Pea Society on July 15 and 16. Excursionists will leave Rowe's Wharf, Boston (a few minutes walk from South Terminal Station, or can be reached either by surface cars or elevated trains), on Friday evening, July 14, at six o'clock. Going on the steamers of the Eastern S. S. Corporation, reaching Bar Harbor at 10 a. m. on July 15. Fare in each direction \$5.25, inside staterooms \$1.50, outside rooms \$2. Meals at reasonable cost obtainable on steamers.

A large number of reservations have been made for this trip and the Gardeners' and Florists' Club of Boston extends a cordial invitation to all who are planning to visit Bar Harbor to join their party. This all water route is a most delightful one, the scenery is unexcelled on the Atlantic Seaboard and for those who have not yet visited Mount Desert Island, on which Bar Harbor is located, this is a splendid opportunity which should not be overlooked. The glorious scenery and the many beautiful gardens to be found here will prove a revelation to many, and all who are able to make the trip will find it to be a most delightful one. Arrangements have been made for accommodations at Bar Harbor hotels at very moderate rates. Members of the National Association of Gardeners and others planning to visit Bar Harbor will be shown every possible courtesy and if they will notify the undersigned any further information needed will be sent, or reservations made.

WILLIAM N. CRAIG, Secretary,  
Gardeners' and Florists' Club of Boston,  
Faulkner Farm, Brookline, Mass.

## AMONG THE GARDENERS

Harry F. Smith, formerly superintendent gardener to Percival Roberts, Penshurst, Narberth, Pa., died at Budock, Falmouth, England, on May 14 after a long illness. The deceased came to America in 1909, working first at Langwater, North Easton, Mass., later going to Penshurst as greenhouses and rock garden foreman, being appointed superintendent in 1913. His health broke down and he was obliged to return to England about fifteen months ago. He was a young man esteemed by all who knew him and his early death will be read with regret by many. He was a member of the North Easton Council Royal Arcanum and leaves a widow and one child to mourn his loss.

One of the most beautiful estates near Boston is that of Augustus Hemenway, at Readville, in the Blue Hills. The estate covers over seven hundred acres and lays immediately below big Blue Hill, the highest point of land on the Atlantic Seaboard between Maine and Florida. No attempt at formal gardening is to be found here, but there are beautiful sweeps of verdant lawn, grand stretches of pasture land dotted with Hampshire Down sheep and cattle, and woodlands through which run miles of romantic drives and in which are to be seen numerous grand specimens of oaks, pines, chestnuts, ash and other native trees, while Hawthornes, Cornus florida, Kalmias and other flowering trees and shrubs are to be seen on every hand. Many bulbs are naturalized in the woodlands while the native geraniums, cypripediums erigerons and other wild flowers grow in profusion. William R. Thornhill has been superintendent here over thirteen years and has practically made the estate.

**DO NOT FORGET THE FIELD DAY**

**At Cromwell Gardens, Cromwell, Conn.**

**Wednesday, June 21, 1916**

# American Association of Park Superintendents

OFFICIAL COMMUNICATIONS.

EMIL T. MISCHE, President, Portland, Ore.

R. W. COTTERILL, Sec.-Treas., Seattle, Washington.

## 1916 CONVENTION DATE

As the result of a mail vote taken recently from members of the Executive Committee, the second week in October has been selected for our annual convention in New Orleans, the actual dates to be determined after local arrangements have been completed, but October 10, 11 and 12 will no doubt be the exact dates.

While in some respects it would have been well to have had our convention just following the S. A. F. convention, our experience of a few years ago at Kansas City still lingers in our memories, and an August convention in a city of the Middle West or South is likely to be uncomfortable, hence the committee was almost unanimous for a later date.

Our members can now make their vacation plans, and we should have a bumper attendance, for the trip to the South is a new and attractive one to most all of us.

Atlantic coast States will no doubt arrange for a steamship party; the Middle West members can reach New Orleans quickly and economically, and the Western contingent has on various occasions demonstrated that they have no regard for distances.

The president will announce transportation and arrangement committees in our next issue.

Now let everybody boost for our next convention at New Orleans, October 10, 11, 12.

## Atlanta's Park System

ONE of the most pleasing signs of the progress in parks and park work in Atlanta, Ga., at the present time is the ever-increasing interest taken by our people in their parks and playgrounds.

In 1910 the assessed valuation of all park lands and buildings was \$788,418.96. In 1916 it had increased to the grand total of \$1,856,025, consisting of 850 acres of land in the various sections of the city together with the numerous buildings and other places of park development.

In the last few years plans have been drawn for the improvement of the larger parks and playgrounds, and these plans are being carried out in detail as fast as appropriations will permit.

A system of drives is being laid out in both Grant and Piedmont parks, these being the two larger parks of the city. At this time in both parks we have completed nearly seven miles of oiled macadam roads, twenty-four feet wide with cement gutters along each side together with the necessary catch basins and drainage. If present plans are followed in a few years the entire road system in the parks will be complete.

One of the greatest features of park work here is the recreation part.

In 1915 two bathing parks were operated in the city from the middle of May until September 1. During that time the pools were used by 97,400 people. Splendid order was maintained the entire time and the season passed without casualties of any kind. This year two new concrete pools are being built in the west and south section of the city and no doubt will be used and enjoyed to the fullest extent.

Another feature are the tennis courts and the baseball fields. The park department maintains at the present time fifty-four tennis courts in various parks and all of which are in continual use from 5 a. m. until dark.

The ten baseball grounds are also a source of delight to the younger generation as well as to the older ones at times, especially on Wednesday and Saturday afternoons, at which times different amateur teams in the city draw large crowds of very enthusiastic fans.

Two band concerts a week, one at Grant and one at Piedmont, also draw appreciative audiences to the parks on Sunday afternoons.

The zoological collection at Grant Park, while not so large and extensive as some others, still is a great at-

traction to visitors during the entire year. During the spring the school children, accompanied by their teachers, visit the Zoo on Monday, Wednesday and Friday, as well as the Cyclorama, a magnificent painting of the Battle of Atlanta, situated near the Zoo and also on part of the original battlefield.

The greenhouses are also a point of interest. In addition to raising bedding plants for different parks and schools, the florists maintain for exhibition purposes a splendid collection of ferns, palms and other decorative plants. A chrysanthemum show is usually held in the fall.

In October the association expects to hold one of the largest and best fairs in the Southern States.

A forestry force has been established, whose duty is the care of the trees on the streets and parkways as well as in the various parks. Although handicapped by a small appropriation, this force has done an immense amount of good work in pruning and removing dead trees.

This winter the force set out about three hundred and fifty new trees in places of old and dead ones. And from now on this part of the work will take on added importance.

This spring a power sprayer was purchased and much good work was accomplished by it.

During the summer months a very successful playground season was conducted. Eleven playgrounds for white children and two for colored were opened to the public on June 14 and ran for ten weeks. Teachers were in charge of each ground and taught the children various games and dances, as well as looked out for the care of the children. The average attendance was 13,448.

Plans have been drawn for a new conservatory and greenhouses. The main building will be 50 x 150, with three smaller houses to the back. Work will probably be started this fall and pushed to completion next spring.

There is a very decided awakening of the people upon the subject of park development, an awakening which will mean much to the parks and playgrounds of Atlanta. An evidence of this is the growing demand not only for the purchase and development of new land for park and playground purposes in all sections of the city, but also by the ever-increasing of what we already have.

Certainly, we can work for no nobler purpose than to work for better lungs, stronger bodies and kinder hearts.

# DIRECTORY

NATIONAL ASSOCIATIONS, LOCAL SOCIETIES AND GARDEN CLUBS WILL BE FOUND IN JANUARY, APRIL, JULY, OCTOBER, NUMBERS.

## HORTICULTURAL EVENTS

American Dahlia Society Show, Auspices American Institute, 25 West 39th street, New York, September 26-28.  
 American Institute Chrysanthemum Show, New York, November 8-10.  
 American Sweet Pea Society Show, Bar Harbor, Me., July 14-15.  
 American Gladioli Society Show, Boston, Mass., August 10-12.  
 Connecticut Horticultural Society, Summer Show, Hartford, Conn., June 27-28.  
 Garden Club of America Meeting, Lenox, Mass., June 27-28.  
 Horticultural Society of New York, Fall Exhibition, American Museum of Natural History, November 9-12.  
 Lenox Horticultural Society, Summer Show, Lenox, Mass., June 27-28.  
 Lewiston Florist and Gardeners Union, Annual Flower Show, Lewiston, Me., August 24-25.  
 Newport, R. I., June Exhibiton, Newport Garden Association and Newport Horticultural Society, June 28-29.  
 Newport, R. I., Mid-Summer Exhibiton, Newport Garden Club and Newport Horticultural Society, August 17-18-19.  
 Northern Westchester Hort. and Agri. Society, Fall Show, Mt. Kisco, N. Y., October 27-29.  
 Oyster Bay Horticultural Society, Rose Show, June 13. Dahlia Show, August 3.  
 Short Hills Garden Club, Short Hills, N. J., June show about 15th. Dahlia show, September.  
 Westchester and Fairfield Horticultural Society, Summer Show, Mamaroneck, N. Y., June 16-17. Fall Show, October 31-November 1, Greenwich Conn.

## INTERNATIONAL GARDEN CLUB.

The outdoor summer show of the International Garden Club, the first of its kind ever attempted near New York, held at the club grounds, Bartow Mansion, Pelham Bay Park, from Thursday, June 1 to June 4, proved a most successful affair. While the exhibits were not as extensive as might have been desired, what displays there were, however, were of the highest quality, and made a very creditable showing.

Tents were provided on the lawn stretching out from the mansion for the groups of indoor foliage plants, orchids and cut flowers, while scattered about the lawn some splendid groups of evergreens were exhibited.

The attendance was good, with the admission at \$5 the first day, \$1 the second day, 50 cents the third day, while the last day of the show was free to the public.

The club grounds of the International Garden Club offer a most admirable site for an outdoor flower show, and, with more time for preparation, another season would undoubtedly bring out many more competitors, both in the commercial and private classes.

## Plant for Immediate Effect Not for Future Generations

START with the largest stock that can be secured! It takes over twenty years to grow many of the Trees and Shrubs we offer.

We do the long waiting—thus enabling you to secure trees and shrubs that give immediate results. Price List now ready.



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Wm. Warner Harper Proprietor

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and are supplied every year direct to more American planters than are the seeds of any other growers.

### Burpee's Annual for 1916

*The Leading American Seed Catalog*, is a bright book of 182 pages, beautifully illustrated, and a *safe guide to success* in the garden. It is mailed free. Write today. A postcard will do.



**W. Atlee Burpee & Co. Seed Growers,**  
Burpee Buildings  
Philadelphia, Pa.

A list of the prize winners follows:

### LIST OF AWARDS.

#### Commercial Classes.

- Group of Rhododendrons covering 100 sq. ft.: 1st, W. A. Manda, So. Orange, N. J.; 2d, F. R. Pierson Co., Tarrytown, N. Y.
- Group of Hardy Ornamental Flowering Trees and Shrubs covering 200 sq. ft.: 1st, Julius Roehrs Co., Rutherford, N. J.; 2d, W. A. Manda.
- Group of Orchids, arranged for effect, covering 75 sq. ft.: 1st, Julius Roehrs Co.; 2d, Lager & Hurrell, Summit, N. J.
- Group of Stove and Greenhouse Foliage and Flowering Plants, covering 100 sq. ft.: 1st, W. A. Manda; 2d, Julius Roehrs Co.
- Group of Ferns and Selaginellas, covering 100 sq. ft.: 1st, W. A. Manda; 2d, F. R. Pierson Co.
- Rock Garden, covering 250 sq. ft.: 1st, Julius Roehrs Co.
- Bay Trees, Pyramidal or Columnar, not less than 10 ft. in height: 1st, Julius Roehrs Co.
- Bay Trees, standard, head not less than 5 ft. in diameter: 1st, Julius Roehrs Co.
- Box Trees, Pyramidal, not less than 7 ft. high: 1st, W. A. Manda; 2d, Bobbink & Atkins
- Box Trees, standard, head not less than 4 ft. in diameter; 1st, W. A. Manda; 2d, Julius Roehrs Co.
- Box Trees, bush, not less than 6 ft. high: 1st, W. A. Manda.
- Box Trees, 6 trained plants: 1st, W. A. Manda; 2d, Julius Roehrs.



## Warm, Bright, Sunny King GREENHOUSES

Have a special type of construction, which permits of great strength without the need of heavy shadow-casting supports. This gives the plants all the sunlight all day long. Send for bulletin No. 47.

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## Scheepers' Prize Winning May Flowering Tulips

Awarded Gold Medal by the  
New York Horticultural Society

**JOHN SCHEEPERS & CO., INC.,** Flowerbulb Specialists  
2 STONE STREET, NEW YORK  
Trial Gardens: Brookville, L. I.

Always Leading—Bulbs of Unusual Vitality  
Orders must be placed now to insure delivery

Conifers, collection of 25 plants, 25 varieties, in pots or tubs: 1st, Isaac Hicks & Son, Westbury, N. Y.; 2d, F. R. Pierson.

Group of Bedding Plants, arranged for effect, covering 200 sq. ft.: 1st, Julius Roehrs Co.

Display of Peonies, 100 sq. ft.: 1st, John Lewis Childs, Inc., Flowerfield, N. Y.; 2d, Bobbink & Atkins.

Display of Cut Hardy Flowers, 100 sq. ft.: 1st, Bobbink & Atkins.

Display of Cut Sprays of Flowering Trees and Shrubs, 100 sq. ft.: 1st, Isaac Hicks & Son.

Display of Cut Roses: 1st, F. R. Pierson Co.

#### Private Classes.

Group of Hardy Flowering and Foliage Trees and Shrubs, covering 50 sq. ft.: 1st, Mrs. Wm. G. Nichols, Rye, N. Y., gard. Geo. N. Sullivan.

Group of Orchids, covering 25 sq. ft.: 1st, Clement Moore, Hackensack, N. J., gard. J. P. Mossman.

Group of Foliage and Flowering Plants, Stove or Greenhouse, covering 50 sq. ft.: 1st, Mrs. John H. Flagler, Greenwich, Conn.

Group of Hydrangeas, covering 50 sq. ft.: 1st, Mrs. John H. Flagler; 2d, Mrs. Geo. D. Barron, Rye, N. Y., gard. James Linane.

Group of Summer Flowering Bulbous and Tuberous Plants for effect, covering 50 sq. ft.: 1st, Mrs. Geo. D. Barron.

Display of Cut Iris Flowers, 50 sq. ft.: 1st, Mrs. A. M. Booth, Gt. Neck, N. Y., gard. E. Fardel.

Display of Cut Hardy Flowers, 50 sq. ft.: 1st, Mrs. Wm. G. Nichols.

#### Special Awards.

Collection of Tulips—Wm. Shillaber, Essex Falls, N. J., gard. J. P. Sorenson.

Display of *Nemesia compacta* Triumph—Wm. Shillaber.

Group of Foliage and Flowering Plants, 100 sq. ft.—Mrs. A. M. Booth.

*Hemerocallis* Gold Dust and flava—John Lewis Childs, Inc.

*Calceolarias*, hybrids—Adolph Lewisohn, Ardsley, N. Y., supt. J. Canning.

*Brassia verrucosa*—Miss Scheffler, Sanga-buck, Conn., gard. Adam Paterson, silver medal.

Collection of Herbaceous Peonies, seedlings—Miss Scheffler, silver medal.

*Calceolaria Stuartii*—Miss Scheffler.

Vase of Outdoor Grown Sweet Peas—Miss Scheffler.

Collection of Cut Flowers from Shrubs—Mrs. Wm. G. Nichols.

Exhibit of School Garden plantings, Model Gardens, etc.—Dept. of Parks, Boroughs of Manhattan and Richmond.

Collection of Cut Annual, Perennial and Bulbous Flowers—Harry A. Bunyard Co., New York.

#### WOMEN'S FARM AND GARDEN ASSOCIATION.

Women garden enthusiasts by the hundred came to Boston on May 15 from all parts of the United States, and had a convention and incidentally a grand good time. They came as the Women's National Agricultural and Horticultural Association, and they went as the Women's Farm and Garden Association, which is more concise. Mrs. Francis King, of Alma, Mich., who is president, presided at the meetings in Horticultural Hall. Governor McCall opened the convention on Thursday morning, May 18, with a short address and words of welcome were added by Stanley Wilcox, secretary to Mayor Curley, and President R. M. Saltonstall, of the Massachusetts Horticultural Society. The programme included talks by Mrs. Edith L. Fullerton, of Medford, L. I., N. Y.; Miss Mabel A. Turner, of Milton, Mass.; Miss Mary Youngs, Garden City, N. Y.; Miss Annie E. Burke, of Brockton, Mass.; E. H. Wilson, of the Arnold Arboretum; Geo. T. Powell, of N. Y. Experiment Station; R. W. Curtis, of Cornell University; Jane B. Patton, of Simmons College; Jane B. Haines, of Penn. School of Horticulture for Women; Amy L. Cogswell, of Lowthorpe School of Landscape Architecture; Florence I. Davis, of Bridgewater State Normal School; Miss Helen Holmes, of Kingston; Miss Edna Cutter and A. A. Shurtleff, of Boston; Miss Alice L. Day, of New Canaan, Conn.; Mrs. A. H. Gross, of Chicago, and others. Mrs. George

U. Crocker, chairman of the national committee; Mrs. B. Hammond Tracy and Mrs. W. W. Edgar, together with a score of other ladies form the vicinity of Boston, looked after the programme and preparatory work previous to the convention and during its continuance in the most efficient manner. E. H. Wilson's talk on the Flowers of Japan, with stereopticon views, drew an attendance that filled Horticultural Hall to the limit.

On Friday the ladies visited the Arnold Arboretum in autos, and were entertained at the home of Prof. C. S. Sargent. On Saturday they motored to Ipswich, stopping at places of interest along the North Shore, and while at Ipswich they were the guests of Mrs. Geo. E. Barnard. In connection with the meeting there were many exhibits of flowers, plants, bees, garden work, clothing and tools.

Considerable interest centered about the historical table. Here were seen specimens of plants and flowers from the historic spots of Massachusetts. Mrs. William L. Eaton, of Concord, showed the curious irises from Hawthorne's Old Manse, hollyhocks from Longfellow's garden, rare June roses from Ralph Waldo Emerson's home, lilacs from Shady Hill, the home of Charles Eliot Norton in Cambridge; English ivies from Mt. Vernon, and Grey's ivy from Stoke Pogis.

These officers were elected: Mrs. Francis B. King, president; Mrs. Hilda Loines, general secretary; Miss Lonisa G. Davis, treasurer; Miss Jean Cross, recording secretary, and the following vice-presidents: Miss Mira L. Dock, Mrs. H. B. Fullerton, Miss Jane B. Haines, Miss Elizabeth Leighton Lee, Mrs. J. Willis Martin and Mrs. Schuyler van Rensselaer.—*Horticulture*.

#### TULIP SHOW AT GLEN COVE.

The Tulip show held by the Nassau Co. (N. Y.) Horticultural Society on the evening of May 19 brought forth a magnificent display of these most popular flowers. The major part of the exhibition was comprised of Darwins, although Cottage and Breeder Tulips were also well represented. Almost every class was very keenly contested, and the judges who were Messrs. James Bell, James Duthie and George Wilson, had a rather difficult task in making their awards. John F. Johnstone, gardener for George D. Pratt; Ernest Westlake, gardener for William H. Porter, and Henry Gaut, gardener for Hebert S. Pratt, were the principal prize winners. Classes were for the best collection, and for the best nine according to color.

Hydrangea in pot, not over six inches, 1st, Percy Chubb (Robert Jones, gardener); vase of *Saliglossis* exhibited and two plants of *Clarkia*, by George D. Pratt, cultural certificate; plants of *Gypsophila*, exhibited by George D. Pratt, honorable mention; vase of *Gladioli*, exhibited by S. D. Brewster, cultural certificate; three vases of *Myosotis*, exhibited by S. D. Brewster, special mention; collection of Tulips, exhibited by William H. Porter, special mention.

JAMES McCARTHY, Cor. Sec'y.

#### CONNECTICUT HORTICULTURAL SOCIETY.

This society held its second regular May meeting in its rooms in the County building, Hartford, on the evening of the 26th.

Some of our members had been requested to make an exhibit of Tulips, and Warren S. Mason, superintendent of the Pope estate, Farmington, and H. R. Hurd, of the Beach estate, West Hartford, responded to the extent that the members were treated to a

# Thorburn's SEEDS

FOR over a century the seeds sold by the house of Thorburn have been used by the gardeners of the country with splendid satisfaction.

Owing to the care taken in the raising and selection of these seeds they have been famous for generations for fertility and excellence.

Every gardener can order everything he needs in the seed line of Thorburn's with perfect confidence that his matured products, whether they be vegetables, or flowers, or grass, will be thoroughly pleasing in every way.

For golf courses the subject of the proper seed to raise strong, thick-growing, deep-rooted grass is ever prominent.

Here are some interesting specialties.

For the Fair Green: Thorburn's special mixture weighs at the rate of 20 lbs. to the bushel and the price per bushel is.....\$5.

For the Putting Green: Thorburn's special mixture of high grade grasses makes a close firm green, and lasting turf which improves with use. The weight per bushel is 24 lbs. and the price per bushel is.....\$8.

For the Teeing Grounds: We also make a special mixture made up of fine-leaved and deep-rooted grasses which form a strong and lasting turf. The weight per bushel is 20 lbs and the price per bushel is....\$5.

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It's free, of course.

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miniature flower show of unparalleled beauty. Mr. Mason exhibited some 23 varieties of Darwin and Rembrandt, and the latter Darwin and Parrot, both exhibits containing some very fine specimens. Mr. Mason's collection also contained several beautiful specimens of hybrid Lilacs. Frank Roulier, Howard Semf and Ed. A. Brassill were appointed a committee to judge the exhibits, and they awarded each a first-class certificate.

Mrs. John H. Buck, representing the Ladies' Garden Club of Hartford, outlined the doings and plans of this new organization. Its members are made up of ladies who do all the work in their gardens with their own hands. They have a long waiting list, but are very conservative, having but 35 members at present.

An instructive and interesting paper was read by the secretary entitled, "Notes on the Dahlia," by P. W. Popp, of Mamaroneck. This paper was submitted by Mr. Popp as he was unable to appear before the members and address them personally, which was very much regretted.

Plans for the June flower show to be held on the 27th and 28th, are progressing favorably. ALFRED DIXON, Sec'y.

**OYSTER BAY (N. Y.) HORTICULTURAL SOCIETY.**

The regular monthly meeting was held in Fireman's Hall, Wednesday, May 24. President Walker occupied the chair. The committee on the euchre and dance reported progress. The secretary read a large number of letters offering prizes for the coming show. The Alphano Humus Co. offered a silver cup, value \$100, to be competed for at the spring, summer and fall shows, to be won twice in succession, or three times in all before becoming the property of the winner. This cup is offered for twenty-four varieties of vegetables, humus to be used in growing them.

Messrs. F. Gale, A. Mechie and Frank Humphreys acted as judges, and their decisions were as follows: Vase flowering shrubs, 1st, Jos. Robinson; twelve Tulips, James Duckham; twenty-five Carnations, Mortimer L. Schiff (Thos. Moore, gardener). Vase Gladiolus, Frank Kyle, received honorable mention; collection of Tulips, James Duthie, special mention; vase of Roses, Jos. Robinson, special mention; vase Gladiolus, Jos. Robinson, honorable mention; vase of Tulips, Rocco Yanuchie, honorable mention; vase cottage Tulips, James Duthie, honorable mention. Mr. Robinson gave a very interesting talk on how he grew his Russell Roses, which are exceptionally good. The spring show was put back one month, the date to be June 20. It was moved and seconded that the Oyster Bay Horticultural Society affiliate with the American Dahlia Society. Considerable discussion resulted on the various ways and means of exterminating the caterpillar. Exhibits for June, twelve Strawberries, three Cauliflower, twelve Delphiniums.

JOHN T. INGRAM, Sec'y.

**HOLYOKE AND NORTHAMPTON FLORISTS' AND GARDENERS' CLUB.**

The regular meeting of this club was held June 6 at the Botanic Garden of Smith College, Northampton. Before settling to business members found many things of interest in the herbaceous garden and greenhouses. The principal business transacted was the adoption of a schedule for the annual flower show, which is planned to be held in Northampton, November 1 and 2. George Sturgell read a paper on Hydrangeas, for the growing of which he has a good reputation.



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With barnyard litter you rake off more than is left on. With Alphano, you leave it all on and rake it all in. You get all the benefits.

E. J. Canning exhibited sprays of an interesting collection of flowering shrubs, including some of the lesser known kinds.

In the greenhouses the visitors were chiefly attracted by a display of zonal and regal Pelargoniums, Canterbury Bells, Gladioli "Peach Blossom," and Clerodendron fallax. I. E. D.

**THE WESTCHESTER AND FAIRFIELD HORTICULTURAL SOCIETY.**

A very interesting and important meeting of this society was held in the society's rooms in Hubbard Hall, Greenwich, Conn., Friday evening, June 9. In the absence of President Seeley Vice-President Humerick presided. Mr. Jos. Manda was a visitor and favored the members with a few commendatory remarks. Five applications for membership in the society were received and filed. The committee in charge of the arrangements for the annual summer exhibition to be held this year at Mamaroneck, N. Y., June 16-17, reported everything in

readiness, and we anticipate one of the best exhibitions ever held by our society; the schedule is very attractive and comprised of classes within the reach of those of even the most limited facilities. The fall show committee reported progress, several offers of additional prizes for the schedule were received and filed. A communication from the National Association of Gardeners was read relative to the field day to be held at Cromwell Gardens, the establishment of the A. U. Pierson Co., June 21. The splendid opportunity offered for a fine day's outing, as well as the privilege of seeing this wonderful plant at Cromwell, should be taken advantage of by all who can possibly do so. The relaxation of a fine day's outing will be a fitting climax for the strenuous season's work on account of the late spring this year. A remarkably fine display was on the exhibition tables. The judges awards are as follows: Thos. Aitcheson, C. C., for a grand specimen plant of *Oncidium Wentworthianum*; John Andrew, honorable mention for each of the following exhibits: Basket of

Peas "Acquisition," *Dictyonema Fraxinella* Aqueligia, long spurred hybrids; Wm. Whitton was highly commended for Roses White Killarney, and received vote of thanks for *Mimulus Tigrineus*; Wm. Graham was highly commended for specimen plant of *Campanula media*; display of Carnations by J. B. Roy was highly commended; display of Sweet Peas by Robt. Grunnert was awarded honorable mention; Paul Dweiger was highly commended for display of Lettuce May King; a discussion of the exhibits brought out some very instructive cultural hints. The next meeting will be held July 14. A display of seasonable plants and flowers will be in order.

P. W. POPP, Cor. Sec'y.

#### CONNECTICUT HORTICULTURAL SOCIETY.

After the routine business had been transacted, the summer flower show, to be held June 27-28, was brought up for discussion. Various plans were voiced as to the best method to pursue to interest the public of Hartford in the promulgation of horticulture in all its ramifications.

The special prizes offered by the firms named below will be awarded as follows: The silver cup contributed by Knight & Struck Company, of New York, will be awarded to the exhibitor of the best three spikes of *Delphinium Belladonna*; Stamp & Walter Company, New York, also offer a silver cup, and this will be awarded to the best general exhibit; Joseph Breck & Sons, Boston, offer \$10, and will be split: \$6, first; \$4, second, for the best general collection of Roses; Arthur T. Boddington Co., Inc., New York, also offer \$10, and this also will be divided into a first and second of \$6 and \$4 for the best general collection of Sweet Peas. It will be noted that these specials may be competed for by professionals and amateurs.

Over \$250 will be put up for prizes, and the exhibition committee anticipate a show of unusual merit. There are three departments: In the Rose Department there are 19 classes; in the Hardy Perennials 23 classes, and 14 in the Sweet Pea Department. In the Rose class, for the best collection of Hybrid Perpetuals there are two prizes, \$5 and \$3, and other substantial premiums. For the best collection, arrangement for effect, in the Hardy Perennials, there are two prizes, \$7 and \$4. In each department there are premiums of like amounts, which should bring out some fine exhibits, making one of the leading shows in New England.

It is hoped to have members of the Ladies' Garden Club of Hartford, and also members of the Ladies' Garden Club of Middletown, exhibit in a department set aside for this purpose, and the society will award diplomas to such exhibits as merit such action.

In the past the society has given a Dahlia Show each fall; but this year we are departing from the beaten path to new and what proved to be last year a successful change. It is hoped that the venture will prove to be equally as successful this year as it was last, and more so.

ALFRED DIXON, Secretary.

#### HORTICULTURAL SOCIETY OF WESTERN PENNSYLVANIA.

The last session of the Horticultural Society of Western Pennsylvania was by far the most interesting of any previous meeting. Interest was chiefly centered in the paper of President David Fraser on "Perennial Borders." Mr. Fraser emphasized the idea of keeping the borders gay with blooming

flowers throughout the season, apropos of which it would be called an old-fashioned or mixed border. He feels that the glaring fault of landscape gardeners is the planting of perennials so close that there is no room for the annual old-fashioned blooms, and advocates placing the perennials at regular intervals of say, about three feet, thus allowing space for the planting and replanting of flowers in season. The paper was also the subject of general and animated discussion, pro and con, some of the members fully agreeing with Mr. Fraser, others again being decidedly in favor of keeping the border strictly perennial.

There was a splendid showing of May-flowering tulips, Thomas Edward Tyler contributing twenty-seven varieties. Mr. Wesebach, in charge of the William Larimer Mellon place, and J. Jobbozii, head gardener on the Joseph C. Tree's place, also had some fine exhibits. Mr. Murphy, gardener on the Sewickley Height's home of H. Lee Mason, Jr., received a certificate of merit for a half dozen splendid plants of *Calceolarias* grown in eight-inch pots.

#### NEW HAVEN COUNTY (CONN.) HORTICULTURAL SOCIETY.

One of the most beautiful educational exhibits seen in many years was that shown during the past week at the New Haven Public Library, June 8, 9 and 10. It was an ex-



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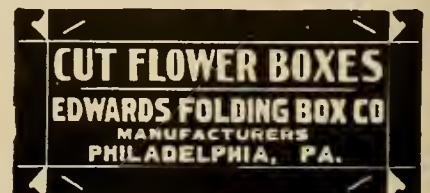
## U-BAR GREENHOUSES

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hibit of Iris, one of the most common, although one of the loveliest of garden flowers. The display was under the auspices of the New Haven County Horticultural Society.

During the exhibition, day and evening, crowds visited the display and every visitor had a word of praise for the exhibits. The whole setting of the show was artistic. At the entrance of the building two old Japanese Azaleas, stationed on either side, one of a flame color and the other white, inviting the casual passerby to a more interested view of the garden display inside. In the lobby, Box trees and small Bay trees, arranged in the form of an avenue and continued up the central aisle into the main room added to the stately beauty of the rows upon rows of the Iris. The vases of the blue, yellow and brown flowers are arranged in myriad rows upon the tables with quantities of Oak leaves used as mats of greenery and adding in effect to the beauty of the harmonizing colors.



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**M**ORE use should be made of violets in the open air garden. We all know what handsome blossoms they produce under frame cultivation, but when they are used outdoors much of the labor necessary in frame cultivation is dispensed with.

It is the stronger-growing varieties which provide us with such excellent material, and wherever a favorable position is at hand we should furnish it with some of the lovely single forms at our disposal. Usually we are recommended to plant Violets on north or shady borders, but this does not always apply; indeed, it is misleading to those who desire an outdoor display early in the year. For this purpose a rather sunny position should be chosen.

Violets are used to carpet the ground below climbing Roses and other climbers, where they may remain for two or three years without disturbance; also at



the base of pergolas, where they give color when the things above them are bare. Some have also been planted among Azaleas, where not crowded, and promise well, the Azaleas providing a slight shade in summer and admitting full sun and light in winter. By growing them in this way the trouble of propagating is dispensed with, for they root so freely as to provide an abundant supply of healthy young plants which are available for further extension. If the plants are put out in April where intended to remain, a good supply of flowers will be forthcoming the following season. Leave the runners on the plants, as these will bloom at the leaf-joints. The mingled leaves and flowers of these long growths are very useful for draping vases, etc. One important point in growing these choice flowers is shelter from bleak northeast winds. A change of ground should be provided every few years.—*Gardening Illustrated* (English).

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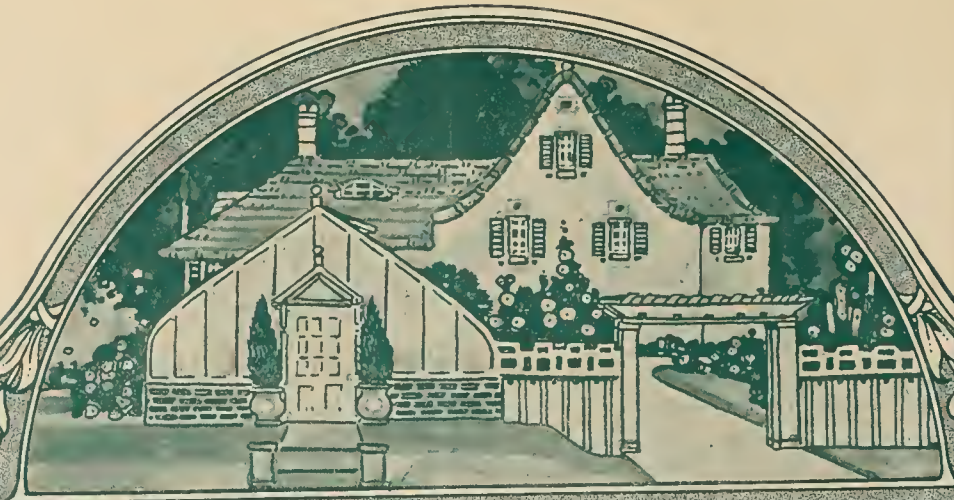


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# GARDENERS' CHRONICLE OF AMERICA

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## *Things and Thoughts of the Garden*

By the Onlooker.

I WAS struck the other day when reading J. Horace McFarland's book, "My Growing Garden," to notice that he does not hesitate to transplant things even in mid-summer. This is a matter of practice I myself have always been doing. How can one get along without shifting? Plants don't always grow just where one wants them, or, again, failures occur. At any rate, in the case of a large number of our best border plants and annuals, it is both safe and easy to shift them in showery weather. Don't transplant in dry, hot weather—that will only result in disappointment. Take as large a ball of soil as possible in the operation, firm the plant gently, for as the soil is damp it is unwise to press it tight. Even with a damp soil it is advisable to water the plants when planting is completed, for no matter how careful one may work, there are always some roots broken. This transplanting, of course, must be done immediately, and only amounts to shifting from one part of the border to another, or to some nearby place. The ideal conditions are a dull or misty, drizzly day, with the soil already well moistened. Tap-rooted plants, i.e., those with a straight descending root, cannot be successfully transplanted when they get big.

\* \* \*

Those who have tried the growing of Sweet Peas in the fall, or rather the planting of them at that time, will hardly require to be persuaded as to the good results therefrom. Fall planting is likely to become much more practised in times ahead than it has been in the past. The work is the same in most respects as for the spring-sown crop. Sow just late enough to ensure the successful germination of the seed, which may be said to stretch between the 20th of October to the 1st of November in the latitude of New York. It is a curious fact that the Sweet Pea, a native of the warm or fairly warm island of Sicily, in the Mediterranean, should still be hardy enough to stand the severe winter of northern New York. The aim should be to get the seeds just well germinated, but with very little top growth before the hard frosts set in. This accomplished, and the soil then frosted on the surface, thus holding the plants in a state of suspended animation, as it were, they can be lightly covered over with long, dry straw or dry leaves and a few branches to keep these from blowing away. Some growers place light wood boards along each side and place another over the top. When the weather begins to open up in the spring, say, at the end of March, the protecting material or boards can be taken away, and later the soil along the rows may be forked and loosened. These peas will flower anywhere from three to four weeks ahead of those sown or planted from pots in the spring, and, moreover, they

last longer, are stronger, freer flowering, and in all ways preferable. In some winters there is a fairly heavy mortality, but on well drained soils the chances of taking through the crop are very good. Even in the spring-sown crop we have failures, so why not give the fall growing plan a test?

\* \* \*

Golden Privet is one of the brightest shrubs we can have. It has been said to lose its color under the summer sun, but this I have not noticed to be the actual case. Several times I have seen it used to good effect in a semi-shaded corner where it helped out an otherwise too dull place. It is hardy enough to bear zero weather.

\* \* \*

Lovers of Dahlias have had a new trouble to contend with in the last year or two, namely, the earwig. This is a busy, weevil-like insect of a brown color, rather more than half an inch in length. Like many of its kind, it does damage by eating off the tender shoots. It can be got rid of by placing pieces of potatoes about under the plants, but, best of all, by placing an inverted flower pot, with some hay stuck in the bottom of it, on the top of the stake that supports the plant. Here the earwigs congregate during the daylight period, when they can be shaken out into scalding water.

\* \* \*

This is the season when we can do much to prepare for our garden display of next year. Among the biennial and perennial plants that may be raised from seeds sown now in the open border, of course, well prepared, are the following: Foxgloves, Canterbury Bells, Pansies, Gaillardias, Delphiniums, Coreopsis grandiflora, Hollyhocks, double Gypsophila, Pinks, Aquilegia, Lychnis, Lunaria, Hencheras, Primroses.

\* \* \*

What are the best dozen all-round, free-blooming, bright, hardy border flowers of the present season of the year? I vote for these: Delphinium belladonna hybrids, Coreopsis grandiflora, Lychnis chalcedonica, Pentstemon Southgate Gem, Gypsophila paniculata fl. pl., Veronica spicata, Iris Kaempferi, Lilium candidum, Campanula Medium, Kniphofia Pfitzeri, Sweet Williams, Betonica grandiflora, and as one over, the Shasta Daisy. And what's wrong with the Gaillardias? They are handsome and last well.

\* \* \*

A list of some good plants for the rock gardens, not all of them well known, may be useful: Androsacea carnea, Aethionema grandiflora, Antirrhinum asarinum, Acaena argentea, Tunica Saxifraga, Saponaria ocy-moides, Aubrietia Dr. Mules A. Fire King, A. Lavender

and A. Prichard's *Al. Draba cuspidata*, *Gypsophila repans*, *Gentiana cruciata*, *Helianthemum croceum*, *Linaria aequitriloba*, *Mazus rugosus*, *Mentha Requierii* (for carpeting over pathways), *Platycodon grandiflora*, *Nierembergia rivularis*, *Saxifraga caespitosa*, *Silene Schafta* and *S. acaulis*, *Veronica incana*, and the beautiful *Viola cornuta*.

\* \* \*

Already the Dahlias are in bloom from tubers planted in April. The moist weather has just suited them, and there ought to be no need to cut them back now. In dry seasons this cutting back of the stock to within half a foot or so from the ground is compulsory, else the stems become woody and refuse to throw flowers.

\* \* \*

One reason why Fuchsias are not grown so largely out-of-doors as their beauty and free flowering characteristics would seem to warrant, is the fact that they are brittle, and during very heavy thunderstorms, when the rain comes pelting down in sheets, they are inclined to break or split. With a small border of these plants in the writer's garden this has happened to some small extent, but with the laxer growing varieties this could be easily obviated or overcome by the use of sufficiently strong wiry brush, sticks or twigs.

\* \* \*

These heavy rains during the summer season, when growth is very heavy, may not break one's plants, but if accompanied by high winds they are liable to do so. Younger plants in a full state of growth are more resilient and can sway very considerably and will soon recover, but a little later in the year, when they are becoming harder, as well as taller and more spreading, then it is dangerous to avoid or neglect the use of stakes. Formal stiff stakes are seldom desirable unless as a central support for taller plants like Dahlias, Goldenrods, Rudbeckias and such; but in an ordinary hardy flower border, branching stakes from the woods, or irregular branches with the snags to them, could be used quite effectively, and yet unobstructively. If these are inserted around and among the shoots of bushy spreading plants they are largely hidden, and form, as it were, a part of the general composition. They also require little or no tying in that case. It is abortion to have straight stakes as one sometimes sees, one for almost every shoot.

\* \* \*

A plant not nearly sufficiently seen is *Clematis Jackmani*, the beautiful violet-blue *Clematis* named after Mr. Jackman, of Woking, England. The same grower has added several other colors, his latest being a good rich, almost fiery-red. One of the best hitherto in the reds has been *Ville de Lyon*, while *Duchess of Edinburgh* is a large, pure white. There are others, all good and desirable, but doubtfully hardy in most parts of our Eastern and Northern States. However, *Clematis Jackmani* itself is quite hardy in the latitude of New York, which means that it can stand zero weather with impunity. The beautiful *Clematis paniculata*, which flowers in August, is another of the fine climbing plants that we all like to have, while a third that came to us a few years ago and is making headway and greatly appreciated where grown, is *Polygonum Boldschuanicum*, with huge, graceful festoons or clusters of creamy-pink looking flowers. This plant rapidly climbs to the top of fairly tall trees, trees 20 ft. or more in height, and where one has an evergreen that one is not very particular of saving or encouraging, this climber may be used thereon with good effect, the dark green forming a background for the panicles of bloom. Among climbers we cannot, either, forget the beauty of *Akebia quinata*, which grows freely and is very

handsome on a pergola. America, however, is rich in useful and good climbing plants.

\* \* \*

Speaking of climbers, the finest possibly of all is *Lonicera Halleana*, the Honeysuckle that one sees everywhere from about the middle of June until the time of frosts. It blooms all that period, and in certain positions is a mass of sweet-scented white and buff-colored flowers. In parts of southern New Jersey it is used in a variety of ways, but very largely for the covering of rounded inounds in which position, if in good sunlight, it seems to flower as it does nowhere else. For covering steep banks, where heavy rains would be likely to wash the soil away, this Honeysuckle can be recommended, as it may be obtained cheaply from the nurseries and young plants grow quickly when well established. It forms a bed of shoots and leaves through which the heaviest rain cannot penetrate to form washouts.

\* \* \*

Talking again of shrubs brings to mind the fact that more of the standard *Wistarias* seem to be in favor than formerly. They are much used on the larger estates, because it is only those who have considerable means that can afford to purchase them. When in bloom, with their long dependent racemes of blooms, they are very telling.

\* \* \*

Perhaps we do not always use the common subjects at hand to the best effect. We are apt to pay large sums for standard trained box trees or pyramidal Sweet Bays or for other trees of this description, most of which are grown abroad and imported, forgetting at the same time that even our common Privet can be grown and kept into neat form just as well as the Boxes. Around Philadelphia may be seen some very handsome standard, round-headed Privets of the small-leaved variety, which are not kept so severely cut in as to spoil the beauty of them when in flower as is their wont when grown in tubs.

\* \* \*

Tarnish bugs are the bane of the Aster grower, frequently ruining his plants; so also is green fly, but both can be kept at bay by a weekly spraying with a soap and water solution to which is added a little kerosene, all kept churned up, of course. But to those who do not wish to make their own spray mixture there are the proprietary compounds that are advertised. In any case, a light spraying over the plants once a week during the present growing season will keep the pests away.

\* \* \*

How quickly the Gooseberry caterpillar or worm devours the leaves of the plants when it makes a start. Almost in 10 days the plants will be entirely ruined unless one gets at them with Aphine or other nicotine preparations. It is then that we see the value of prompt action, as otherwise we lose our crop trying to save the expense of the spray compound.

\* \* \*

A friend who is in the trade was lamenting the fact to me that many of his seedling novelties (won't say what they were) had been openly renamed when they got into other friends' hands and he asked if there was no redress or remedy in such a case. I said no, at least not as a rule, and that he would have to possess the clearest evidence and be sure that what he had was absolutely distinctly new and unobtainable elsewhere in any quarter. The task was too big for him, so he let the matter drop. It is a real trouble is this stealing of others' varieties, for that is what it is. As a rule the gardening public soon gets to know about synonyms and who the actual introducer of a good variety is, and he does not lose in the long run.

## THE ETHICS OF ROSE PRUNING.

THESE may be very conveniently divided into two great divisions, primarily, "Pruning Proper," and, secondly, "On Ripening the Wood." Considering the first, to prune, or not to prune, is a question of serious importance to the amateur rosarian. A jobbing gardener, with his fondness for "making 'em tidy," has no such heart-searching scruples. If the Roses are of the nature of a bush, he tops them, cutting them down evenly; and if scandent in character, the young shoots from the base are carefully cut away year by year, leaving the older ones; and the blooms, strange to say—the ground, really, cannot quite be suitable for Roses—become fewer and poorer as year chases year. The reader is earnestly urged to attend, as our Dean Hole did, to the pruning of his Roses himself; or, at least, call in the services of some more experienced brother rosarian—services, by the way, which are always cheerfully given.

"A master's hand disposing well  
The gay diversities of leaf and flower,  
Must lend its aid to illustrate their charms  
And dress the regular yet various scene."

Dahlias, Chrysanthemums, Sweet Peas and Cabbages are very nice, and make a garden pleasant and useful; but if you know how to grow one Dahlia, you know how to grow others. Not so with Rosa! Her forms are so many and so diverse in growth and habit that a man may be able to grow Crimson Rambler and yet make a decided failure of Reve d'Or; he may be able to prune scandent Teas to a nicety, and yet the same practice carried out with those possessing Dijon blood would be worthless if an ample supply of good blooms were required; and who would prune Caroline Testout the same as he would Dean Hole?

Why prune at all? Let us ramble in the country and have a look at the wild Roses in our hedgerows, such as the common Dog Rose (*Rosa canina*), when in flower, and again as autumn gathers strength. It will be noticed that new shoots are springing from the base for the next summer's bloom, and that the shoots already in bloom exist mainly of year-old shoots, two-year old, and even three-year old. The one-year and the two-year ones are carrying the majority of the best blooms; but the still older shoots have a paucity of bloom, and are commencing to dwindle and die back—indeed, many already may be practically dead. This condition of circumstances would prove disfiguring to, and disastrous in, one's garden. Hence the value of pruning to anticipate these conditions. The value of pruning may be summarized under three headings: (1) To keep a plant in full vigor—this is the main object—by the production of new basal shoots. (2) To secure flowers of good shape, and yet in sufficient abundance to merit the Rose a position in the garden. (3) To preserve, as far as naturally can be done, the native symmetry of each individual Rose, regardless of the way in which it is cultivated.

"A Rose is not a tree to grow onwards and upwards, but a plant which, in the natural course, every year or two forms fresh channels for the major portion of the sap; and thus causes the branches and twigs above the new shoots to diminish in vitality." Rosa does not grow like an Oak or an Elm upon the same original trunk; and the life of the original basals, while in a healthy floral condition, is rarely more than three or four years. The reader can now understand why standards are so soon past their prime.

Pruning consists of three distinct operations: (1)

Removal of all dead, weak, or overcrowded shoots and laterals; or of unripe wood that has been damaged by the frosts of winter, and is therefore valueless for the production of bloom. (2) Pruning proper, which means the necessary shortening of all shoots and their attendant laterals which now remain on the thinned-out Rose tree. (3) Disbudding, which is a subsequent operation and yet an adjunct to the first two. The removal of all buds, whether floral or leaf, which tend, in the case of laterals, to crowd the center of the tree; and in the case of the floral, to damage the size and symmetry of the central (usually) floral bud.

The inexperienced amateur makes many blunders in pruning his Roses. Even with a handbook to guide him and the valuable articles on pruning, a vigorous variety, which may demand a certain type of pruning in his garden, may only require such pruning modified in the garden of his neighbor. Perhaps, taking the same variety, the one in his garden may have a more congenial home and, consequently, is in a more healthy and vigorous condition; while that of his unhappy neighbor, who cannot grow Roses for his sins, is far from well. Although the same variety, both cannot be pruned exactly alike. Another fault is leaving too many shoots when thinning out; but a more serious one is to prune severely those that only need light pruning, or those that require severe pruning to prune as lightly as possible. Two typical faults can be mentioned here. First, he leaves the trees crowded with shoots good and bad, pruning the Rose as he would prune a Privet or Box hedge; and in the case of scandent Roses, removes entirely the new, outside straggling shoots, indifferent as to whether they may be basal or lateral. Secondly, he does not prune carefully upwards to a bud pointing outwards, as that is too much trouble, or he is too conceited to know such. He prefers to leave what are known as "zags," which, dying back, are very apt to injure the tree, besides providing comfortable homes for parasitic and other enemies.

The implements for the operation of pruning are many and wonderful—and unnecessarily diverse in character; though some of the leading rosarians differ much from the writer in this respect. The only essential things are, first, a good knife, which has been previously sharpened on a hone; and, secondly, a fine saw, which is necessary to remove any shoots too stout for the knife. All else are superfluous and luxuries.

Pruning, in itself, is an extremely easy operation, the only principal difficulty being how much of the tree and its attendant shoots and laterals to remove; but a few essentials are worth remembrance. The amateur should always cut upwards at an angle of 45 degrees, coming out at the top, and then leaving a plump and healthy-looking bud immediately above. This bud should point outwards and away from the center of the tree. The cut must be a clean one, leaving no jagged or damaged bark. In some cases, as when a sucker is to be removed or a basal shoot pruned away, no buds of any sort should be left, though some well-known rosarians believe in leaving a bud behind when cutting away old and worn-out basals. A basal, it should be noted, is a ground shoot, growing more or less upright; but a lateral is a side shoot proceeding out of a basal one. Sometimes a basal is known as a terminal, when it grows a certain height, according to the vigor (or lack of it) of the variety, and then breaking into one or more flowers at the tip. A basal or lateral bud—not a floral one—is horticulturally recognized as an eye.—*The Garden (English)*.



# Popular Hedge Plants for General Use

By M. Free, New York

A HEALTHY, well-grown hedge when formed of the right material and occupying the proper position in the garden is extremely attractive and beautiful. Hedges, of course, are sometimes planted for other reasons than that of ornament. Their primary object may be to act as windbreaks, screens to ensure privacy, to mark boundary lines, or for defensive purposes. It is with the object of calling attention to some of the more desirable plants, and indicating briefly the methods to follow in order to obtain a good ornamental hedge, that this leaflet is written.

There are many points to be considered when selecting



*American Arborvitae, a Popular Evergreen Hedge.*

subjects for use as hedges. The plants must be hardy, not subject to insect or fungous pests, they must be naturally of symmetrical form or of such a character that they may be brought into the desired shape by pruning or shearing; and, further, they must be plants that are easily propagated or the price will be prohibitive.

If the soil is naturally good very little preparation is needed before planting, beyond digging in, or plowing in, a dressing of manure, but if the soil is poor it is advisable to make a trench two feet wide and deep and fill it in with good soil. If this cannot be done the next best thing is to break up the ground to the depth mentioned and incorporate a liberal quantity of well decayed manure. If possible the ground should be prepared some months before planting so that it has time to settle. If this is impracticable the soil should be firmed by treading.

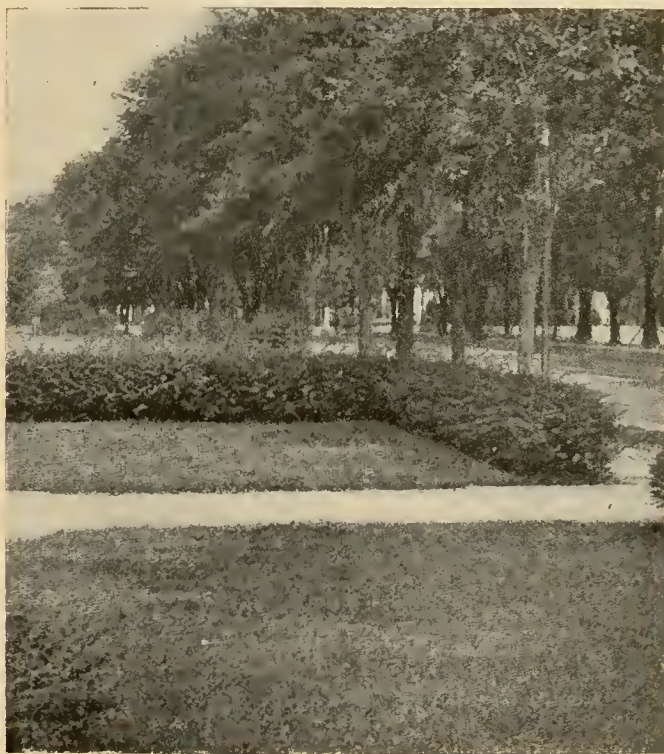
When planting, a line should be stretched along the space to be planted to ensure perfect alignment of the hedge. A start should be made at one end, taking out sufficient soil with a spade to make a hole which will accommodate the roots of the plant without crowding. The soil for filling around the roots of the first plant can be taken from the space to be occupied by the second

plant, and so on to the end of the line. It is essential that the soil around the roots be thoroughly firmed by ramming, or by treading.

The depth to plant is dependent upon the character of the plants used. Privet may be planted three inches deeper than the plants were when in the nursery, but in the majority of cases, especially in the case of evergreens, they should not be placed deeper than the soil line which marks the depth to which they were planted in the nursery.

No hard and fast rule can be laid down as to the distance to be allowed between the plants. Privet is generally planted one foot apart, the Japanese Barberry nine inches to one foot, and evergreens one foot to four feet, according to size.

The time of planting is dependent upon whether evergreen or deciduous plants are to be used. Evergreens may be planted in August or September, also in May and June. Planting of deciduous kinds may commence at the end of September and continue until the ground be-



*Berberis Thunbergii Makes a Splendid Hedge.*

comes frozen. Spring planting may commence as soon as the soil is in a workable condition and continue until growth commences.

Immediately after planting, most deciduous kinds should be pruned back severely in order to promote the formation of a bushy hedge with foliage down to the ground. It is a mistake to allow a hedge to increase in height too rapidly, as this tends to prevent it acquiring the solidity and bushiness that are desirable.

The amount of shearing required depends largely upon the taste of the individual. Many of the plants mentioned in the following list need little or no shearing, while, on the other hand, privet may have a weekly clipping if a very trim hedge is desired. It is usual, however, to shear privet about three times during the year.

It is feasible to clip hedges into various geometrical shapes, but it is desirable to decide upon a form that is somewhat pyramidal, as this lessens danger of breakage by reason of snow in winter.

Of all the plants that are used for hedges in this country the most common is the California Privet (*Ligustrum ovalifolium*). This result has been achieved by its cheapness, hardiness, freedom from insect and fungous pests, and its amenability to constant shearing makes it valuable when a formal shaped hedge is desired. There are several other varieties of privet that can be used to advantage. Among these are Ibotia Privet (*Ligustrum Ibotia*); Regel's Privet (*L. Ibotia Regelianum*), and the Amur River Privet (*L. amurense*).

*Aralia pentaphylla* is a Japanese shrub of rapid growth. It has light green, palmate leaves which are very glossy, produced on gracefully arching stems. It has the advantage of growing well in poor soil and in shade. It is best if left to grow more or less naturally, merely pruning it sufficiently to keep the hedge in shape and from growing too large.

The Japanese Barberry (*Berberis Thunbergii*) is a



*Altheas* Makes an Effective Late Summer Flowering Hedge.

charming plant when a low hedge is required. It is extremely hardy and does not need shearing to the extent that the privet does as it is naturally a compact plant. In fall the foliage colors beautifully, the bright red fruits persist all winter and the hedge presents a remarkably fine effect especially in spring when the buds are seen in conjunction with the fruits.

The Common Barberry (*Berberis vulgaris*), or better still, the purple leaved form (*B. vulgaris purpurea*) is very suitable if a taller hedge is desired. It has not so dense a growth as the Japanese Barberry.

The Scarlet Japanese Quince (*Cydonia japonica*) is worth considering by those who desire a hedge somewhat out of the common. It is not an ideal hedge plant, on account of its somewhat ungainly growth, but, with careful pruning, it can be made into a beautiful border. Its scarlet flowers are produced in spring before the leaves appear, and are very pleasing.

*Deutzia gracilis* and *D. hybrida Lemouici* are valuable hedge plants which should not be sheared. They are both dwarf, but *D. Lemouici* has larger flowers and is

somewhat more vigorous than *D. gracilis* is found to be.

The Garland Syringa (*Philadelphus coronarius*) is valuable when a tall-growing, informal hedge is desired. This plant is well known and greatly admired for its sweet-scented white flowers, which are produced in great profusion. A smaller growing plant of the same genus is *P. microphyllus*, which is useful for forming a dwarf hedge.

Many of the Roses are well adapted for the purpose of forming hedges. Probably the best is *Rosa rugosa*, the Japanese Rose. This plant possesses many admirable qualities. It is extremely hardy; it will grow in almost any situation and is not particular as to soil requirements. It has handsome, shining foliage, beautiful flowers, and large, red fruits, which persist until late fall and nearly winter.

A beautiful, rather tall-growing hedge can be made by using various species and varieties of Lilac (*Syringa*). These plants are too well known to need any description.

Van Houtt's Spiraea (*Spiraea Van Houtti*) is the most beautiful of the early blooming Spiraeas, and is highly recommended for an ornamental spring flowering hedge.

The plants mentioned above are all more or less deciduous, and when one comes to consider the evergreen plants that are suitable for hedges, one has a somewhat more restricted field to choose from.

The most ornamental evergreen hedge, when healthy and well grown, is the Hemlock (*Tsuga canadensis*). Unfortunately this is a rather capricious plant, and, although a native, it is sometimes difficult to get plants to grow satisfactorily.

Probably the most successful evergreen hedge for this part of the country is the American Arborvitae (*Thuja occidentalis*). This plant and its varieties are excellent and stand shearing without resentment. If a low-growing hedge is required, *T. occidentalis globosa* may be planted.

The White Spruce (*Picea alba*) is a good plant to use, especially if a large-growing hedge is needed. It requires careful pruning in order to have the hedge clothed to the bottom with foliage.

The names of many other plants might be given which are suitable for the subject under discussion. It is hoped, however, that enough has been said to show that one need not be restricted, when planning for a hedge, to California Privet.—From *Brooklyn Botanic Garden Bulletin*.

## PRUNING OF THE EARLY FLOWERING SHRUBS.

ONE look at a *Forsythia* in full bloom ought to be quite enough to tell any one interested how it should be pruned, yet how many conscientiously take their shears, when they clip the privet hedge, go over the early flowering shrubs at the same time, and in about the same manner?

It goes without saying that when planting these shrubs it is in order to prune as severely as necessary, to give the plants a chance to make a good start, but after that all pruning should be done without changing the natural shape of the bush.

The rules are very simple, and if in doubt don't prune.

Keep in mind, the growth which the plants make this summer carry the bloom for next spring.

After flowering, if the bushes are too thick and overgrown, cut out the old branches as near as you can get to the ground, leaving the young and vigorous growth. Let the aim be that after pruning, the bush retains its natural shape which may be idealized a little, if you know your plant.

# Cultural Notes on Hardy Shrubs

By A. E. Thatcher, Maine

ONE of the principal reasons why so many shrubberies are uninteresting today is because of the constant repetition of a few well-known sorts, and yet there is a great variety of inexpensive material which can be seen at any good nursery which by a judicious selection will add much interest and distinction to a garden. In making a choice it should be remembered that there are other shrubs than those remarkable for the beauty of their flowers deserving of inclusion. In some, such as the *Rhus* family, the foliage is very ornamental; others whose flowers may be inconspicuous attract much attention when carrying beautiful fruit, some are most noteworthy when their green mantle has changed to various shades of crimson or gold in the autumn, and others are again desirable on account of their richly-colored stems in winter. Many persons in making a selection are apt to attach too much importance to coniferous and other evergreen shrubs, and although I am fully aware of their value when used with discrimination, there can be little doubt that they have been overdone in the past.

To produce the most pleasing effects both evergreen and deciduous shrubs must be happily blended, but deciduous shrubs are much more beautiful, less expensive, and give the most satisfactory results. In selecting material for the planting of an ornamental shrubbery, whether one has a limited area or unrestricted space, it should be borne in mind that one need not be confined to shrubs only of a bushy nature, for while they form the basis of a shrubbery, others grown as standards or half-standards may be employed with excellent results. A very pleasing method of growing many of the hardy climbers such as ornamental grapes and roses is to firmly insert a stout pole into the ground, leaving 10 to 12 feet above the surface and lightly nailing or tying the long shoots of the climbers to it. The pole soon becomes completely covered. If varieties of sufficient hardiness are employed so that no taking down or covering is required, they will need little attention beyond tying up the new growth.

The pole should be sunk into the ground 3 or 4 feet so that frost will not loosen it, and the buried part should be well treated with creosote or tar, which will preserve it for many years in good condition. A good straight larch or cedar pole answers well for the purpose. Many varieties of shrubs are now obtainable in standard form, such as the following: Crabs, thorns, maples, particularly the handsome Japanese varieties, and many others which by proper method of pruning are amenable to this form of cultivation.

All hardy shrubs, except those which are naturally more at home beneath the shade of trees, succeed best in an open sunny position where they receive the full benefit of light and air, and this is particularly true of those grown for their floral beauty. It is important, therefore to select if possible a position which, while being sheltered from rough and cold winds, is fully exposed to the beneficial influence of the sun. This enables the wood of the current season's growth to become thoroughly ripened and consequently much better able to pass through the winter without harm. Having selected the position it is of paramount importance that the ground be properly and thoroughly prepared, first by seeing that it is well drained, as very few shrubs will succeed in a water-logged soil, and then by having it well broken up to a depth of at least

two feet. If the soil is naturally very heavy it is a good plan to freely incorporate decayed leaf mould and sand, but if very light and dry in character nothing is better than a good heavy loam. Well decayed manure will prove of much benefit to the shrubs if it can be worked deeply into the ground, otherwise I do not advocate its use. All hardy shrubs will succeed in a loamy or peaty soil providing it is well drained and deeply worked, but it may seem to some that it is quite unnecessary to prepare it so deeply as I have advised. It is, however, highly important, even if the expense is somewhat larger, for the difference between shrubs planted in ground which has been properly prepared and those in poorly worked soil is quite remarkable, and no one will question the advisability after seeing the results.

Cut off any broken or damaged roots on the under side with a sharp knife and take great care of the small fibrous ones, as on these the life of the shrub depends very largely, and see that they are quite moist. Then place the roots in the prepared hole and spread out all of them evenly, working in among them some of the finest soil, pressing it firmly and adding more until the hole is filled. While the roots should be well covered, it is not advisable to plant too deeply, especially on heavy land, and the nearer the fibrous roots are to the surface the greater warmth do they receive and consequently start into active growth more quickly than if buried some distance from the surface. When the planting is completed it is an excellent plan to give the shrubs a good mulching of any suitable material at hand, such as decayed leaves. This is of the greatest assistance if warm weather prevails, for it keeps the roots moist and cool and prevents surface soil from becoming baked.

Many people are under the impression that newly planted shrubs should be copiously watered at the roots, but I consider this unnecessary and oftentimes detrimental. If a good watering is given immediately after they are planted, which will settle the soil about the roots, and a mulching is applied, very little water will be needed for some time by the roots, but it is an excellent practice to spray them overhead frequently. This keeps the wood moist and greatly assists the buds to develop. If shrubs of standard form are planted they will need some support until they become well rooted and for this purpose nothing is better than a straight stake, sharply pointed and driven firmly into the ground as near the stem as possible without injury to the roots. The shrub can be secured to it by wrapping a neat piece of cloth or rubber around the stem and tying to the stake firmly with string, but care should be taken that no injury is done to the shrub as the bark expands with growth. Many beautiful American shrubs are notoriously fond of peat and if the conditions are not naturally favorable for their cultivation, liberal additions of this material should be incorporated when preparing the ground, if it can be obtained. Peat, however, is not always available, neither is it absolutely necessary, for many peat-loving subjects will succeed admirably in a mixture of fibrous loam, decayed leaf, mould and sand.

The pruning of hardy shrubs is one of the most important matters connected with them, but at present it is very imperfectly understood and we see far too often the lamentable results accruing from a lack of knowledge of their individual requirements. All that is gen-

erally considered necessary is for an incompetent workman to give the shrubs an annual trimming with a pair of shears, with the result that when the work is finished the shrubs all have about the same rounded, stiff appearance, much of the old growth which should have been removed is left and forms a mass of useless growth and the young wood, which should be carefully preserved for future blossom, is cut away. It is not possible to lay down any hard and fast rule, as shrubs differ so much in their individual requirements, but it is better not to prune at all than to prune indiscriminately. The large majority of flowering shrubs produce their blossoms during the spring and summer months and some of these, such as the Philadelphus, Deutzias and Forsythias, which produce their flowers on wood of the previous season's growth, are improved by having some of the flowering stems cut clear out as soon as the blossoms have fallen. This will help to strengthen the new growths sent out from the base and give them a better opportunity of becoming well ripened before winter sets in. The majority of hardy shrubs, however, require very little pruning beyond occasionally removing the old growth so as to keep them shapely and open to enable them to receive the full benefit of the sun and air. It is only by intelligent study and actual practice that one can become conversant with the requirements of different shrubs.

As I have previously mentioned, it is quite unnecessary when planting ornamental shrubbery to use only those shrubs which are of bushy form, and by the inclusion of some of pyramidal growth for example, and the proper use of standards one can produce a very much more attractive arrangement. A very common mistake, which should be carefully guarded against, is to plant all the larger shrubs at the back and graduate the others down to the front. By bringing some of the larger shrubs to the front and placing a well-grown standard on the edge of the shrubbery, where it stands clear above its neighbors, one will be able to give the appearance of much greater depth, which is important where space is limited. It will, of course, be necessary when the shrubbery is first made to plant more shrubs than those which can permanently remain.—*Extracts from a lecture before the Massachusetts Horticultural Society.*

#### ESSENTIAL CHEMICAL ELEMENTS FOR PLANT GROWTH.

ALL plants require at least ten of the chemical elements in order to develop properly. Most of these elements enter into the composition of the living material of the plant itself; the others are required to promote the chemical changes which are necessary to the growth and well-being of the plant. The complete absence of any one results in a cessation of normal growth; a shortage of any one results in failure to obtain the fullest development. One of them, the carbon, is obtained from the air; the other nine are got from the soil. The yield of a crop depends largely upon the presence of each of the nine in sufficient quantities in available—that is, soluble—form in the soil. Of these nine, only three are likely to be deficient in most soils—the nitrogen, the potash and the phosphorus. There are usually abundant stores of the remaining six.

Each of the elements plays a certain definite part in the nutrition of the plant, and on account of this an experienced person can generally tell whether any particular element is deficient by an inspection of the growing crop. He has to take many things into consideration in forming his judgment, and he can, perhaps, form it

most easily when a mixed lot of plants are growing upon the soil, for each of the three I have referred to encourages the development of a different set of plants. In the famous Rothamsted experiments, for instance, where potash and phosphates, but no nitrogen, were used in manuring pasture land, in course of time leguminous plants came to constitute half the herbage. Now, leguminous crops have, by reason of the bacteria in the nodules on their roots, means of getting nitrogen which other plants lack, so that it is evident that the leafy grasses were discouraged by the comparative deficiency of nitrogen, and the idea is strengthened by the fact that the vegetation on the plots receiving only nitrogen, or nitrogen, potash and phosphates as well, consisted wholly of grasses. Deficiency of nitrogen results in stunted growth of shoot and foliage, a poor, starved appearance, and yellowish tint generally. Conversely, excess of nitrogen results in vigorous development of large, soft leaves, sappy shoots and a deep green lush appearance.

Nitrogenous manures, then, are to be used when it is desired to encourage large leaf development and succulent growth. Too much will cause the plant to become so sappy as to be an easy prey to insect and fungus pests. The form to be used must depend partly upon the speed with which the results desired are wished for. Nitrate of soda and nitrate of lime are most active, as they are most readily available; then follow sulphate of ammonia and calcium cyanamide, or nitrolim; then the organic manures. The last vary in availability, mainly according to the rate at which they decay.

Potash plays a different part. Without it the making of sugar or starch ceases; exactly why is not known. It may be actually necessary for the formation of these things, or its absence may interfere with their movement from place to place. Plants with a deficient supply, therefore, soon grow slowly, and they usually have a poor color, while frequently the tips of the leaves die and turn brown. The epidermis does not appear to harden so much as when the supply of potash is sufficient, and tomatoes and the like are more liable to crack as a consequence. Deficient supplies of potash appear also to affect the coloring of fruits adversely. That their ripening is affected is evident from the fact that sugar formation is checked. Certain fungi are more easily able to attack plants suffering from potash starvation.

Potash manures are wanted particularly by plants which produce and store large quantities of sugar or starch. Beet, Carrot, Potato, Tomato, fruit trees and the like are all benefited by the application of potash salts where they are deficient. Clayey, strong soils often need liming to unlock the stores of potash they contain. The peculiar composition of these soils renders it quite possible to reduce the amount of available potash by applying soluble potash salts, paradoxical as it may seem, and lime is the best key with which to unlock the potash again. On lighter lands kaimit in winter, or sulphate of potash or wood-ashes in spring, are an aid to crops.

Phosphorus is best supplied as phosphates. Phosphates have an extraordinary effect upon root development, and are thus a capital preparation for periods of drought. They hasten ripening, and they further the storing of food in seeds. They are, therefore, particularly desirable wherever crops are wanted early, or where it is wished to encourage the ripening of wood, as with fruit trees and with tender shrubs in winter, and where crops are grown for their seeds.

Superphosphate is best where lime is present in the soil, and may be used in spring, as may bone-meal. Where the soil is heavy or lime deficient, basic slag should be used.—*Exchange.*

# Horticultural Sports

By Warren H. Manning, Massachusetts

THE bizarre, garish, unconventional individuals that are referred to among humans as "sports," have their counterparts in the plant world. One may be introduced to you by a friend; the other by a nursery catalogue. You will find that some have a thin veneer of color or an eccentricity of form or action that may be very amusing, but that have no real merit or permanent value; while on the other hand there are some sports that have such substantial and worthy qualities that they find a permanent place of honor among your friends, or in your gardens and landscapes.

It is to certain of these plant sports that we shall hereafter refer, such as the purple, golden, cut-leaved, pyramidal, table-form, table-topped and weeping forms that have developed among species of Beech, Birch, Maple, Elm, Catalpa, Elder, Hazel, Dogwood, Pine, Hemlock, Spruce and other groups. These have become pretty well established in nurseries, gardens and lawns by reason of their vigor, health, distinctive foliage or habit of growth.

They have been mostly used, however, as specimens, or to give brilliant spots of summer color in the conventional patchwork quilt shrub plantations, not as elements of broad landscapes.

Before considering their use in landscapes we should recognize that such sports are not always fugitive accidental freaks that can be reproduced only by grafting or by cuttings. It has been found, for example, that the seedlings of a conspicuous specimen plant of Wier's Cut-Leaf Maple, Purple Beech or Golden Spirea will produce so large a percentage of cut-leaved, and purple or golden offspring, that the progeny of an old seeding plant would be likely to establish in time a wide-spreading distinctive group, in which there will be much foliage like the parent, and color transitions due to variations in seedlings, and these would gradually merge the group into the surrounding trees. The purple Barberry has already escaped from cultivation, and made these distinctive groups in open pastures.

Much of our broad landscape beauty comes from the deep shadows and the high lights of hill and valley, and of foliage as seen under various atmospheric moods. Individual trees count but little in distant landscape. It is the mass that counts effectively in foliage color and in outline, as shown in the contrasts between the spired cone-bearing evergreens and the rounded outline of deciduous foliage, or the towering Lombardy Poplars; or again between the dark and solid masses of the Burr Oak foliage, the flickering and glinting sparkle of the Aspen Poplar or the Silver Poplar, or the soft, fleecy, grayish foliage of the Willows.

The really worthy sports of the vegetable world may well have a place that has never been given them in broad landscapes that are seen from a distance. The deep shadows in the valley, or at the ends of a long vista might be given greater emphasis by the use of such long-lived vigorous forms as the Purple Beech or Purple Maple, that are used in principal masses and outline groups with a suitable backing, flanking and interlacing of dark green foliage that would merge the purple into the surrounding landscape, to give the deeper shadows and not be unpleasantly obtrusive.

At other points the high lights of the landscape in glades through vistas or under arching trees may be

given greater emphasis and brilliancy by the use of such plants as the Golden Elder and Spirea, or the Golden Poplar and Hop-tree.

The cut-leaved form of the Birch, Beech or Maple would give a distinct variation in the texture of the foliage, as seen from a distance, if a sufficient quantity were used to count effectively, and they could be very properly associated with the type.

There are many places where it would be very desirable to establish a ground cover that will not grow high enough to interfere with the view, that will have good healthy foliage, and that can be more readily kept in restraint than can be most vines. Why should we not use the Weeping forms of the Mulberry, Mountain Ash, Elm, Beech, Dogwood, Pine and Spruce for such a purpose? Some of these forms, such as the Weeping Mulberry and Camperdown Elm, are trailing sports of upright trees, with little tendency to form a leader. They are usually grafted on high stems to make them suggest the umbrella-like form.

Other varieties, like the Weeping Beech and the Norway Spruce, have a distinct tendency to make a leader. Such forms, grown on their own roots, or grafted so low that the graft can be buried in the ground, to form roots above the union, would have a tendency to scramble over the surface. As such plants as the Mountain Ash and the Mulberry have fruit that the birds like, they would help to form the ideal bird cover. One can conceive of an exceedingly interesting and attractive phase of landscape so treated, for there is enough variation to give high and low foliage masses.

There are other places where the cushion-shaped trees, such as the Dwarf Catalpa, the several dense forms of the Norway Spruce and American Arborvitae, could be massed together to form a distinctive landscape treatment of this type.

Is there any more reason why the brilliant crimson coloring of the Schwedler's Maple should not be used to give color effects in a large way in the spring, as we now secure color effects from the Maples, Tupelos, Sumacs and Birches in the fall? These are all interesting propositions for those who have the courage to break away from the conventional use of material; but they must recognize the danger of such suggestions, because it will be very easy to produce a garish and disordered effect in landscape, just as is now produced in so many gardens and lawns where spots of such material are used.

The type of plant that succeeds best in dry-wall planting is worth considering, as so much of this material can often be produced at home. After much experience in this and allied work, I can affirm that permanent success is much greater from the use of small rooted cuttings and seedlings than from plants that have become root-bound in pots. The former are also the most certain and easily managed where a dry wall has to be planted after building, or for making good any vacancies in established walls.

When very wet or in a pasty condition, the work of building should be suspended, as soil put together in this condition shrinks considerably when dry, and this opens a way for air to penetrate into the wall, to the ruin of the plants.

After planting is completed, little further attention is necessary. With dry conditions, it is to the advantage

of the plants to dew them over morning and evening with clean water; then, later in the season, should a period of drought come, water in copious quantity may be necessary. This is readily applied through a fine rose attached either to the water-pot where the area is small, or inserted in the garden hose where it is extensive. The water must be kept continually on the move, so as not to wash the soil from the joints. It may, however, be noted

that watering is rarely necessary with plants in established walls, and should only be resorted to when the plants begin to exhibit clear signs of distress.

In the method of arranging plants in dry walls there is ample scope for artistic taste, and here it is that picturesque combinations of leaf and flower produce endless pleasure and admit of variations to which there is practically no limit.

## Bees and Flowers

**I**N the economy of nature, the subject of the relation of bees to horticulture is so great that I can only give a brief outline of it in this article.

We know that bees gather nectar from the blossoms, but it is not known generally why their wants are supplied by the floral world. The answer to this reveals to us a new meaning for the existence of these insects.

Plant blossom in order that seed may be produced, and the race continued. Before seed can be produced pollen borne by anthers must be placed on certain special parts called the stigma; should the pollen be of a suitable kind, and the stigma in a receptive condition, i. e., adhesive, when the pollen comes into contact, then a delicate thread called the pollen tube is thrown out by the pollen granule which forms a connection with the seed vessel by which the seed becomes fertilized, and when mature capable of germination.

If we examine a flower we shall find generally just within its corolla, the productive organs; they consist of stamens and pistil. Stamens are slender filaments carrying little knobs at their extremities called anthers which bear pollen; these are the male organs, while the female organs consist of the ovary containing the ovules or undeveloped, and one or more threadlike styles arising from it, each terminating with fleshy stigma.

The great majority of flowers possess both anthers and stigmas, thus carrying both sexes on the same flower. This would lead us to suppose the transmission of pollen was secure; but it is not so, for we know that conspicuous flowers, generally speaking, are especially arranged to prevent or impede fertilization by pollen, which they themselves produce, while marvelous contrivances are found to secure pollen from some other flower, of a plant of the same species, by the agency of bees. Nature protests against inbreeding in plants no less than animals, in flowers as well as bees.

Sprengel was able to show by far the larger number of flowering plants confide to insects the duty of bringing about these unions, which without them would never be accomplished. Of the whole insect agency the honey bee stands at the head of the list and fertilizes about 90 per cent., and is par excellence the complement of the blossom. For in spring when fruit trees are in bloom there are 20 bees visiting the flowers to one of any other kind of insects, the flowers offering them pollen and nectar in the most attractive form. We thus see that pollen is necessary to both flowers and bees, and is borne in such profusion that the surplus goes as a flesh-forming food for the bees.

The position of nectaries in flowers differs; while some lie on the surface, others are found in deep recesses; this insures the bees coming well into contact with the male and female parts, but the sexes don't always exist in the same flower, and many flowers in which both do exist

prevent self-fertilization by maturing these organs the one before the other.

The proterandrous plants are those in which the anthers ripen first; for example, if we examine a nasturtium flower we find the nectar secreted in a long spur. When the flower first opens the style is short and immature, and the anthers mature one after the other, the process occupying from three to seven days, during this time the flower is in function only male; the anthers now fade and drop off, when the style grows longer and the pistil with the stigma adhesive and receptive assumes its proper position to receive the pollen from the powdered breast of a bee, carried from a younger to this older flower.

Proterogynous plants are a class the reverse of the last; for example, the apple, strictly a fusion of five fruits and requires no less than five separate fertilizations for its perfect production. It sometimes happens that one or two of the stigmas are not fertilized for want of insect agency and the fruit on one side is deformed. If such an apple be cut across it will be found the undeveloped part lies where the pip is shriveled.

Among the plum growers of the British Isles it is found that the pollen of other kinds is more prepotent; so much so, they have made it a study to have various kinds in bloom at the same time.

Monoecious plants are those which have the genders in different flowers of the same plant, such as melons, cucumbers, marrow, etc.

Dicoccous plants are the class that have the genders placed on separate plants, a good example of this we have in the common early-flowering Willow on roadsides where the yellow flowers are covered with pollen and the dull gray flowers have nectar to attract bees; we thus see that bees, both being vitally dependent on each other, and both by their agency contributing towards the support of mankind.

Anemophilous plants are a class that bear inconspicuous flowers, have large quantities of pollen, no nectar, and are wholly fertilized by the wind. This includes all kinds of grasses, tomatoes and others.

I would here remark that in some varieties of strawberries there is a tendency to a separation of the sexes; those bearing large flowers are frequently tending to become male, to produce few fruits, and a great many runners, while the same variety with small flowers, all tending to become female, are abundant bearers and to produce few runners. If we look at a strawberry we find that it requires from 200 to 300 distinct fertilizations for its perfect production, each berry being composed of that number of drupels, i. e., little lobes of fruit, each having a female.

In one raspberry there are about 90 male anthers and 60 to 70 drupels, each carrying a female stigma, while on the receptacle will be seen a ring of shining dots of nectar. It thus requires 60 to 70 distinct fertilizations to perfect each fruit, otherwise the fruit does not develop, but in some parts remains green and hard.

Red clover and the bean can only be fertilized by the bumble bee, the nectar in these being situated at the bottom of a long flower tube; these are the only bees with a proboscis long enough to reach it. It is most interesting to watch the bumble bees when beans are in bloom, how they nip a piece at the base of the bean flower, making an entrance by a short way to the nectar. In New Zealand no red clover seed could be grown till after repeated attempts bumble bees were carried over in a dormant condition in a refrigerator and liberated. They are such a success that New Zealand people are able to do a large export trade in red clover seed.

In reviewing the foregoing, think for a moment what a work is required to be done by the little bees, and how largely we are indebted to them for the delicious fruit we enjoy.

Every gardener and every fruit grower should therefore keep bees with the object of insuring crossfertilization, looking to the honey yield as a secondary consideration, for while the bees gather nectar for themselves they confer a far greater boon on mankind by giving magnificent crops in return.

I hope I have been able to direct the readers to observe some of the smaller items in the animal and vegetable creation. For to attain success we must drink at the well of nature and work in conjunction with those natural laws that govern everything. —*J. D. Thomas, in Southern Florist.*

#### SPIRÆAS FOR GREENHOUSE DECORATION

IN common with Cinerarias, Calceolarias, Cyclamen and Primulas, the Spiræas of the japonica and astilboides sections have received increased attention from cultivators, with the highly satisfactory result that they are now grown more extensively, and consequently great improvement has taken place in the production of new varieties. Indifferently grown plants have not disappeared from the conservatory, but they are steadily making way for the neatly grown and densely flowered specimens which bespeak cultural skill of a high order. Not only are the flowers greatly attractive, but the leaves add much to the beauty of the plant, being gracefully divided and of a bright pale green color, which harmonizes with the soft, tinted flowers.

For greenhouse decoration the plants are generally grown from imported roots, which, for the main part, are received from Holland. Now that restrictions are being placed on the importation of bulbs and roots, it is evident that growers will have to resort to cultivating the plants suitable for forcing. This may be readily done by growing the plants in a moist position in the garden, where they should be allowed to remain for at least three years. Rich soil is necessary in order that the plants may build up good crowns, as it is essential that the rudiments of the flower spike be already formed in the plant if it is to respond to conditions usually adopted in the forcing of flowers.

During September and October, as soon as the foliage has completed its work, the roots should be lifted and divided so as to fit into 5 in. or 6 in. pots. The roots should be allowed to practically fill the pots themselves, so that very little soil will be required to complete the potting. The pots should then be stood on ashes, and if some of the plants are required for flowering at Christmas, no time should be lost in introducing a batch into a structure possessing a temperature of from 70 to 80 degrees. Abundance of water is required during all stages of growth. Less fire heat will be required when forcing is carried out after Christmas, and if the weather is bright and sunny, slight shading should be afforded in order to

obtain the delicate bright green in the foliage. Indeed, it is possible to obtain flowering specimens all the year round by the use of roots from a refrigerator, where they will remain in a dormant state for months without harm. It should, however, be stated that pot plants find but little favor for decorative purposes during the summer months, as at this time there is an abundance of cut flowers to be obtained from the garden.



*Spiræa Queen Alexandra, a Soft Pink.*

After flowering, the plants may again be planted in rich soil in the garden, but it will be some years before they are strong enough to withstand the conditions of forcing. Varieties are numerous, and of these Queen Alexandra, soft pink (illustration herewith), is one of the best. —*The Gardeners' Magazine (English).*

#### CULTIVATING THE IMAGINATION.

IMAGINATION, constructive imagination, is the greatest faculty of our minds. The man with foresight, the man who sees visions and dreams dreams, has ever been the leader in the progress of the human race. No America would have been discovered by Columbus, had not this faculty been largely developed in his mind. The Wright Brothers first saw in their mind's eye a picture of the airship they later flew so successfully. The architect first sees the skyscraper before he puts a mark on the plans of the imposing structure.

Even in prosaic industry or vegetable growing imagination plays its part. The man with vision sees a field of Celery or Onions on the mucky swamp that is a menace to the health of his community. The seed breeder pictures the ideal plant he wishes to produce. The gardener sees the crop he wishes to produce before he puts the seed in the ground. Every gardener needs to cultivate this faculty of the mind, constructive imagination.

Sit down some evening this winter and write out your plans for the coming season. Study these plans, test them in the light of experience, revise them. Let your imagination picture the results that would follow from different methods. There will come to you another advantage of this exercise of the imagination—the development of the habit of doing things systematically. "Writing maketh the exact man." The pleasure of doing things and knowing the reason why will compensate you for any extra labor.—*Exchange.*

# Work for the Month of August

By Henry Gibson, New York

**T**HOUGH August with its heat and lazy days has been deemed by many a dead month as far as gardening operations are concerned, yet there is a good deal that can be accomplished to advantage at this time. August is an excellent time to plant evergreens. Moreover, at this time of the year one can give more attention to the details of the work. Should the month prove droughty, plenty of water should be applied to the newly planted stock, or many will not survive the ordeal of transplanting. Water thoroughly and regularly and if circumstances permit of it spray the plants well towards evening.

Red spider is partial to evergreens, especially during dry weather, and no stock should be planted that is suffering from the activities of this pest, unless stringent measures are taken to eradicate it. Though a violent enemy of evergreens red spider is comparatively easy to combat, a strong force of water usually being sufficient to keep them in check, but it requires persistent effort.

Speaking of using water to check the activities of red spider brings to mind the matter of dealing with bugs and other insects that prey upon green succulent vegetables that are about ready for the table. While strong poisons are generally used it is preferable to use a good stream of water, for to use poisons on or near the vegetables that are soon to be consumed may result in serious consequences to the consumers. A stream of water applied with a hose fitted with an adjustable nozzle so as to get a fine spray will most effectively serve in washing off such insects as aphids, red spiders, leaf-hoppers, etc. Not only is this treatment serviceable, but the staining of woodwork, and the persistence of disagreeable odors that attend the use of some insecticides are obviated, by the water cure.

## THE FLOWER GARDEN.

Neatness is the order of the day in this department. The lawn will not require such frequent cutting, and the time thus gained may be well spent in staking, tying, and cultivating in the flower garden. Dahlias will be showing bud formation at this time, and should be encouraged with applications of bone meal or other good commercial fertilizer, forked in around the base of the plants. Any plants that show a tendency to grow strong and rank with no prospect of throwing flower buds, should be cultivated somewhat deeply so as to cut the roots and check growth, which will invariably cause them to set up flower buds. Liquid manure should be used sparingly on Dahlias, as it tends to set up a soft growth.

Climbing roses and vines should be gone over from time to time and be tied and trained into position. When it is necessary to restrict flowering vines, the old wood should be cut, which is practically spent, and lay in a good supply of young shoots.

Don't allow any of the vines to suffer for want of water; a good application of bone-meal forked in will greatly improve the quality of the flowers, and nothing will be of so much benefit to the climbing roses than frequent applications of liquid manure. The long canes being thrown up by these roses will bear flowers another season and one cannot have them too strong.

Tall growing annuals should be kept staked and tied into place, for it does not take much wind to break and do considerable damage to them. Hardy early flowering outdoor Chrysanthemums should be staked as they require it, or many blooms will be spoiled and broken by wind and storms.

## THE VEGETABLE GARDEN.

The final sowing of string beans may be made not later than the middle of the month. If large quantities of this vegetable are used sow several rows about eighteen inches apart, so that they may be protected from frost by throwing an awning over them. By the aid of such protection string beans may be had in sections right down to November. A sowing of peas for a late crop may be made as early in the month as possible. It is not always possible to get these last sowings of peas to mature, but if they fail the loss is small, and should they come in the gain is considerable. Late cabbage should be kept well watered to prevent club-root. They should also be sprayed with arsenate of lead before they head up. There is then less danger from the poison; and it surely keeps the cabbage worm in check. Celery may still be set out. In many sections of the country owing to the lateness of the season celery will be late in being planted because it is a crop that usually follows early peas, and these are late this year. One can still hope to get good celery despite the late planting, though the heads will not be so large. Dig plenty of manure into the ground and don't stint the water supply.

Onions will be ripening toward the end of the month. When the tops start to turn yellow, pull them up and lay them on their side for a day or two until they dry up. Then place them in a dry place where they will have abundance of air until the stems dry up entirely.

Raspberries should be pruned as soon as the fruit is all picked. Cut out the old bearing canes and tie the young ones to the trellis heading them back to about 4 feet in height to cause them to branch out. Blackberries should have similar treatment, and when the work is being done a sharp lookout ought to be kept for rust. This is a fungus disease which appears in spring on the under sides of the leaves, where it forms an orange red or rusty color. The reddish dust that is so easily shaken from the leaves is really the spores. The presence of spore masses is visible evidence that within the stems of the canes bearing affected leaves are the feeding threads, or Mycelium of the fungus, which live in the canes from year to year. Spraying is therefore useless, and the only way to successfully combat this disease is to prune out and burn affected parts.

## THE GREENHOUSES.

The greenhouses are the scene of many activities this month, no less than the out-door garden. Now is the time to attend to the broken glass and other necessary repairs, painting, etc. It is easier to do this work now than when the house is filled with plants.

Calla lilies should be potted now if not already done. Give them a rich compost, and after one thorough watering keep them reasonably dry until the roots begin to permeate the soil.

Lilies of all kinds are now procurable, and these



should be purchased in such quantities as required, potted and placed in a cold frame. Carnations may still be benched; selecting a dark day if possible for the work, otherwise shading the house with white-wash will be necessary, until the plants become re-established.

Sweet peas for winter flowering should be sown now. Snap-dragons may be benched in a carnation house temperature. These subjects have become popular winter flowers, and they do well under the same conditions as do carnations.

Pot plants such as primulas, cyclamen, etc., that have been carried through the summer in a cold frame should be brought inside and repotted, if necessary. In most cases this will be the last potting.

Stocks, Cinerarias, Schizanthus, that were sown early last month will now require pricking off into flats or potting up singly into thumb pots.

Mignonette is a very desirable winter subject when well grown. It does well in a temperature of 50 per cent, and a rich mellow compost is essential. Sow seed now and carry the plants along in pots until they are finally benched.

### TREE AND SHRUB SEEDS.

IMPATIENCE is characteristic of the American and it may be this has something to do with the fact that the American nurseryman imports such large quantities of small stock for lining out in preference to growing it himself, says *The National Nurseryman*. He likes to start with a tree or plant that has some size to it and is ready for lining out in nursery rows. There is some excuse for the nurseryman who has not the facilities for raising small stock that has to be grafted, enarched, layered or propagated by those methods which require special facilities, but there is no excuse for importing many of the native things which can just as readily be grown here as purchased from abroad.

Collecting seed is quite a problem. It must be the result of experience. Of course, anyone can go and gather up the acorns that fall from a tree or when they see berries that are ripe go and gather them, but those who have made a practice of collecting their own seed realize that it is not quite so easy as it seems. The commoner things of course are always available, but the choicer and rarer shrubs have to be located maybe the year before and then the time of their ripening carefully watched. A day or two will make a great deal of difference. There are few berries or fruits that are not food for birds and it is very easy to be a day late and find every single berry gone, where the day before there was a full crop.

The time of sowing the tree and shrub seeds is largely a matter of experience. Many seeds like the maples have to be sown as soon as ripe because they will not keep. Others ripen so late in the fall that the ground is frozen before they can be planted so it is necessary to keep them over until spring.

There are no rules that can be given as to the proper time for sowing the seed. The most successful propagator will be the man who knows most about the plants and is best able to adapt his conditions to their requirements. For those without experience it may be suggested that fall is the best time for the large nuts with hard shells, *Cornus* of all kinds, *Crataegus* or Hawthorns, Beech, *Exochorda*, Privets, *Magnolias*, Planes, *Prunus*, Oak, *Pyrus*, Buckthorn, Sumach, Wild Roses and *Viburnums*.

Seed that is very small and from trees and shrubs that are inclined to be tender, sowing in the spring is more likely to be successful. The Birch, *Catalpa*, Persimmon,

Sweet Gum, Larch, Mulberry, *Paulownia* and Huckleberry are the better sown in the spring largely because the seeds are so very small or of such a nature that they can hardly be kept in the ground over winter without either decaying or being washed away.

This leads up to the question which is the best position for the seed beds? Shelter is one of the prime essentials as nothing is so detrimental to successful seed growing as exposure to dry winds, too much hot sun and those trying conditions that are sure to some some time of the year. The ground should be plowed deep and cleaned thoroughly so as to reduce the labor of keeping the beds free from weeds later in the summer to a minimum. The beds may be of indefinite length, but should be about three feet wide for convenience in weeding, shading and handling. Of course, if water is available all the better, but it is really not an essential if the ground is properly prepared and facilities for shading are provided for.

Good success can often be secured by sowing seed on the frozen ground, providing the ground has been prepared in advance. The seed may be spread on the ground and then covered with sand. This method has much to recommend it as the sand will check the first crop of weeds in early spring, giving the seedlings a chance to get ahead. Of course if the seed sowing can be done before the ground freezes all the better, but very often as in the case of the wild roses the seed is not ready to gather before the frost and then it has to be cleaned and dried before it can be sown and it either means keeping it until the following spring or sowing it on the frozen ground.

Many seeds remain in the ground an entire season before coming up. The Hazel Nut will sometimes germinate in the early spring, but often the seed will remain in the ground coming up the following year. *Euonymus*, *Chionanthus* and some others take a long time to germinate, not coming up until the second season. Other kinds, while they germinate the first season, make so little growth that there is hardly enough vitality to carry them over the first winter. Their care at this period is often a problem. *Euonymus alatus* is a good sample of this type. The plants perhaps will not be more than two or three inches and very slender. If left out in the open ground the frost invariably lifts them and the plant is lost. They have to be protected in some way or lifted and put in pots and carried over in the greenhouse or frame where they can be protected from the severe winter.

The deep rooted things of course take care of themselves, but it is always well to have the seed beds so arranged that a little covering can be put on when the winter is very severe to counteract the freezing and thawing of the plants and the soil, which is so detrimental to young plants.

In sowing seeds of trees, such as Oaks, *Catalpa*, Maples, it requires quite a little experience before it can be done just right. Have the stand neither too thick nor too thin. Some kinds of seeds have very poor germinating power. *Liriodendron tulipifera* is a good illustration, the seed has to be sown thicker to insure a good stand. Of course, in large seeds like the acorns nearly every one will germinate and it is easy to judge, and they should be sown just thick enough so that they can be allowed to stand in the beds for three or four years. This helps the tree and induces it to make a straight stem, making better stock for lining out than where there is too much room given to them, which has a tendency to make them grow stocky. This rule, however, does not apply to all the beds more than one or two years.

# Color in the Flower Garden

TO many, a garden means simply the intensive cultivation of a portion of the home grounds for the display of flowering plants. The plants are not considered as a part of the real garden design, but simply as individual plants. The opportunity to secure pleasing harmony of color, by a careful study of the arrangement of all the features that go to make up the garden, has been lost. The first requisite of any garden is to have a color scheme that will harmonize with the fundamental design idea. If the emphasis of the garden is horticultural, then we must secure our interest by the use of plant color. If the emphasis is architectural, the plant color should be such as to give the predominance of interest to the architectural features.

One of the most important features of any problem in garden design, then, will be the selection and use of materials to secure a pleasing color composition. In a garden where the emphasis is horticultural or plant material is used to secure the interest, the problem is almost one of color arrangement. While the arrangement of the plant material in any landscape problem is of the utmost importance because of the more intensive use of the area set aside for the garden, horticultural emphasis makes the color phase more difficult and also more important. The real test of a garden will first be the general color harmony of the whole, then the juxtaposition of the several colors and lastly the quality of the colors themselves. A single color out of place will often ruin an otherwise successful color scheme. No result however satisfying in other respects will be successful if the color problem has not been carefully worked out. In the Italian gardens we have the blue of the Italian sky used as the dominating color of the landscape problem. While these gardens may be said to lack strong contrasts in the materials that have been used for their construction and embellishment, the bright blue of the sky overhead, and its reflection in the pools will ever make these gardens bright and cheerful. In England where the climatic conditions are much different than in Italy, we have a much different type of material used. The color of the typical English gardens is secured by the use of flowering plants and turf. All materials used have more color and often depend for the interest on this fact alone. The designer of these gardens may not have made color plans for these gardens, but unconsciously felt the existing natural influences.

After the color framework or color setting has been worked out, the next question will be that of the color of the materials that are to be used to embellish or to furnish the garden. The materials of construction make up our room and we are now to select the furnishings. If it has been impossible to secure a satisfactory color basis, the problem will be to feature these materials. The materials used to embellish our garden are grouped as architectural, horticultural, and natural.

These materials are grouped under two heads. The first of these are the practical, or the materials of construction, and the second, the esthetic, or those which embellish the design. The materials of construction may be either architectural or plant material. These materials are the ones used to build up the framework or to carry

out the fundamental lines of the design. This will include the walls, walks, steps, pavements, etc. If we are using materials such as stones that will be left in natural color, we are careful to select either the same color and kind of stone as the architecture with which the garden is connected, or some color that will harmonize with it. In many cases we are prevented, because of the dominating materials of the architecture, from introducing into our gardens a color feature in these materials. Materials that sink, as wood, can often be made a feature by the use of paint or stains on the wood. The questions of color in these materials should be carefully considered before we plan the other features of the garden, particularly if the emphasis is to be architectural.

If plant material is used in this way, we must select such plants as will give the desired effect. The horticultural plant materials as used in a garden scheme are divided into two classes, the material of construction or the practical, and those used to embellish the garden or the esthetic.

Plant material may be used in two ways as regards the color plan of our garden design. The first of these being to add color, and the second to harmonize with the existing architectural features. For example, the use of plants to add color is found in the typical English garden, and the use of plants to harmonize with the architecture is found in the gardens of Italy. Plant material can also be used to give an impression of quiet and stateliness, as illustrated by the use of plants in our cemeteries. Here evergreens are often the dominating type of the trees used, and add a sombre color to the scene. In the public gardens, quantities of bright colored flowers will give a spirit of gaiety and recreation.

Plant materials are classed as fixed, movable, permanent, temporary, evergreen, deciduous and seasonal. By fixed materials we mean the plant color that is used in the planting, one that will remain from season to season as a permanent planting. Movable materials include the plants that are placed about the garden, such as tub plants, hanging baskets or flower boxes. Temporary colors are those that last only a short time or for a season, and thus include deciduous shrubs, flowers, fruit, leaves and twigs.

The use of potted plants as an important part of the plant material is common in the Florentine garden. The variety of plants used depends upon the time of the year. The orangery is used as a reserve garden in this type of garden planting. The type of planting is of special value in the countries where the season for growing plants in the garden is short for the situation, or light, is not favorable for the production of the best results. In city gardens, because of lack of sun, smoke, limited space, lack of variety of plants, this is of special value. In small gardens to avoid monotony caused by using one leaf color as a filler or a single color of flowers, it makes a convenient way of changing at will the entire color scheme of the decorative planting. Foliage plants may even be featured in this way and thus an entire change made from flowering plants. In a small garden the entire garden planting and environs may be varied in such a way as to secure pleasing variety throughout the year; evergreens in winter, bulbs in spring, flowering plants in summer, and foliage plants in fall.

The use of temporary materials, both horticultural and architectural, to secure color in the garden, is one of the best ways to secure a good color scheme. A wide terrace may be of special value because it commands a fine

view. In place of building a pergola or shelter over this, it is often a good plan to use temporary accessories to secure color, such as plants in tubs, bright awnings, garden seats, and many other features may be suggested. The number, color and general scale of these will depend upon the size of the garden, and the needs of the problem and the needs and taste of the client. A small garden that is to be used as a general decorative feature to be enjoyed from the rooms of the house during the most of the time, and then for occasional garden parties, will serve two purposes by this sort of arrangement. In ordinary garden planting we must depend for color upon the leaves and flowers. Fruit and twigs or autumn color do not count as masses, unless we use some evergreen materials as a background. In large informal plantings we can often depend upon the fruit and twig colors for short seasons, because we can use large quantities of the plants and have our groups used for this special color art, more as accents, or to be lost in the whole mass of planting during the season.

Horticultural material as to its use for securing color in the garden is grouped into two main groups: constructive and decorative. The use of plant material to bring out the constructive lines of the design is the most important of all uses of plants in garden design. The color here has to do almost entirely with the leaf color. The effect here may be bright or sombre. In the plant materials of the English garden, the use of variegated or unusual leaf colors is justified by the lack of sunshine. In the Italian garden planting, the use of leaf color of a lower value is justified because of the large amount of sunshine, and secures a more pleasing effect in the whole design. The problem, then, of the basic color plants in garden design, is one that should be solved by the conditions under which we are working, and not by theories as to native material, or material of certain characteristics. *Philadelphus coronarius aurea* has a place in our plant list that under certain conditions might be more important to a successful design than the type plant, because it was not natural.

Plant material classified as to its durative value, listed in the order of its importance is as follows: trees, shrubs and vines, perennials, annuals, bedding and greenhouse plants. The plants can be grouped under two divisions as regards their permanence, first the temporary decorative material, greenhouse (exotic) annuals, and second the more permanent materials, perennials, shrubs and vines, and trees. The use of these plants in our design will depend entirely upon the amount of color we want. It can be said that the more color we want, the more valuable are the temporary plants as to the place they will have in our color scheme. After we have provided for a good constructive use of our more permanent plants, these temporary plants are very important. The fault of using highly decorative plants without a proper background is one of the most serious ones of the present day garden designers.

In using herbaceous plants, it is very difficult to plan for a good color design and use a variety of color. The short time that a perennial is of value for its flowers and the attempt to provide for a succession of bloom, complicate the problem. Many garden designers feel that they have solved the problem if they succeed in selecting plants so as to secure a succession of bloom. Others pay attention to color only. The color schemes should first be worked out and enough filler material provided to bring out the garden scheme and the plants having more special flower characteristics. The selection of two colors for a special garden, as a blue and yellow or an orange and blue garden will not always be the best. It is a much

better plan to use colors to secure accent, interest, distance, and other features. The size of the garden, and the season that it is to be most used, will determine the number and amount of color plants that will secure the best results.

The growing of vines on frames is a good method of securing a particular leaf color that will keep in character with the design. These frames may be wire or lattice. The wire frames must be entirely covered, while the lattice ones are often decorative in themselves, both in design and color. One of the best vines to use for wood lattices is the clematis. The many flowering varieties of this plant give a good list from which to select and a succession of blooms may be secured by selecting those of the different groups as to time of bloom.—*Ralph Rodney Root in Billerica.*

### THE SUNDIAL IN THE GARDEN.

"Serene he stands among the flowers,  
And only marks life's sunny hours,  
For him dark days do not exist—  
The brazen-faced old optimist."

**I**N this strenuous age it is idle to hope for the return of those halcyon days of leisure enjoyed by our forefathers, when hunger sounded the dinner bell and drowsiness rang the curfew—days of which the sundial is a mute memorial. As Charles Lamb, in his inimitable way, wrote: "It was the measure appropriate for sweet plants and flowers to spring by; for the birds to apportion their warblings by; for flocks to pasture and be led to fold by. The shepherd carved it out quaintly in the sun, and, turning philosopher by the very occupation, provided it with mottoes more touching than tombstones."

At the present time there is a welcome revival of interest in the sundial, and it is being largely utilized in the scheme of decoration in many a garden, or, occasionally, leaded into the windows of the homestead. Many of the newer dials are being constructed after the style of the older examples, which speaks volumes for the artistic taste of the workmen of the fifteenth and sixteenth centuries.

There is nothing more depressing than to see a sundial shrouded in the fog and smoke of a large city, with scarcely a gleam of sunshine to cast a shade upon the "figured plain." Under such circumstances the words of Richard Jefferies are very appropriate: "Let the shadow advance upon the dial. I can watch it with equanimity while it is there to be watched. It is only when the shadow is not there, when the clouds of winter cover it, that the dial is terrible."

The mottoes to be found upon the dials are very interesting. As a rule they are quaintly beautiful, occasionally dictatorial, but always to the point. A sundial motto should be as short as a poesy on a ring, as clear as the sun that shines on the dial's face. The following are typical examples:

"I count time!—dost thou?"  
"Light and shadow by turns but always love."  
"Come light! Visit me!"  
"Begone about your business."  
"I count the bright hours only."  
"Haste! oh haste! thou sluggard, haste  
The present is already past."

Sundials are the only instruments which give us the correct time, and clocks and watches are but make-shifts which an Act of Parliament can alter and realter as its authors think fit.—*Henry Walker, in The Garden (English).*

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**LIGHT AND THE LIFE OF PLANTS.**

THE importance of light to the well-being of plants is thoroughly understood by gardeners. Daily experience shows them not only that plants must be exposed to light, but also that if the light which falls on the plant be below a certain intensity growth is checked. The reason for those facts is also well understood by practical growers, who have learned that plants require light in order to carry on the manufacture of their food. Only when light falls on them are the green parts of the plant able to construct from the raw materials—water and carbon-dioxide, which they obtain from the soil and air—the sugar which serves as an actual food material for the plant. Whether

light is also necessary for the manufacture of the more complex nitrogen-containing foodstuffs, which the plant has also to make for itself, is not so certain.

What is certain, however, is that the effects of light on plants are by no means confined to this essential part in food-manufacture. As is well known, light is one of the great directive agents of plants. By its aid plants, like animals, find their way. That is to say, each leaf and stem and branch contrives to take up its proper position as a result of movements of adjustment in reference to the direction of the light which falls on that member. By means of this response to light ordinary leaves come to stand at right angles to the direction in which light falls on them.

In yet more subtle ways light affects the fortunes of plants. For example, it is well known that if the light which a plant receives be of insufficient intensity, although vegetative growth may continue the plant may fail of flower. Although the fact is known, the explanation is not. It was suggested long ago that light of a certain wave-length (ultra-violet light) plays an important part in stimulating the development of flowers. Recent discoveries of Professor Loeb suggest that this old view may contain something of the truth; for Loeb has shown that the eggs of certain animals (sea-urchins) begin to divide when exposed to ultra-violet light.

Another recent discovery which may perhaps lead to results of practical importance has reference to yet another effect of light on plant-growth. This discovery concerns respiration, the process whereby the plant (or animal), by bringing about the oxidation of its own substance—and particularly of the sugars which it has manufactured—obtains the energy whereby it does the work of living.

This process of respiration goes on unceasingly night and day in both plants and animals; but it has been known for some time that the rate of respiration, which is measured by the amount of carbon-dioxide given off, is definitely greater during the hours of sunlight than during darkness. The most recent investigations have yielded what at first sight are remarkable and puzzling results. Thus it has been found that even though a plant be kept in absolute darkness (and in a constant temperature) the amount of carbon-dioxide given off by a plant is greater during the day than during the night. The explanation of this curious fact is to be sought in the effect of sunlight on the oxygen of the air. This effect is termed ionization, and it may be likened to that produced by a stonebreaker on a heap of stones. In un-ionized air the oxygen is composed of unbroken stones (molecules); when ionized, the oxygen consists of minuter particles which may be likened to the broken stones. These minuter particles of oxygen combine more readily with the oxidizable plant substances than do the unbroken molecules, and hence the rate of respiration is increased. It would appear not impossible that practical advantage may be taken of this fact, and that by supplying them at night with ionized air the rate of growth of plants may be increased. The experiment, so far as we know, has not yet been tried, but if the facts described above are correct, it is not impossible that "forcing by ionized air" may become a useful adjunct to the horticulture of the future.—*Gardeners' Chronicle (English).*

## THE BEAUTIES OF NATURE

IF people could realize and enjoy the beauty around them, they would be happier and better, and the earth would gradually improve in appearance. They would see with pleasure the brightening tints of the willows and dogwoods that come with the first warm day of March, the tinge of brown caused by thousands of blossoms which a little later show in the distance. The graceful shape of the elm, then the reds and yellow that marks the place of the maples, and the varying shades of green as every gain of warmth and sunlight pushes out the young leaves from the swelling buds. They would note that the colors of spring are almost as varying as those of autumn. The little velvety leaves of the white oak are worth going miles to see, when in May they hang like half-open umbrellas from the end of the branches, and range in color from yellowish-white through pink to the deepest purple. At the same time, the large, yellow buds of the shagbark hickory, with their red bracts, are as showy as most flowers. There is also a wonderful wealth of beauty in our native thorn and crabapple trees, with their spreading branches, their varying shades of foliage, and their profusion of blossoms. Later still other members of the rose family, the spiraeas, raspberries and the wild roses themselves supply bloom and color.

"Although during the latter part of summer and through the autumn months, our trees and shrubs do not

produce flowers in abundance, there is nearly always some to be found, until those of the witch hazel, remaining a yellow mist, after the golden leaves have fallen, fill the November air with perfume. Before the blossoms of May are gone, the seeds of the elm and soft maple are already ripening, and from that time on the fruits of trees and shrubs add to the interest generally felt in the summer and autumn foliage.

"Not only do the flowers, leaves and fruits please us with their thousand shapes and colors, their surfaces sometimes smooth and glossy, sometimes dull and soft, but the trees and shrubs themselves, by the manner in which their foliage is massed, by their effect when seen close at hand, or in the distance, when seen in sunshine or mist, in a still atmosphere or in a breeze, by daylight which brings out every detail, or silhouetted against the night sky, help to make up that wonderful variety and beauty which must surely be appreciated by all who expect to feel at home in the next world. There is time merely to allude to the humbler forms of vegetation, the grasses and herbaceous plants that cover the earth so attractively, to the clouds that should be admired by each of us as much as they were by the poet Shelley, and which should be given a place in every design, to the varying shapes of ground surface, to the far-reaching seas, and to the running brooks and placid lakes with their rocky or leafy margins."

O. C. SIMONDS.



*Courtesy of The Garden—English.*

*The Flowers in the Accompanying Illustration Are Not Uncommon—the Blue of the Aubrietia, the Yellow of the Alyssum, and the Pure White of the Arabis, a Trio of Lovely Flowers That Curtain the Surface of the Wall with a Profusion of Strong and Refined Colors. Wall Gardening Is Easily Accomplished, and the Illustration Is Convincing Proof of Its Beauty. Apart from the Commoner Flowers, There Is No Reason Why a Wall Garden Should Not Give as Much Pleasure, and Impart as Great a Knowledge of Alpine Plants, as Most Rock Gardens.*

## THE JAPANESE WINDFLOWERS.

IN the waning days of autumn, when the morning and evening mists have enshrouded the flowers of the outdoor garden and, in too many instances, marred their beauty, we appreciate those that come out of the ordeal unscathed. Among the most beautiful of these are the Japanese Windflowers or Anemones, tall yet graceful flowers, quite unlike the dainty little native species that bespangles the greensward of our coppices in the gusty days of spring. These Japanese Anemones, by their very stature and bearing, are admirably adapted for grouping in the herbaceous border, in large lawn beds, the edges of shrubberies, or by the side of a pond or lake. They are never seen to better advantage, particularly the varieties with white blossoms, than when massed, in large bold groups, with a background of dark green foliaged trees, these serving to accentuate the glistening purity of the daintily poised blossoms. When to the trees water is added, in which the flowers are reflected with a shimmer of light and shade, we begin to realize how indispensable these hardy plants are in the garden at this season. Nor must we overlook their usefulness for cutting. It is almost impossible to arrange them inartistically, their long stems and light, graceful flowers enabling the veriest tyro to create a picture of sublime beauty with these and autumn foliage.

Fortunately, the cultivation of the Japanese Anemones does not present any great difficulties. What they do appreciate is deeply cultivated and well-manured soil, and that with a good proportion of clay in it. One is often asked to name plants that will thrive in clay soil, and the Japanese Windflower is one of the best.

As the roots are long and thick, with but few fibres, transplanting is not advisable more often than is absolutely necessary; indeed, a good rule to follow is to disturb the plants as little as possible. In forming new beds or groups in borders, the planting may be done in late autumn or early spring, and pieces of root with as many fibres as possible should be given preference to those of a less fibrous character.—*Exchange*.

## CAUSES OF OUR POOR TURFS.

BY just pointing out a few little difficulties, such as those below, one can easily understand why there is not much good golfing turf on fair greens in America.

I met one man who intended to base the prescription of grasses for sowing a course, situated on raw sand, from about half a dozen quaint little hand-watered trial plots, each about one yard square. He pointed out the grasses to me and asked me to note how well they stood on the sand without any fertilizer at all; the plots were barely a month old, and the expert evidently did not know that any grass seed will germinate freely and keep alive for months on a piece of cloth or an old sack, or anything, so long as it is kept moist.

Another showed me with pride a course on which he had used almost every named grass procurable; he certainly had got a turf, but it was far better suited for dairy farming than golf and the cost of it must have been simply cruel.

A third sent me out on a hot dusty trip to see an "eye opener" in the rapid production of fine turf by sowing fescues and bents, and when I arrived the perfect turf had absolutely no bottom and looked like a stubble field, as it well might, considering that the seed was sown in equal quantity of each description at the rate of 120 pounds per acre. The significance of this will be better

understood when it is known that the number of seeds that go to one ounce varies roughly in the different varieties from 14,000 to 500,000.

There are a few other little pitfalls which are quite easy to fall into, such as the different rates of growth; that is to say, some grasses take twice as long to reach maturity as others. The area covered by one grass plant may be two to ten times as large as the area covered by a single plant of another variety of the same age, and some grasses amalgamate and go well with other grasses and some will grow only in isolation.

In support of my contention that the best English, or perhaps I ought to say British turf, as there is some wonderful stuff in Scotland and Ireland, can be produced in North America, more or less to order, I bring forward the Country Club at Brookline, where they have obtained greens equal to those at the Mid Surrey Golf Club, Richmond, England, which means a lot to anyone who has seen Peter Lee's famous productions at the latter club.—*English Turf Expert*.

## CONSERVING USEFUL KNOWLEDGE.

AS it is not always easy to tell, when picking up a magazine, whether it had been finished at the last reading or not, writes S. B. Leeds in *Fruit Grower*, I have adopted the plan of marking an initial on the corner of the magazine when I have read all the articles that I care to, and marked those articles to be cut out later. I have tried this for several years, and find it saves much time.

There are so many things in the farm papers that I want to save for future reference that I have a scrap book in which I paste all my clippings, and then, in order to be able to find them easily when needed, I have a card file, and all articles are indexed.

Insects, spray materials, fertilizers, etc., all are entered, each under its own heading, so I can find all insects under one heading, and all spray materials under that heading, etc.

This has proved most useful, as the magazines are usually up to date, and it is impossible to keep buying all the latest books. It would also be impossible to find just the article I wanted if I had to hunt through a pile of magazines when I happened to need that particular article. After cutting out all I want, I put an X next to my initial on the cover, which means the magazine is ready to be passed on to someone else, and they are passed on. I practically never put a magazine in the scrap basket.

I have also a larger card file (5 x 8 inches) where I write on the cards notes I have taken at lectures, or from books, etc.

One card is marked "plumber," and one "carpenter." All the little jobs I want done, but which do not need immediate attention, I keep under the proper heading, and when a plumber or carpenter is really needed I have him do all the other little things which it would not pay to have him come for separately. One card is marked "books," and there I write down those I have heard of and want to read when I can buy them or go to the library for them.

There are often a few ideas in a long article that I particularly want to keep, and these I write in my file rather than cut out the whole article to wade through it again later.

In the 3 x 5-inch file there is a set of cards for each month and for each day of the month, so I can keep the dates when taxes are due, papers should be renewed, etc.

# The Roots of a Plant

IT is the business of the horticulturist or fruit-grower to cultivate plants. Each plant is made up of several distinct parts, namely, the roots, stem, branches and flowers. Is the grower familiar with the uses of these various parts, and does he know the function of each one of them? The tree, as contrasted with the vegetable plants, differs somewhat in the make-up, but essentially all of the parts are similar to each other and all similar parts are used for the same purpose. We cannot say that any one part of the plant is more important than any other, because the plant cannot be considered whole with the loss of any part. Since no plant is complete without all of its parts, then to have the plant grow, reproduce and furnish us with fruit and seed, all parts must work together.

The most singular thing is that the grower can guide the natural development of plants to suit his particular purpose. He must, however, know how and when to make use of the natural processes, and how to guide the development in such a way so as to realize the end he has in view. In some cases he only cultivates the plant in its normal form; in others he makes the plant more useful by increasing its productiveness; in still other cases by improving its quality of fruit, etc.

A plant, then, must not be looked upon as an unchangeable organism, nor restricted to any definite form, but as a plastic thing which can be changed in all of its parts to suit the needs of the grower. This changing the form in a plant is only possible when the planter knows the different parts of a plant and the needs of each part.

Every plant has two objects in view, first to reproduce itself, and, second, to grow and preserve itself. Each part of the plant contributes its share to gain these ends. The root holds the plant in the soil and absorbs the plant food from it. The stem supports the leaves, flowers and fruit, and forms a connecting link between the roots and the top. The leaves manufacture the food materials. The flowers produce seed which develop into new individuals.

The root represents the direct downward continuation of the stem. It supports the plant and holds it in position. It absorbs the plant food and makes it possible for the plant to increase in size.

In order to fully understand the value of a root we must first know something of its structure. We must know what it is made of and how it assists the plant. Every grower knows that the root does absorb watery material, and that the development of this absorbing surface of a root is proportional to its need for water. The question naturally arises as to how the root absorbs this water, and what part of the root does it? This all-important point is very hazy in the minds of many growers, as evidenced by their treatment of plants, when mulching and cultivating is practiced. Many people are of the opinion that in order to get food to the plant this food must be placed close to the trunk of the tree. This is not the case, and food so placed is of little or no value to the tree.

Let us, for convenience, divide the roots of a plant into three parts—first, the large main root leading from the stem; second, the small, fibrous roots which branch from the main roots, and, third, the very small roots which are called "root hairs." In addition to the three divisions mentioned, we have another very important region in every growing root, namely, the "root cap." All roots are composed of cells, the same as the rest of the plants, and these cells are variously modified to suit special purposes. The root hairs then are not the root in the sense that we think of a root, but a modified cell. It is these

little root hairs which do all of the work of absorbing the plant food. They are the important part in the root system of the plant.

If we examine a root hair we find that it is a slender tube filled with liquid. It projects from one of the external cells of the root. These cells or root hairs form the outer layer in certain regions of the root. Root hairs are very thin walled, and by elongating, greatly increase their absorbing surface. Because of this condition, the root hairs present a large absorbing surface in a small region.

Root hairs are only found in definite regions on the root, and this region is close to the tip of the small roots, just back of the root cap. They are not found on the larger or older roots. They are continually advancing their position, and as the root grows the root hairs die or are destroyed, and new ones are continually being formed and replacing the old ones.

When the cells divide and the root grows, it becomes necessary for the tender cells to be protected in some way, and that is done by the root cap, which is made of thicker cells which are continually being destroyed by pushing through the soil. As the root cap is destroyed it is replaced by new cells, and so continues its growth.

The roots of the plant vary in their ability to elongate, and in some plants we have a small ball of roots comparatively close to the plant, while in others the roots extend great distances. The length that the roots will grow depends upon the kind of soil, the amount of water and plant food available. If the soil is rich and has plenty of water present, the roots do not have to reach out great distances to get the required amount of food. If the soil is poor and the water supply limited, the roots must travel long distances to get the required amount of food. In either case the absorbing part of the root is near the ends of the growing roots and there is the place that the food must be supplied if any value is to be derived from it.

In the treatment of roots we must consider two things: first, what part the root plays in relation to the plant, and, second, whether it is of economic value in supplying us with food. In biennial or perennial plants the roots, in addition to absorbing water, are also used as a store-house for food, which the plant uses at some future time. In some annual plants with tuberous roots, the food material is stored and used by us for food, as in the sweet potato. Since the roots are store-houses for food, it is important that the proper treatment be given to them when transplanting is necessary.

Since there is a direct relation between the roots and the leaves of the plant, and since the leaves draw upon this reserve food stored in the roots when the plant cannot absorb or make food, it behooves us to aid the plant as much as we can when transplanting it.

When transplanting trees or shrubs the root system is always injured. The most apparent injury is the loss of the root tips and the root hairs immediately behind them. In such a case, by the loss of the part of the root that takes up the plant food, it becomes apparent that the branches are in greater proportion than the roots, and that they will consequently draw too heavily on the stored food. How, then, can this root system absorb sufficient water for the development of the whole plant, after a great part of it has been torn off and all the root hairs killed? Even if we watered the roots, we could gain nothing, because the small roots containing the root hairs have been destroyed.

In transplanting woody plants in the open, special treatment is sometimes necessary, and it should be the aim of the grower to have the root system consist of a

*(Continued on page 322.)*

## FIELD DAY AT CROMWELL, CONN.

THE members of the National Association of Gardeners and the American Association of Park Superintendents that journeyed to Cromwell Gardens, Cromwell, Conn., on June 21, to participate in the Field Day arranged for the members of the two named associations by A. N. Pierson, Inc., found the occasion a most delightful one and one full of much interest.



*The Experimental Rose Garden at Cromwell Gardens.*

The visitors who came from many points were met at the railroad stations, as their trains arrived at Hartford and Middletown, by representatives of the A. N.



*Entrance to Rock Garden at Cromwell Gardens.*

Pierson, Inc., and were entertained at luncheon at one of the hotels in Middletown, where they were greeted by Wallace R. Pierson.

After luncheon the party proceeded to Cromwell Gardens, where they were received by A. N. Pierson, who welcomed them to the establishment of the company over which he is the head. The various departments were next inspected, which included the outdoor gardens, greenhouse ranges, dairy, etc.

The rose garden, which presented a fine spectacle, proved the center of attraction, although the visitors found much to interest them in the different outdoor departments. The rock garden, which is now under course of construction, came in for its share of attention.

The visit through the large range of greenhouses, some 600 feet in length and 80 feet in width, was also enjoyed by the visiting gardeners, where roses, carnations and chrysanthemums were found in fine shape. Many other varieties of flowering and foliage plants are grown by this company under glass, all of which were inspected with much interest.

This visit to Cromwell Gardens was not alone instructive, but full of good fellowship, as it brought many members of the gardening craft together from points adjacent to New York and Boston, while Lenox and New London were also well represented.

## THE ROOTS OF A PLANT.

*(Continued from page 321.)*

great number of short branches provided with many rootlets, so that the entire absorbing system is limited to a small area.

Some plants naturally produce a very fibrous root system and have many small roots with root hairs, and this class of plants will withstand transplanting with less loss. But suppose we are handling some other kinds of plants, as, for example, the nut tree, such as the walnut or hickory. These trees do not naturally develop a fibrous root system, but have a single long tap root which extends deep into the soil. Suppose we destroy this, as is done in transplanting. What happens? In the great majority of cases, especially when the tree is over a year old, it dies, and you ask why? It is because the small roots are limited, and in removing the tree all of them have been lost or such a large per cent. that the plant cannot survive. So, in view of these facts, plants with tap roots must be treated in special ways to avoid such a great shock to the plant. This is the reason why all such trees must be transplanted several times, beginning when they are very small—not over a year old—and continuing transplanting every year or so until they are set in their permanent place. By repeated transplanting the tap root is broken when very small, and then sends out side roots which take its place. After such treatment the side roots form a fibrous root system and the number of feeding roots is greatly enlarged, and consequently the plant can withstand transplanting and not be killed. This tends to produce a ball of roots comparatively close to the plant, and in transplanting a greater number of the small roots are saved.—*Fruit Grower.*



## From Here, There and Everywhere

### ART OF FLORICULTURE.

The cultivation of plants for the sake of their beautiful flowers, and other attractions, has from the earliest ages received attention wherever civilization has made some progress. Floriculture as an art, however, is so susceptible to influence of climate, soil, heat, cold, and other conditions, that notwithstanding it may claim antiquity, anything like general progress in all lands has been impeded by reason of this very fact. Whatever knowledge may have been gained in the art during one age in one country, when applied to another, is found to be practically useful only to the extent in which it finds a state of adaptability in the other. Hence it may be said that in each nation the practice of floriculture is peculiar and different from that of every other nation.

The cultivation of plants and flowers has only of late years received any great degree of attention, and since a general manifestation of interest in floriculture by the masses of people has been apparently, but from a perceptible awakening about that time has been a continual and rapid increase until now, when we find nearly everybody devoting more or less attention to the culture of flowers.

The florists, like the new beginners, must expect to meet with some little difficulties and drawbacks, by unpropitious weather, or other causes, always will attend floricultural operations. In those the young florists who have a love for the work and its fruits, should find no cause to be discouraged. The most skillful florist has always something to learn, and no mistake will be made, but you will be wiser for it and the better prepared for future emergencies. Success, gained at the expense of slight failures and inconveniences, will be enjoyed the more for them afterwards. After each succeeding season's experience you will see the safety of striking out more boldly in purchases and plans, and each year will place you higher up that scale to perfection which every cultivator of flowers aspires to.—*Exchange*.

### OSWEGO TEA IN THE GARDEN.

Among the wild flowers that may be easily grown in gardens, perhaps none is more attractive than the Oswego Tea (*Monarda didyma*), a showy member of the mint family that brightens our swamps and brooksides during the late summer with its graceful heads of bright, yet soft red flowers. It is beloved of landscape architects who are obsessed with a desire for solid blocks of color, because there are few flowers of that particular shade. But it loses all its poetic grace when too broadly massed and is much more effective scattered among shrubbery in a natural way, being massed very lightly if at all. It delights in rich, moist soil and partial shade but will grow after a fashion almost anywhere, though it is naturally much shorter when growing in dry soil, sometimes being scarcely a foot tall, while in low, damp woodlands it may reach quite three times that height.

But its greatest charm (for the writer at least) is its attraction for humming birds, who seem to find the nectar in the long tubes flavored quite to their taste and come many times a day to lunch on the dainty food. If the flowers are near a porch or frequented garden seat, the tiny birds will become so tame that they will alight on a twig to rest between sips with no appearance of fear. The cardinal flower is also a favorite with humming birds and may be planted effectively in front of the mint, thus giving variety that even to birds is the spice of life. Both of these plants may be raised from seed, but as the cardinal flowers insist on moisture yet "damps off" very readily, the problem of keeping it wet and dry at the same time, is sometimes a perplexing one and not easily solved. *American Botanist*.

### CRAB GRASS ON LAWNS.

One of the greatest trials experienced by those who have the care of lawns is keeping them free from Crab Grass, *Panicum sanguinale*. This is but an annual grass, but it delights in heat and moisture, so that in summer its growth is most luxuriant. It is then that its evil is the most evident as it crowds out all other grasses. To those unacquainted with it, its appearance gives much pleasure, presenting a green, verdant, live growth. But when it dies, in autumn, there is nothing living where it has been, every other grass having been smothered out. As aforesaid, it is but an annual, and if it disappeared in autumn for good it would not be so bad, but before disappearing it leaves behind a good crop of seeds for the next year's supply.

Frequent mowings prevent its seeding to some extent, but there are always shoots close to the ground which see to the providing of another crop of plants. The only way to permanently rid a lawn of this Crab Grass is to cut it out root and all before it goes to seed. This is not difficult, as it can soon be distinguished from

all other sorts. The writer has worked at this task in his time and has directed others to do it.

It must be done before the pest ripens its seeds. Going over the lawn twice in the season will do it. But to make a permanent job of it the lawn should be gone over once the summer following the first operation. The work is done by stretching two lines to form an alley, of a width allowing of the operator to reach from side to side without much moving of the body, rooting out the grass as he advances, by the aid of a small, stiff bladed knife. A small, light basket is near the side to hold the weed, to be shifted along as the person advances. Children, boys or girls, if reliable can do the work as well as, or better than men.

Starting at one side of a lawn, shifting the lines to form a new alley as one is finished, placing the weeds in a heap to be burned when all is over, the task results in a permanent riddance of the Crab Grass. It is the only sure way when a lawn is full of this pest.—*Mechan in Florists' Exchange*.

### THE LARGEST SHADE TREE.

That the largest shade tree in the United States should turn out to be the Eastern sycamore is not surprising, say government foresters. The sycamore has long been regarded as the largest deciduous tree in North America, and its range of growth is hardly second to that of any other broad-leaf tree, for it can be found from Maine to Florida, and as far West as Kansas.

The bestowal of the prize on a sycamore at Worthington, Ind., which is 42 feet 3 inches in circumference and 150 feet tall, draws attention to the fact that foresters are nowadays recommending the species especially for city planting. They say that long experience with sycamores planted in city streets has shown that the species is peculiarly able to withstand the smoke, dust and gases which are usually an unavoidable complement of urban life. In addition, the sycamore is as resistant to attacks of insects and fungi as almost any species, and is a quick grower; at ten years of age a healthy sycamore usually is already large enough for shade as well as for decorative purposes. As for the latter, there is hardly any Eastern species which is generally held so picturesque as the sycamore. With its strikingly mottled bark and magnificent stature and conformation, the sycamore has a marked individuality and can not be mistaken for any other species, either in the summer when the foliage conceals its structural form, or in the winter when the leaves are absent.

A common objection to the sycamore as a lawn tree is its habit of dropping its leaves before autumn.

The contest brought forth photographs and authentic descriptions of 337 trees in all parts of the United States, making a distinctly valuable contribution to existing knowledge of native trees. It was found that, in all probability, there is no living elm larger than "The Great Elm" at Wethersfield, Conn., which is 28 feet in circumference and about 100 feet tall, and is estimated to be 250 years old. Many remarkable specimens of species which ordinarily attain only small sizes were unearthed by the contest, furnishing new records of maximum growth. A sassafras was brought to light at Horslam, Pa., which is 15 feet 10 inches in circumference at 4 feet from the ground, whereas, for example, not long before this a Georgia town claimed that it had the largest sassafras tree in the world, though this tree was only something over 7 feet in circumference. A white birch was found in Massachusetts with a girth of 12 feet 2 inches; a pean was found in Louisiana with a circumference of 19 feet 6 inches, and a catalpa in Arkansas with a girth of 16 feet. The tallest tree found is a yellow poplar in North Carolina, which is 198 feet high and has a circumference of 34 feet 6 inches.

## Of Interest to Estate Owners

The National Association of Gardeners maintains a Service Bureau which is at the disposal of all who may require the services of efficient gardeners in their various capacities.

The association seeks the co-operation of estate owners in its efforts to secure opportunities for those engaged in the profession of gardening who are seeking to advance themselves. It makes no charge for services rendered. It endeavors to supply men qualified to assume the responsibilities the position may call for.

Make your requirements known to

M. C. EBEL, Sec'y, National Association of Gardeners, Madison, N. J.

# NATIONAL ASSOCIATION OF GARDENERS

WILLIAM N. CRAIG, President,  
Brookline, Mass.

OFFICIAL COMMUNICATIONS

M. C. EBEL, Secretary,  
Madison, N. J.

## THE YEAR'S ESSAY CONTEST.

Attention is directed to the prizes offered by President Craig of twenty-five dollars as first prize, fifteen dollars as second prize and ten dollars as third prize, in gold, for the three best essays by assistant gardeners on any subject pertaining to any branch of horticulture. The contest is open to all assistant gardeners. Entries must be in by November 1. The essays are limited to 2,500 words.

The successful contestants will be announced at the annual convention in December. For further information address William H. Waite, Chairman, Committee on Essays and Horticultural Instruction, Box 290, Madison, N. J.

## MEMBERS IN ARREARS OF DUES.

Members in arrears of dues for more than one year are reminded of the amendment to the Constitution and By-Laws adopted at the last convention, in Boston, December, 1915, as follows:

Article III, Section I. The annual dues for active and associate members shall be two dollars a year. Due and payable January 1 of each year. Members in arrears of dues for more than one year shall be suspended and cannot be reinstated to good standing in the association until their indebtedness to it is paid.

The Executive Committee has decided to enforce this amendment on August 1 and to suspend all members in arrears for more than one year. Members in arrears kindly take note.

## NEW MEMBERS.

The following new members have been added to our roll: James S. Stephen, Mamaroneck, N. Y.; Sidney R. Wells, Eggertsville, N. Y.; Patrick J. Delaney, New York, N. Y.; Peter A. Keene, New York, N. Y.; Walter Troup, West Ridge, N. H.; Charles R. Williamson, Battle Creek, Mich.; David Schweizer, Brooklyn, N. Y.; Sydney Davies, South Natick, Mass.; James Stewart, Sewickley, Pa.; Alexander R. Mathison, Newton, Mass.; Sydney G. Ingram, Bryn Mawr, Pa.; E. Westergard, Lansdowne, Pa.; W. Watberton, Wakefield, Mass.; Fred H. Abraham, South Lancaster, Mass.; William Arbert, Great Neck, N. Y.

## MEMBERSHIP CAMPAIGN.

From time to time inquiries reach the secretary's office from gardeners located in somewhat isolated places respecting the National Association of Gardeners. The information furnished to inquiries usually results in new members.

Recently an inquiry came to hand from a gardener in charge of a well known estate located in a community inhabited by many active members of the association, saying that he had never heard of the N. A. G. until he wrote and was much interested to learn more about it. Information was furnished him and he is numbered among the new members listed this month. This instance shows that there is still much opportunity for a campaign for new members and that members may find candidates in their immediate vicinity.

## THE SERVICE BUREAU.

*"WANTED. A good all around gardener for inside and outside work, not to act as superintendent or to take charge, but to do as he is told to do by a young couple who wish to play with their place and not have some one else run it for them."*

The foregoing inquiry came to the Service Bureau but the want was not supplied by it. Fortunately these young people are possessed of considerable means and can afford to pay for experience, after which they will be more content to let the gardener manage. They have paid for the laying out of a "perpetual blooming spring, summer and fall flower garden" devised by a landscape architect, which produced such a conglomeration of color for spring and early summer that all interest has already been lost as to what it will bring forth in the fall.

## WHERE ARE THE VOLUNTEERS?

In the June number of the CHRONICLE an appeal was made for "boosters" to spread the doctrine of the National Association of Gardeners. So far few volunteers have responded and conscrip-

tion may have to be resorted to, to bring about the enrolment of every active member to serve his association whenever opportunity presents itself.

Seriously speaking, while the association is strong numerically, and solid financially, this alone will never make it the influential factor it should be in the world of ornamental horticulture, but it requires the whole-hearted support of each and every member to do his share towards developing his national organization.

By making it known that the National Association of Gardeners is founded to elevate the profession of gardening; to provide opportunity for those efficient as gardeners; to bring about the elimination of those not entitled to the calling of gardener; to encourage more and better gardening generally—we can secure the co-operation and support of those most vitally interested in seeing our projects realized—the owners of the country estates.

What suggestions can you offer as to the best and most practical methods to pursue to accomplish this?

## AMONG THE GARDENERS

James Aitchison, formerly of Mt. Kisco, has been appointed head gardener on the new estate of Charles M. Schwab, Loretta, Pa.

George Caterson, formerly employed on the Ward Estate, New Rochelle, N. Y., has accepted a position as gardener to A. C. Fraser, Ridgefield, Conn.

John I. Foxcroft, formerly of Farmington, Conn., has taken a position as head gardener on the estate of Mrs. F. W. Cheney, South Manchester, Conn.

Samuel Grigg, for some time past engaged on the Kissell Estate, Morristown, N. J., has secured the position of gardener to A. H. Scribner, Mt. Kisco, N. Y.

Sidney G. Comer, formerly with G. Warrington Curtis, Southampton, N. Y., has secured the position of superintendent on Mrs. Robert L. Stevens Estate, Bernardsville, N. J.

James MacDonald, formerly of the J. H. Ottley Estate, Glen Cove, N. Y., has succeeded George Dutton, who recently resigned as superintendent of the George F. Baker, Jr. Estate, Locust Valley, N. Y.

The sudden passing of William Tricker came as a severe shock to his many friends. Before entering the commercial field Mr. Tricker held several important positions as gardener in this country. He was well known in gardening circles.

William Plumb, who has been located in Cuba for the past two years laying out a large private estate, was recently commissioned to lay out the grounds for a new country home for President Menocal of Cuba at El Chico. Mr. Plumb intended to spend his vacation in New York this summer but had to forego his trip north owing to his new position.

## WANTED

An experienced nursery salesman, one thoroughly acquainted with the nursery business, accustomed to soliciting from private people; a good closer, able to close a sale when others can not do so. Must be actively engaged in the business at the present time. The Elizabeth Nursery Co., Elizabeth, N. J.

## WANTED

A competent assistant foreman, who thoroughly understands the nursery business and has had experience in this line, accustomed to waiting on private people, accurate in getting up orders, a good, thorough, active man who will take an interest in his work. The Elizabeth Nursery Co., Elizabeth, N. J.

# American Association of Park Superintendents

OFFICIAL COMMUNICATIONS.

EMIL T. MISCHÉ, President, Portland, Ore. R. W. COTTERILL, Sec.-Treas., Seattle, Washington.

## ASSOCIATION NOTES.

Now that our New Orleans convention date has been definitely set as October 10-11-12, it is to be hoped that all of our members are making their vacation plans so as to attend.

This will be the first convention of the Association to be held south of Washington, D. C., and it should prove a popular one as but few of the members have visited the South. The boat trip should prove popular for delegates from the New England and Atlantic States and a party will no doubt be organized.

The best feature of all, however, will be that we will have in attendance for the first time, park executives from a dozen or more cities of the South which have not heretofore been represented at our conventions and who no doubt will affiliate with our organization.

Altogether the New Orleans convention should be a banner one in the matter of attendance as well as from the standpoint of beneficial results to all concerned.

The Secretary will shortly send to every known park superintendent in the country an invitation to attend this convention, also a letter to every Park Board urging that executive people be sent.

We have about thirty members who have not sent in their dues for the current fiscal year. No doubt these members have it in mind to make payment at the convention, but it should be noted that our convention is two months later than usual this year and the fiscal year of the Association closes August 1, hence those who have not paid up by that time will show as delinquent in the secretary's annual report. If you are a delinquent, remit at once.

At last year's convention there was a great deal of talk about securing new members and the time has now arrived for action. Every member will within the next month receive from the Secretary, blank application forms and it remains to be seen whether they will be made use of. Just take the trouble to write or see some eligible park man and secure his signed application. There is no reason on earth why we should not have at least one hundred more members and the reason why we don't get them is because but few of our members interest themselves in the matter. We hear a great deal of talk about it on the convention floor and then it is apparently dropped as regards results.

One thing is certain and that is that the income from the present membership is not sufficient to permit of carrying our work on properly by the issuance of bulletins, etc.

This can be overcome by a sustaining membership of not less than three hundred and it is right up to our present membership as to whether we are to stand still or advance.

Dwight F. Davis, formerly Commissioner of Parks of St. Louis, is now president of the recently organized National Municipal Recreation Federation and Nelson Cunliffe of St. Louis, another of our members, is secretary-treasurer of the organization.

Its purpose is to bring about a more extensive use of public recreation grounds, by promoting inter-city golf and tennis tournaments as well as a more general indulgence in all forms of athletics. This is indeed a worthy purpose and a national organization of this kind will accomplish great good. Park men generally, should and no doubt will, give the new organization the support and encouragement it deserves.

## PRESIDENT'S REVIEW OF PARK REPORTS.

Muskogee, Oklahoma, is one of those thriving communities of the Middle South where push and public spirit are in evidence. Though small in size, she has shown considerable interest in park work. Many believe the Pacific Coast is the only rapidly advancing section of the country, but during the past decade the Southwest has held a position above the average. Another decade will doubtless witness a series of considerable sized cities in a very prosperous condition in the Middle West and Oklahoma may be expected to hold her own.

Rochester, N. Y., reports in detail abundant work in maintaining a high standard of upkeep. Repairs, replacements and intense park usage in everywhere a large concern of its administration.

An innovation is the lighting of tennis courts for the convenience of night users.

Much forestry work is continuously being prosecuted and, as might be surmised, with Rochester, with thoroughness.

Ninety band concerts were held and cost over \$15,000, a large appropriation for a city of Rochester's size. This city has perhaps done more proportionately than any other to elevate public music, as conducted in parks, and apparently finds it of high inductive value to the parks. Aquatic sports on the river are featured, and have become a notable affair in western New York.

During the year the city has joined the ranks of those having changed their charters, and insofar as parks are concerned, abolished the old board of commissioners in favor of a one-man head, but with this distinction—one worthy of particular note—Mr. A. B. Lamberton, who has served as a commissioner for many years and brought many of the park systems advantages into popular use and pioneered the entire movement to the stage of making Rochester parks one of the three conspicuous things in which every good citizen takes just pride. He was promptly appointed the new commissioner, and the latter reappointed Superintendent Laney and the balance of the staff.

It argues well for a fair test of the new form of government, and any merits it may possess should be brought out without retrogression.

New York report is mainly valuable in rehearsing the administration course necessary to protect and develop tracts that have reached the ultimate in use. When a property accommodates the maximum number of people it is fitted to serve, any additional tax put upon it immediately threatens to subvert its original uses; adjustments are sometimes made by acquiring new tracts, by extending or enlarging facilities, or by changes in sort or methods of control.

We note that all these means are being put into operation in New York to care for the past congestion; co-operation with city planning efforts is commended, requests for island lands now occupied by penal institutions are made a definite insistence, urged on looking ahead and planning for sites before the land is built upon.

New York parks are tolerably well protected against stupidity and perversion by changing offices as a consequence of a live, intelligent public opinion which frequently permits itself to be heard. This public consciousness does not delve deeply enough into the whole problem to demand solutions of troubles by studying the entire situation and forcing remedial steps to be applied by foresighted action. It contents itself rather by protecting what exists and trusts largely to the Board of Apportionment and the Borough Commissioners to develop more comprehensive schemes. The last New York report would indicate that the trust so placed has found warrant in the officers in charge.

As a whole, the New York situation is exceedingly complex and, in a measure, a law unto itself. It therefore offers a fine field for study of effects and trend and limits of possibilities. But its large problem is one of organization—the systematizing of the work, accounting for results, securing efficiency in operation and directing the particular work undertaken.

Individual items assume large proportions, as, for example, 400,000 sq. ft. of paved walks being laid in one season, expending about \$300,000 in three years for walk pavements.

In the Boroughs of Manhattan and Richmond alone there are 55 miles of asphalt walks, 3 of cement and 4 of gravel.

Placing musicians on the employers' roster rather than letting out concerts to bandmasters' bids has proven a betterment, ostensibly by overcoming that same objection found elsewhere, namely, the filling in the number of musicians by ill-qualified performers and making the work a trading proposition among musicians who lead small organizations and arrange exchange engagements among themselves.

Minneapolis now has 3,800 acres of park property costing at the time of acquisition five millions, to which almost three millions have been added for improvements, most of which was completed during Superintendent Wirth's term of office, and betterments still continue and acknowledgment made that extensions cannot be stopped until the city ceases to grow.

As a whole the work has been furthered with a commendable singleness of purpose during a period of many years.

Showing the trend of park uses is a suggestion of Superintendent Wirth to provide camping sites for automobile parties, furnishing wood, water and fireplaces. This as a city park is verily carrying the rural advantages of the country to Mohammet.

Another point made is the endorsement of a suggestion from the Bureau of Municipal Research to employ a publicity man. "Like a large, successful business house, we must advertise the

facilities and attractions of the parks, and, by so doing, induce the people to make more use of them and benefit themselves. This is a service well worth giving, and it should have the entire time and attention of a man experienced in publicity work."

The report is very attractively issued with numerous photo illustrations and several park plans inserted.

#### WARRENITE CONTROVERSY AT MINNEAPOLIS.

The Board of Park Commissioners of Minneapolis is at present in a controversy over the matter of infringing on the patent rights of Warren Bros., in connection with the proposed surfacing of several miles of lake shore drives with asphaltic concrete. As this type of pavement is coming into general use for park drives and boulevards all over the country, the outcome of this controversy will be watched with interest by park men in general.

Chicago park systems were involved in litigation over this same matter several years ago, that city having adopted asphaltic concrete as its standard for park drives, and the Warren Bros. Co. was unable to prevent its use. Supt. Theodore Wirth, of Minneapolis, has recently submitted to his Board a report on the subject which is so full of pertinent facts of vital interest to our members who are, or may be, constructing asphaltic concrete drives, that the secretary has secured a copy of the report and it is published in full herewith in lieu of the regular news items which may well be dispensed with in order to permit of the publication of this most interesting and important report. The report of Mr. Wirth is as follows:

June 7, 1916.

TO THE HONORABLE BOARD OF PARK COMMISSIONERS,  
City of Minneapolis.

Gentlemen:

At the meeting of your Honorable Board, held on April 28, 1916, the recommendation of the Improvement Committee to adopt the plans and specifications for the improvement of Lake Calhoun Boulevards and the South Bay Acquisition was adopted. The recommendations of the Improvement Committee are based on my reports dated March 29 and April 13, 1916. The last named report referred only to the pavement of the roadways, and my recommendation contained the following specifications:

Base Course—5-inch concrete, 1 part cement, 3 parts sand, 6 parts broken limestone.

Wearing surface of pavement to be asphaltic concrete 2 inches thick and composed of

Trap Rock or Granite $\frac{3}{8}$ -inch and under...	40% to 50%
Sand graded to least voids.....	30% to 40%
Powdered Limestone .....	8% to 12%
Asphaltic Cement .....	7% to 11%

The understanding at that meeting was that the Board might want to change the specifications regarding the asphaltic concrete surfacing. If for one reason or another it seemed advisable to do so. The Board, of course, always has the power to make such changes.

The Warren Brothers Company, through its representative, Mr. Frank G. Cutter, has informed the Board and me that the formula named in my specifications for the asphaltic concrete pavement, if carried out, would be an infringement on the pavement construction as covered by United States Letters Patent No. 727,505, owned by their Company. The Company has also submitted printed copies of different court decisions, in which the validity of the above named patent has been sustained.

The claim of The Warren Brothers Company is that the Board cannot lay a pavement as per formula adopted without interfering with their patent rights, and that the pavement should be constructed under contract, or the bituminous material used in the construction be brought from them, or that the Board should pay them a royalty per square yard, for which two latter considerations they would agree to furnish a certain amount of expert knowledge and supervision on the construction work.

I beg leave to state my personal opinion of and my attitude toward the claims of The Warren Brothers Company and their patent on their so-called Bitulithic Pavement. Their patent, even if held valid by some of the courts which have rendered decisions to that effect, is a gross infringement and affront to the personal liberty, intelligence, and efficiency of every road builder and the interests he represents. "Inherent stability" is and must be the aim of all road construction, and the meaning of that expression is almost beyond definite possible description, yet it is used in their patent claim as being a specifically defined characteristic feature of their pavement. The absence of voids is the other characteristic feature for which the patent makes its claim. All mixtures of a density showing less voids than twenty-one per cent, it is claimed, are covered by the Warren patent. In other words, in laying any kind of a bituminous pavement, the builder must be careful not to get too compact or dense a mixture (as essential as it is to do so for a good pavement), for as soon as his mixture shows less than 21% of voids he infringes on Patent No. 727,505.

It is my belief that the intent of the patent laws have been

grossly misapplied in granting a patent on such broad and untenable claims of first knowledge, experience and discovery, and that all the technical and legal language with which those claims are clothed and defended is not able to cover the fact that the purpose and intent of the patent and its enforcement is to collect remuneration for service not required, and for charging prices far above value where service is rendered.

The fact remains, however, that The Warren Brothers Company seems to intend to try to enforce their patent rights if the Board should decide to carry out the specifications adopted. It seems to me unwise to enter into litigation with the Company, especially so since their patent expires in March, 1920.

I have given this matter very careful consideration, and I have had friendly consultations with Mr. Frank C. Cutter, representing The Warren Brothers Company. There are to my mind four different propositions which the Board can consider in connection with this matter, and I wish to present them in the order of their value as they appear to be to me:

Proposition 1: Construct the concrete base for the present in such a manner as to make same serviceable for traffic and postpone the construction of the asphalt concrete surface until the base shows sufficient wear to call for surfacing. This plan I consider to be quite feasible, and may result in economy, as the wear on the base will not affect its stability, while the saving of the wear on the surfacing during that period is a distinct saving.

Proposition 2: Adopt for the present the City specifications as used at the present time. The City Engineer, Mr. Cappelen, and the Assistant Engineer, Mr. Dutton, seem to be satisfied that their specifications and method of construction are entirely satisfactory, and their experience and knowledge, which is of recognized high standing, is worthy of our consideration.

Proposition 3: Make, if possible, satisfactory arrangements with The Warren Brothers Company and adhere to our present specifications.

Proposition 4: Carry out our present specifications and meet such litigation as may result therefrom.

The entire question can be given all the time necessary for careful consideration without interfering with the timely execution of the two projects now under consideration.

Respectfully submitted,

THEODORE WIRTH, Superintendent.

#### PRUNING BUSH FRUITS.

BUSH fruits may be divided into two groups as regards their pruning requirements. Gooseberries and currants produce their fruit on wood that is more than one year old. In pruning it is the object to secure all lateral branches on wood that is older than one year. Since the fruit is borne on large buds or short spurs, care must be taken to retain these in any pruning. Many times these plants are unproductive because they make such a heavy growth of new wood each season that the fruit buds or spurs do not form on the older wood. During the summer they should be pinched back as indicated.

In the case of brambles, including the raspberry, red raspberry, black berry and dew berry, the fruit is borne on one-year-old wood. As soon as the cane has borne its crop of fruit its usefulness is ended and it may be removed at any time.

The number of stems should be regulated at this time and from five to six of the strongest shoots should be selected. The other shoots should be removed, so that the selected canes may develop properly.

The winter or late spring pruning should consist of heading back all of the laterals that have formed on the selected canes. These are cut back to 12 to 20-inch spurs, depending on the growth of the plant. This removes the weakest and poorest buds and is the cheapest and most effective method of thinning.

The time for doing this work varies with different growers, but it is a good practice to wait until the most severe winter weather is passed.

If the old canes were not removed in the summer they should be removed in the spring. For this work, either long handled shears or a grape hook will be necessary, for the work is made less disagreeable in this way. For the summer and spring pruning the pruning shears advised for use in orchards will also be found best adapted for this work.—*Southern Fruit Grower.*

## NATIONAL ASSOCIATIONS

### National Association of Gardeners.

M. C. Ebel, secretary, Madison, N. J.

### Society of American Florists and Ornamental Horticulturists.

John Young, secretary, 54 West 28th st., N. Y.

### American Carnation Society.

A. F. J. Bauer, secretary, Indianapolis, Ind.

### American Dahlia Society.

Joseph J. Lane, secretary, 11 West 32d st., N. Y.

### American Gladiolus Society.

Henry Yonell, secretary, Syracuse, N. Y.

### American Peony Society.

A. B. Saunders, secretary, Clinton, N. Y.

### American Rose Society.

B. Hammond, secretary, Fishkill, N. Y.

### American Sweet Pea Society.

H. A. Bunyard, secretary, 40 West 28th st., N. Y.

### Chrysanthemum Society of America.

Charles W. Johnson, secretary, Morgan Park, Ill.

### Women's Farm and Garden Association.

Miss Hilda Loinos, secretary, 600 Lexington ave., New York, N. Y.

## LOCAL SOCIETIES

### Bernardsville Horticultural Society.

W. G. Carter, secretary, Bernardsville, N. J.  
First Monday every month, Horticultural Hall, 7:30 p. m., Bernardsville, N. J.

### Boston Gardeners' and Florists' Club.

William N. Craig, secretary, Brookline, Mass.  
Third Tuesday every month, Horticultural Hall, Boston, Mass., 8 p. m.

### Cleveland Florists' Club.

Frank A. Friedley, secretary, 95 Shaw avenue, East Cleveland, Ohio.  
Second Monday every month, Hollenden Hotel, Cleveland, Ohio.

### Cincinnati Florists' Society.

Alex. Ostendorf, secretary, Cincinnati, Ohio.  
Second Wednesday every month, Jabez Elliott Flower Market.

### Connecticut Horticultural Society.

Alfred Dixon, secretary, Wethersfield, Conn.  
Second and fourth Fridays every month, County Building, Hartford, Conn., 8 p. m.

### Detroit Florists' Club.

R. H. Wells, secretary, 827 Canfield avenue, Detroit, Mich.  
Third Monday every month, Bemb Floral Hall.

### Dobbs Ferry Gardeners' Association.

Henry Kastberg, secretary, Dobbs Ferry, N. Y.  
Second and fourth Saturdays every month.

### Dutchess County Horticultural Society.

Theo. H. DeGross, secretary, Hyde Park, N. Y.  
Second Wednesday every month, Falkkill Bldg., Poughkeepsie, N. Y.

### Elberon Horticultural Society.

George Masson, secretary, Oakhurst, N. J.  
First Monday every month, Fire Hall, Elberon, N. J., 8 p. m.

### Essex County Florists' Club.

John Crossley, secretary, 37 Belleville avenue, Newark, N. J.  
Third Thursday every month, Kreuger Auditorium.

### Florists' and Gardeners' Club of Holyoke and Northampton, Mass.

James Whiting, secretary, Amherst, Mass.  
First Tuesday every month.

### Florists' and Gardeners' Club of Rhode Island.

William E. Chapell, secretary, 333 Branch avenue, Providence, R. I.  
Fourth Monday each month, Swartz Hall.

### Gardeners' and Florists' Club of Baltimore.

N. F. Flittin, secretary, Gwynn Falls Park, Sta. F, Baltimore, Md.  
Second and fourth Monday every month, Florist Exchange Hall.

### Gardeners and Florists of Ontario.

Geo. Douglas, secretary, 189 Merton street, Toronto, Canada.  
Third Tuesday every month, St. George's Hall.

### The Horticultural Society of New York.

Geo. V. Nash, secretary, Bronx Park, New York City.  
Monthly, irregular, May to October, New York Botanical Garden, Bronx Park, New York. November to April, American Museum of Natural History, 77th st. and Columbus ave., New York.

### Houston Florists' Club.

A. L. Perring, secretary, 4301 Fannin street, Houston, Texas.  
Meets first and third Monday, Chamber of Commerce Rooms.

### Lake Geneva Gardeners' and Foremen's Association.

Raymond Niles, secretary, Lake Geneva, Wis.  
First and third Tuesday every month, Oct. to April; first Tuesday every month, May to Sept., Horticultural Hall.

### Lenox Horticultural Society.

John Carman, secretary, Lenox, Mass.  
Second Wednesday every month.

### Los Angeles County Horticultural Society.

Hal. S. Kruckeberg, secretary, Los Angeles, Cal.  
First Tuesday every month.

### Massachusetts Horticultural Society.

William P. Rich, secretary, 300 Massachusetts avenue, Boston, Mass.

### Menlo Park Horticultural Society.

Percy Ellings, secretary, Menlo Park, Cal.  
Second Thursday each month.

### Minnesota State Florists' Association.

Gust. Malmquist, secretary, Fair Oaks, Minneapolis, Minn.  
Third Tuesday every month.

### Monmouth County Horticultural Society.

Harry Kettle, secretary, Fairhaven, N. J.  
Fourth Friday every month, Red Bank, N. J.

### Montreal Gardeners' and Florists' Club.

W. H. Horobin, secretary, 283 Marquette st.  
First Monday every month.

### Morris County Florists' and Gardeners' Society.

Edw. J. Reagan, secretary, Morristown, N. J.  
Second Wednesday every month, except July and August, 8 p. m., Madison, N. J.

### Nassau County Horticultural Society.

Henry Gibson, secretary, Roslyn, N. Y.  
Second Wednesday every month, Pembroke Hall, 7 p. m.

### New Bedford Horticultural Society.

Jeremiah M. Taber, secretary, New Bedford, Mass.  
First Monday every month.

### New Haven County Horticultural Society.

W. C. McIntosh, Secretary, 925 Howard avenue, New Haven, Conn.

### New Jersey Floricultural Society.

Geo. W. Strange, secretary, 216 Main street, Orange, N. J.  
Third Monday every month, Jr. O. W. A. M. Hall, 8 p. m.

### New London Horticultural Society.

John Humphrey, secretary, New London, Conn.  
Second Thursday every month, Municipal Bldg.

### New Orleans Horticultural Society.

C. R. Panter, secretary, 2320 Calhoun street, New Orleans, La.  
Third Thursday every month, Association of Commerce Bldg.

### Newport Horticultural Society.

Fred P. Webber, secretary, Melville Station, R. I.  
Second and fourth Tuesday every month.

### New York Florist Club.

John Young, secretary, 54 W. 28th street, New York.  
Second Monday every month, Grand Opera House.

### North Shore Horticultural Society.

Leon W. Carter, secretary, Manchester, Mass.  
First and third Fridays every month.

### North Shore Horticultural Society.

E. Bollinger, secretary, Lake Forest, Ill.  
First Friday every month, City Hall.

### North Westchester County Horticultural and Agricultural Society.

Thomas Shore, secretary, Katonah, N. Y.  
Third Thursday every month, except June to August, at 8 p. m.

### Oyster Bay Horticultural Society.

John Ingram, secretary, Oyster Bay, N. Y.  
Fourth Wednesday every month, Oyster Bay, N. Y., 7:30 p. m.

### Pacific Coast Horticultural Society.

W. A. Hofinghoff, secretary, 432 Phelan Bldg., San Francisco, Cal.  
First Saturday every month, Redmen's Bldg.

### Pasadena Horticultural Society.

Geo. B. Kennedy, secretary, Pasadena, Cal.  
First and fourth Friday every month.

### Paterson Floricultural Society.

Richard Buys, secretary, 207 17th ave., Paterson, N. J.  
First Tuesday every month, Y. M. C. A. Bldg., 8 p. m.

**Pennsylvania Horticultural Society.**  
David Rust, secretary, Broad and Locust  
sts., Philadelphia, Pa.  
Third Tuesday every month.

**People's Park Cottage Gardeners' Association.**  
John Ainscough, secretary, 4 Chestnut st.,  
Paterson, N. J.

First and last Friday every month, Work-  
ing Man's Institute, Paterson, N. J.

**Philadelphia Florists' Club.**  
David Rust, secretary, Broad and Locust  
sts., Philadelphia, Pa.  
First Tuesday every month, Horticultural  
Hall, 8 p. m.

**The Pittsburgh Florists' and Gardeners' Club.**  
H. P. Joslin, secretary, Ben Avon, Pa.  
First Tuesday every month, Fort Pitt  
Hotel.

**Reading, Pa., Florists' Association.**  
Fulman Lauch, Secretary, 123 South 5th  
street, Reading, Pa.  
First Thursday each month.

**Redlands (Cal.) Gardeners' Association.**  
Jas. McLaren, secretary, Box 31 R. F. D.  
No. 2, Redlands, Cal.

**Rhode Island Horticultural Society.**  
E. K. Thomas, secretary, Box 180, Kingston,  
R. I.  
Third Wednesday every month, Public  
Library, Providence, R. I.

**Rochester Florists' Association.**  
H. R. Stringer, secretary, 47 Stone street,  
Rochester, N. Y.  
Second Monday every month, 95 Main  
street, East.

**Shelter Island Horticultural and Agricultural Society.**  
First and third Thursdays every month.

**Southampton Horticultural Society.**  
Julius W. King, secretary, Southampton,  
N. Y.  
First Thursday every month, Oddfellows  
Hall.

**Tacoma Florists' Association.**  
F. H. Atehison, secretary, South 50th and  
East F street, Tacoma, Wash.  
Third Thursday, Maccabee Hall, 11th and  
C streets.

**Tarrytown Horticultural Society.**  
E. W. Neubrand, secretary, Tarrytown,  
N. Y.  
Third Wednesday each month except July  
and August. Annual meeting last Thurs-  
day in December.

**Texas State Horticultural Society.**  
G. H. Blackman, assistant secretary, College  
Station, Texas.

**Tuxedo Horticultural Society.**  
Thomas Wilson, secretary, Tuxedo Park,  
N. Y.  
First Wednesday every month.

**Washington, D. C., Florist Club.**  
J. L. Mayberry, secretary, Washington,  
D. C.  
First Monday every month.

**Westchester and Fairfield Horticultural Society.**  
J. B. McArdle, secretary, Greenwich, Conn.  
Second Friday every month, Hubbard's  
Hall, Greenwich, 8 p. m.

## GARDEN CLUBS

### International Garden Club.

Mrs. Charles Frederick Hoffman, President.  
Club House, Bartow Mansion, Pelham Bay  
Park, New York City.  
(Address all communications to Mrs. F.  
Hammett, Asst. Sec'y, Bartow Mansion.)

**The Garden Club of America.**  
Mrs. J. Willis Martin, president, "Edge-  
combe," Chestnut Hill, Philadelphia, Pa.

**The Albemarle Garden Club.**  
Mrs. Russell Bradford, secretary, Charlot-  
tesville, Va.  
Fourth Friday each month. Blue Ridge  
Club.

**The Garden Club of Alma, Mich.**  
Mrs. E. J. Lamb, secretary, 803 State street.  
Twice a month at members' residences.

**The Garden Club of Alleghany County, Pa.**  
Mrs. Finley Hall Lloyd, president, Sewick-  
ley, Pa.

**Amateur Garden Club of Baltimore, Md.**  
Miss Sarah S. Manly, secretary, The  
Walbert.

**The Garden Club of Ann Arbor, Mich.**  
Miss Annie Condon, secretary, 920 Uni-  
versity avenue.

**The Garden Club of Cleveland, Ohio.**  
Mrs. Geo. Seoville, secretary, 1453 E.  
Boulevard.

**The Garden Club of Cincinnati.**  
Mrs. Glendinning Groesbeck, secretary, East  
Walnut Hills, Cincinnati, Ohio.

**Garden Club of East Hampton, L. I.**  
Mrs. F. K. Holister, secretary, East Ham-  
pton, N. Y.

**The Park Garden Club, of Flushing, N. Y.**  
Mrs. John W. Paris, president,  
Flushing, N. Y.  
Second and fourth Mondays, members'  
homes.

**The Garden Club of Greenwich, Conn.**  
Mrs. Frederick Gotthold, secretary, Cos Cob,  
Conn.  
At members' residences.

**The Garden Club of Harford.**  
Mrs. John H. Buck, secretary, 17 Atwood  
st., Hartford, Conn.

**The Garden Club of Harford County, Md.**  
Mrs. Martin E. Ridgley, secretary, Benson  
P. O., Md.  
First and third Thursdays, April to  
December at members' residences.

**The Garden Club of Twenty.**  
Mrs. W. Irvine Keyser, secretary, Stevenon,  
Baltimore County, Md.

**The Gardeners of Mont. and Dela. Counties, Pa.**  
Miss Elizabeth D. Williams, secretary,  
Haverford, Pa.  
At members' residences.

**The Weeders' Club, Pa.**  
Miss Ellen Winsor, secretary, Haverford,  
Pa.  
First and third Wednesday at members'  
residences.

**The Garden Club of Illinois.**  
Mrs. Leverett Thompson, secretary, Lake  
Forest, Ill.

**The Larchmont Garden Club, N. Y.**  
Mrs. Edgar Park, secretary, Larchmont, N. Y.  
First Thursdays.

**The Garden Club of Lawrence, L. I.**  
Mrs. Thomas Lawrence, secretary, Law-  
rence, L. I.

**The Garden Club of Lenox, Mass.**  
Mrs. Francis C. Barlow, secretary, 47 E.  
64th street, New York.  
First and third Mondays, June to Octo-  
ber at Lenox.

**Lewiston and Auburn Gardeners' Union.**  
Mrs. George A. Whitney, secretary, Auburn,  
Me.

**The Garden Club of Litchfield, Conn.**  
Mrs. Henry S. Munroe, secretary, 501 W.  
120th street, New York.  
Second Friday, June to October at Litch-  
field.

**The Garden Club of Michigan.**  
Miss Sarah W. Hendrie, secretary, Grosse  
Pointe Farms, Mich.  
At members' homes. Two Spring and one  
Fall Shows.

**The Millbrook Garden Club, N. Y.**  
Mrs. Keyes Winter, secretary, 125 E. 78th  
street, New York.  
Meet at Millbrook, Dutchess County, N. Y.

**The Bedford Garden Club, N. Y.**  
Mrs. Benjamin W. Morris, secretary, Mt.  
Kisco, N. Y.

**The Garden Club of New Canaan, Conn.**  
Mrs. Francis H. Adriance, secretary, New  
Canaan, Conn.  
Second Wednesday each month.

**The Newport Garden Association, R. I.**  
Miss Dorothea G. Watts, secretary, New-  
port, R. I.  
Annual Meeting, August. Others when  
called. Five monthly summer shows.

**The Newport Garden Club.**  
Mrs. Chas. F. Hoffman, president, 620 Fifth  
avenue, New York.

**The Garden Club of New Rochelle, N. Y.**  
Mrs. Francis M. Walker, secretary, 22  
Petersville Road, New Rochelle, N. Y.  
Members' residences and Public Library  
Shows monthly, May to November.

**The Garden Club of Norfolk, Conn.**  
Philemon W. Johnson, secretary, Norfolk,  
Conn.  
Second Wednesday each month at Public  
Library.

**North Country Garden Club of Long Island.**  
Mrs. Edward Townsend, secretary, Oyster  
Bay, L. I.

**Garden Club of Philadelphia, Pa.**  
Miss Ernestine A. Goodman, secretary,  
Chestnut Hill.

**The Green Spring Valley Garden Club.**  
Mrs. Lawrence M. Miller, secretary, Roslyn,  
Md.

**The Garden Club of Princeton, N. J.**  
Mrs. Junius Spencer Morgan, secretary,  
Constitution Hill, Princeton, N. J.

**The Garden Club of Ridgefield, Conn.**

Mrs. Cass Gilbert, secretary, 42 E. 64th street, New York.  
Twice monthly at Ridgefield. Also exhibitions.

**The Ridgewood Garden Club, N. J.**

E. T. Sowter, secretary, Ridgewood, N. J.

**Rumsen (N. J.) Garden Club.**

Miss Alice Kneeland, secretary, Rumson, N. J.

**The Garden Club of Somerset Hills, N. J.**

Mrs. Geo. R. Mosle, secretary, Gladstone, N. J.

Second and fourth Thursdays, middle of April to November. August excepted.

**The Hardy Garden Club of Ruxton, Md.**

Mrs. R. E. L. George, secretary, Ruxton, Md.

**The Garden Club of Rye, N. Y.**

Mrs. Samuel Fuller, secretary, Rye, N. Y.  
First Tuesdays, April to October. Also special meetings and Flower Shows.

**The Shedowa Garden Club, New York.**

Miss Mary Young, secretary, Garden City, N. Y.

Second Wednesday each month at members' residences. Vegetable and flower shows, June and September. Correspondence with other clubs invited.

**The Short Hills Garden Club.**

Mrs. C. H. Stout, secretary, Short Hills, N. J.  
Monthly at Short Hills Club House during January and February.

**The Southampton Garden Club, New York.**

Twice a month in summer at Southampton, L. I.

**The Staten Island Garden Club, N. Y.**

Mrs. J. Harry Alexander, secretary, Rosebank, S. I.

**Garden Club of Summit.**

Mrs. Henry A. Truslow, secretary, Bedford Road, Summit, N. J.

**The Garden Club of Trenton, N. J.**

Miss Anne MacIvaine, secretary, Trenton, N. J.

Bi-monthly meetings at members' residences.

**The Garden Club of Illinois.**

Mrs. William G. Hibbard, Jr., secretary, Winnetke, Ill.

**The Garden Club of Orange and Dutchess County, New York.**

Mrs. Morris Rutherford, secretary, Warrick, Orange County, N. Y.

**The Ulster Garden Club.**

Miss Mary H. Haldane, secretary, The Huntington, Kingston, N. Y.

**Warrenton Garden Club, Virginia.**

Mrs. C. Shirley Carter, secretary, Warrenton, Va.

**Garden Club, Webster Groves, Mo.**

Caroline Chamberlin, secretary, 106 Plant ave., West Grove, Mo.

**HORTICULTURAL EVENTS**

**American Dahlia Society's Annual Show**, Engineering Building, 25 West 39th st., New York, N. Y., September 26-28.

**American Gladioli Society Show**, Boston, Mass., August 10-12.

**Horticultural Society of New York, Fall Exhibition**, American Museum of Natural History, November 9-12.

**Annual Chrysanthemum Show of the American Institute**, Engineering Building, 25 West 39th st., New York, N. Y., November 8-10.

**New London (Conn.) Horticultural Society, Chrysanthemum Show**, November 8-9.

**Newport, R. I., Mid-Summer Exhibition**, Newport Garden Club and Newport Horticultural Society, August 17-18-19.

**Oyster Bay (N. Y.) Horticultural Society, Dahlia Show**, August 3.

**Rhode Island Horticultural Society's Flower Show**, September 12-13 and November 14-15, Providence, R. I.

**Society American Florists and Ornamental Horticulturists**, annual convention, Houston, Texas, August 15-17.

**Southampton, L. I., 10th Annual Flower Show**, July 26-27, on the school ground.

**Tarrytown (N. Y.) Horticultural Society, Chrysanthemum Show** in Music Hall, Tarrytown, November 1-3.

**Westchester and Fairfield Horticultural Society, Fall Show**, Greenwich, Conn., October 31 and November 1.

**SHOW AT MAMARONECK, N. Y.**

The fifth annual summer exhibition of The Westchester and Fairfield Horticultural Society was held at Mamaroneck, June 16-17, in the Kindergarten and Town Hall. Despite the general lateness of the season, there was an exceptionally fine lot of flowers, fruits and vegetables, which reflected great credit on the exhibitors. The effective arrangement of the halls was due to the able management of Mr. Charles Adecock, under whose direction the exhibition was staged. A feature was the very fine collection of native wild flowers, staged by the school children. Three dinner table decorations were in evidence and five very good trade exhibits. Roses were not as plentiful as usual. Herbaceous stock and flowers cut from shrubs were fine, while the display of Peonies was very large and of extra quality. The judges were: Messrs. John Johnston, of Glen Cove, L. I.; Joseph Mooney, of Hastings, N. Y.; James Smith, of White Plains, N. Y., whose fair and impartial decisions met with universal favor. The awards follow:

George E. Baldwin & Co., orchid specialists, Mamaroneck, N. Y., special prize and certificate of merit for display of orchids. Julius Roehrs Company, Rutherford, N. J., special prize and certificate of merit for display of orchids. J. H. Troy, New Rochelle, N. Y., certificate of merit for exhibit of cut Roses. Arthur Peterson, New Rochelle, N. Y., special prize for display of potted evergreens and flowering shrubs. Thomas Skinner, florist, Mamaroneck, N. Y., special prize for display of bridal bouquets and commencement baskets. Joseph Stuart, Mamaroneck, N. Y., special prize for group of flowering and foliage plants: the exhibit was also awarded a cultural certificate. P. W. Popp was awarded special prizes for displays of Roses and herbaceous flowers.

The principal winners in the Rose Section were John Woodcock, of Ossining, N. Y.;

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P. W. Popp, Walter Robinson, Mamaroneck, N. Y.; William Smith, Port Chester, N. Y. In the hardy flower section, honors were shared by James Stuart, William Whitton, John Andrew, P. W. Popp, Fred Metzler, Thomas Aitcheson, Duncan McIntyre. Peony Class, prizes were shared by William Graham, P. W. Popp and John Orr. Sweet Peas, Thomas Aitcheson, James Stuart and Robert Grunnert; shrubs, James Stuart, G. D. Sullivan and John Orr. Specimen Orange tree—first, William Smith, Port Chester.

Flowering Plant Section: W. J. Sealey, James Stuart, Thomas Aitcheson. Honors in the Vegetable Section were divided by Edmund Lawrence, Saugatuck, Conn.; James Stuart, John Andrew, William Smith, Walter Robinson, William Graham, Robert Grunnert. Amateur Section: Louis Larivee and Miss Marion Waterbury were the principal winners. The society's prize for vase of flowers, arranged by a lady member of a garden club, was awarded to Mrs. Mortimer Flagg.

Table decorations: First, G. D. Sullivan; second, James Thigh; third, Neil MacInnes. P. W. POPP, Cor. Sec'y.

## NEW LONDON HORTICULTURAL SOCIETY.

The London Horticultural Society held its regular monthly gathering Thursday evening, June 15, in the Municipal building, State street.

President Miller presided. After reading of the minutes, by the secretary, of its previous meeting, President Miller moved that the society discontinue its meetings for the next three months. After considerable discussion of same among the members present it was voted to take a vacation for the months of July and August and resume its gathering again the second Thursday in September.

A very pleasing feature of the evening was the presentation of a very beautiful electric lamp, by the society, to its late secretary, John Humphrey. Mr. W. J. Morgan made the presentation on behalf of the members. Mr. Humphrey very feelingly expressed his thanks for same.

The subject for discussion was one of the papers submitted by the National Association of Gardeners, "Estate Management and the College Graduate," the same being read by the Rev. A. S. Bush, a member of the society. In the discussion that followed Mr. Bush's remarks, in which many members took part, it was the sense of the meeting that the practical ambitious man, equipped with college training, will make the best manager of any estate where good sound executive ability is needed to control men and give satisfaction to both master and employee. Votes of thanks were extended to Mr. Bush for his reading of the paper, also to the ladies who undertook to solicit subscriptions towards Mr. Humphrey's testimonial. One new member was elected for admission to the society. The president gave notice of the intending departure of Mr. Herbert Lickman, the society's librarian and corresponding secretary, expressing his regret that we should soon lose him from our midst. Mr. Lickman has been assistant to Mr. Stanley Jor-

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dan, of the Harkner Estate, for the past four years. Mr. Lickman intends returning to England. He was formerly employed at Combe House, Kingston-on-Thames, England.

STANLEY JORDAN,  
Secretary.

**LENOX HORTICULTURAL SOCIETY.**

There was a good number of members present at the monthly meeting of the above society, which was held June 14. An alteration in the schedule of the forthcoming show was adopted, Class 40, to read: Any bi-color, instead of any marbled or bottled. A paper entitled "Horticulture As a Profession from the Standpoint of the Gardener" was read and well discussed. In spite of an early date and a very late season, there is every promise of a good show on June 28 and 29. The Garden Club of America are making this the occasion of their visit to Lenox. Many valuable cups and prizes are offered for Sweet Peas, etc., and a special feature will be a non-competitive display of Orchids from A. N. Cooley, Esq., of Pittsfield, Mass. A large floor space has been reserved for this exhibit and those who saw Mr. Cooley's display at the last fall show and his first prize group at the New York spring show, should make a point of seeing this display. Mr. Cooley is constantly adding many new and rare varieties to his already extensive collection, and if not already so, it will not be long before it will take its place beside any private collection in the country.

J. H. F., Assistant Secretary.

**NASSAU COUNTY HORTICULTURAL SOCIETY.**

The regular meeting of the Nassau County Horticultural Society, which was held in Glen Cove on Wednesday evening, June 14, was very well attended. President James McDonald presided and two new members were elected. Secretary Gibson read a large number of letters offering prizes for our coming autumn exhibition. Our prize list is already a large one, and the schedules which the executive committee are now working on are sure to be very complete.

The exhibits of the evening were judged by Messrs. George Gilder, Joseph Adler and Thomas Twigg, and they awarded first prize to Harry Goodband for a vase of flowering shrub, and to James McCarthy for 12 pots of peas. It was decided to hold a Sweet Pea exhibition in July and the executive committee was instructed to draw up a schedule and to make full arrangements for same.

Mr. James De Vyner, entomologist of Mount Vernon, gave a lecture on "The Hickory Bark Beetle and the Means of Controlling Same." The lecture was full of practical information and proved to be very interesting and instructive. In connection with his talk, Mr. De Vyner exhibited some hickory wood which had been infested with the beetle, and also some specimens of the insect in its various stages of life, from the larvae to the adult. At the conclusion of the lecture, the lecturer was questioned at considerable length in regard to various points which he brought out.

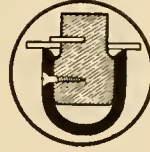
The essay received from the National Association of Gardeners was "The Preparation of Ground For, and General Treatment of Hardy Perennials," by H. E. Donnor, Massachusetts. The paper was ably written and was most favorably received by the members present.

JAMES McCARTHY,  
Corresponding Secretary.

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**NEW HAVEN (CONN.) HORTICULTURAL SOCIETY.**

At noon, June 26, the New Haven County Horticultural Society opened its annual Rose Show in the Public Library building in the City of New Haven. There were over two hundred vases of the choicest flowers shown. As you walked up the white marble steps to the entrance of the library you were flanked with fine plants, shrubs and flowering trees which lined the entrance way through the lobby into the main part of the building. In the commodious waiting room, on the main floor, were the tables. Among the exhibitors were the A. N. Pierson, Inc., of Cromwell, Conn.; the Park Department of the City of New Haven; the Elm City Nursery Co. Yale Botanical Gardens; J. Davenport Wheeler; W. E. Davis, Jr., John H. Slocombe, Alfred E. Doty, Murdock, C. Dingwall and Jno. W. Anderson. A. N. Pierson made a very extensive exhibit. Among the Roses shown were many of the newest. There were Primrose, Queen of Fragrance Panama, Francis Scott Key, Lady Alice Stanley, and many others. As a background to these, there were several large vases of the finest Roses with 3-foot stems.

There was great praise for W. E. Davis' exhibit. It was very neatly staged. There

were about half a hundred vases of the choicest Roses.

Alfred E. Doty, of Morris Cove, also had one of the best exhibits. He is a very careful grower.

The New Haven Park Department made a very fine exhibit. The Roses shown were especially good.

The exhibition remained open on Wednesday till 9 p. m. The attendance was very large.

W. C. Mel.

**TARRYTOWN, N. Y., SHOW.**

The June exhibition of roses, sweet peas and strawberries, given annually by the Tarrytown Horticultural Society, was held in the Y. M. C. A. building at Tarrytown, June 20. Because of the backwardness of the season and the inclement weather during the week preceding the show, the entries were not quite up to the usual standard. The exhibits of roses and strawberries



were fine, but sweet peas, owing to the heavy rains, fell short of their record of the previous year's show.

The principal exhibitors and winners were: The F. R. Pierson Co., of Tarrytown; Thomas Lee, gardener for Mrs. Carl Vietor; P. W. Popp, gardener for Mrs. H. Darlington; Abel Weeks, gardener for Mrs. S. Hermann; W. Jamieson, gardener for E. Berolzheimer; George McIntosh, gardener for Dr. C. C. Brace; Howard Nichols, gardener for Mrs. J. B. Trevor; John Orr, gardener for F. S. Wheeler; John Woodcock, gardener for Gen. E. A. McAlpin; W. Woodger, gardener for John D. Rockefeller; James Currie, gardener for Henry Sidenberg; Henry Fuchs, gardener for Mrs. E. Schwartz; Frank Heid, gardener for Col. Jacob Ruppert.

The judges were George Middleton, gardener for William Rockefeller; Arthur Griffin, superintendent for Samuel Untermeyer; Henry Kastberg, superintendent for the Misses Masters.

#### OYSTER BAY (N. Y.) HORTICULTURAL SOCIETY.

The regular monthly meeting of the above society was held in Fireman's Hall on Wednesday, June 28. There was a large attendance of members, and President Walker occupied the chair. The committee on the dance reported the same a great success. George Woolson, Archie Andrews, Adam McLeod, Frank Ryder, each offered petitions for membership. A letter from Commodore J. S. Blackton, offering a check for \$25 for prizes, and one from Mrs. Wm. R. Coe for \$20 was read. The feature of the evening was that one-half of A. T. Boddington's prize was competed for—for a table of Sweet Peas, 24 varieties. James Bell, Adam McLeod and George Woolson acted as judges. Their awards were as follows: H. L. Pratt (Henry Gaut, gardener) got first and James Duckham a close second. Vase Delphiniums, J. Frank Kyle. Vase Japanese Iris, J. T. Ingram, special mention. Sweet Peas, Henry Gaut, honorable mention. James Duthie read an essay, entitled "Hardy Herbaceous Perennials," by H. E. Downer, Massachusetts, which was greatly enjoyed by all present.

Exhibits for July: 24 String Beans; 6 Tomatoes; 12 Lima Beans.

JOHN T. INGRAM, Secy.

#### NASSAU COUNTY HORTICULTURAL SOCIETY ROSE SHOW.

The annual Rose Show of the Nassau County Horticultural Society was held at the Nassau Country Club, Glen Cove, on Thursday, June 16. Despite the lateness of the season there was a large and splendid display of roses, peonies, herbaceous flowers, annuals and vegetables, also some very pleasing and artistic decorative work.

Unfortunately the hybrid perpetual roses were not yet open on that date, so the rose section was comprised entirely of teas and hybrid-teas. Of these, however, there was a large assortment of the very finest quality, the newer varieties and novelties as well as the old favorites being well represented. The judges of the exhibition were Messrs. James Holloway, William Gray and George Ashworth. Ernest Westlake was manager.



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#### LENOX HORTICULTURAL SOCIETY.

The above society held their annual summer show June 28-29. The Town Hall was well filled with flowers, fruits and vegetables of very high quality. Sweet Peas were not so extensively shown as is usual at this show. Mr. E. Edwards, gardener to A. N. Cooley, Esq., Pittsfield, was first in the principal classes for Peas, winning among other prizes the Knight & Struck Cup. Annuals and perennials were well shown by Miss Kneeland and A. R. Shattuck, Esq.

A silver medal was awarded to Mr. Cooley for a magnificent group of Orchids, not for competition. There was a good attendance on both days.

The monthly meeting of the society was held July 12. This was Sweet Pea night and there was a good display of fine blooms. Mr. Wingett Allen Winden was placed first for the best 12 varieties. Mr. Cooley was given an Award of Merit for a fine vase of named varieties of Delphiniums.

The next meeting will be August 9.

J. H. F.



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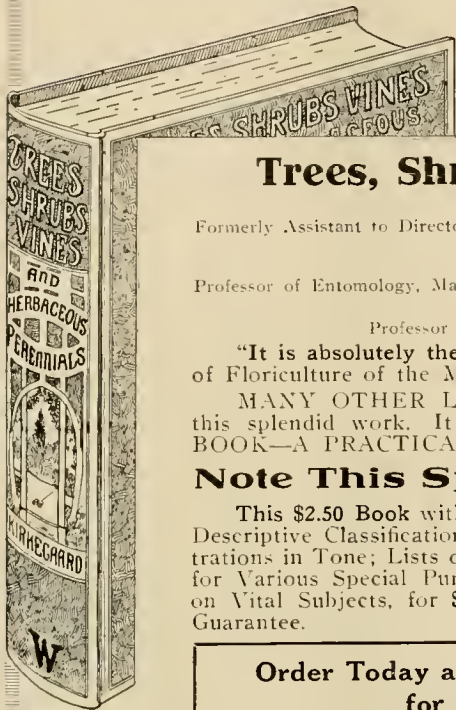
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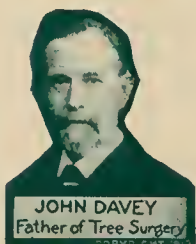
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# GARDENERS' CHRONICLE OF AMERICA

Devoted to the Science of Floriculture and Horticulture

Vol. XX.

AUGUST, 1916.

No. 8.

## *Things and Thoughts of the Garden*

By the Onlooker.

WHAT are the most difficult hardy plants to transplant? Which of our border flowers least like a change? Which of them rejoice to have a new location? Which of the herbaceous perennials ought we to put in their permanent quarters now? These are all questions that are of supreme interest. Among those that do not like to be disturbed any oftener than is actually necessary, say every three years or less, are the tall growing Delphiniums. The first year after a shift these are comparatively weak; thereafter they get stronger and flower better and longer. A second class of beautiful, hardy flowers that can scarcely be expected to do much the first year following a change of site are the Peonies. Much may be done by affording them some little feeding and keeping them watered should the weather be dry, but as they flower so early in the summer they have little time to get nourishment together for the flowers, and their thick roots must get established before we obtain the finest from the plants. Thirdly, the Dictamnus or Burning Bush, also called Gas Plant, because of the amount of gas that seems to be generated in and by the seed pods. When these pods are dry and ripe and are lit by a match a tall flame will shoot up and continue burning for many seconds. The Dictamnus likes to live long in one place. It is a plant we find in old gardens and colonies have been known to grow in sites for a generation. Fourthly, the Bleeding Heart. This is another of the almost universal favorites, but the best cannot be expected the first year after disturbing it or dividing it. Here, again, the roots are fleshy and, as with so many plants of this character, they flower early in the year, or which demand unlimited supplies of sap and strength, they take about a season to get fully re-established. Of course, the Bleeding Heart (*Dielytra spectabilis*) is a very free and often persistent bloomer, too. It prefers semi-shade to full sun. *Dicentra eximia*, growing nine inches to one foot tall, likes an open, sunny spot and will flower for weeks and weeks. It is a good plant for the rock garden. The list of plants that resent disturbance and show it could be considerably augmented were one to ponder the matter thoroughly. I have had poor success with *Tritomas* or *Kniphofias* after transplanting in the late spring. The Sea Hollies or *Eryngiums* cannot be disturbed with impunity, and so the list might be extended quite a way.

\* \* \*

Plants that ought to be transplanted in August—by mid-August, if possible—are the Oriental Poppies, and, be it noted, that there are some wonderfully fine shades in these now—soft salmon, rose, white, “art” shades in variety, as well as the old “glare of the garden,” scarlet,

which flaunts it over everything else and can only be put in a certain limited number of spots. Someone has described *Picea pungens glauca* as an exclamation spot on the lawn, an epithet we must all heartily endorse, and surely the old *papaver orientale* is the exclamation point of the flower border. In the old home garden of “The Onlooker” a big clump of this steel-gray, hairy-leaved flame-flowered favorite came up with seemingly irrepressible vigor year after year, right at the end of a medium broad border, at right angles to another border near the greenhouses. It was exceedingly telling while it flowered and could be seen for three hundred yards away in great style. As lads we used to delight to make Chinamen’s faces on the urn-shaped, crown-capped seed pods by gently slitting them with a penknife so that the milky juice or latex oozed out to form eyes and nose and mouth. This latex stiffens at once and soon turns black. Most conical faces can be made. It is, of course, the Opium Poppy, *papaver somniferum*, that yields the article of commerce by that name, so beloved of John Chinaman.

\* \* \*

Our Oriental Poppies are now at the stage when they may safely be transplanted and will form a basal tuft of leaves which persist through the winter and the plants get established again now before the end of the fall. They cannot possibly be removed in the spring after growth has made the least signs of a start. Their roots are watery and fleshy then; now, in August, they are fibrous and tough. Irises of the rhizomabous or fleshy-rooted section—the German-bearded Irises—also do well if divided up and transplanted as they are still making new feed roots, and these continue to ramify in the soil while it is warm and moist. In the cooler northern sections of the country, where heat spells and perhaps drought are not of usual occurrence, it would be best to break up and transplant the German Irises one week or two weeks after the flowering was passed. They like a porous, well-drained, fertile soil, and if a perceptible amount of calcareous material is in it or added to it, so much the better. Sometimes Irises are subject to a root disease on soils deficient in lime, and the Iris leaf blotch is a nasty pest also in many collections.

\* \* \*

One other genus that had better be treated now than at any other time is the Hellebores, the true Christmas Rose, which is *Helleborus vigor*, and the Lenten Lilies, which are varieties of *H. orientalis*. What a story could be written around these lowly, lovely plants! Not every one can see or appreciate the full beauty, but I think I related

some of their history and development in a previous number of the GARDENERS' CHRONICLE OF AMERICA, telling of the work of the late Peter Barr, the "Daffodil King," and of the late Dr. Robt. Hogg, the famous British pomologist. Both belonged to the Victorian school of floriculture, both were rugged Scotsmen with tender hearts for the flowers, "the stars of earth," and both loved the same line of special favorites—the Primroses, Polyanthus, Daffodils, Auriculas, Hellebores and others. Many a week-end visit was paid by one or the other to each other's collections. Barr was the commercial man, Hogg the scientific man and garden editor. N. S. Fardell, at Great Neck, L. I., has probably the best collection of Hellebores in this country, but Barr & Sons, King street, Covent Garden, London, Eng., have the most extensive variety of hybrids in pink, plum, purple, greenish primrose and spotted types. For culture in cold frames for mid-winter or where the frost can be warded off, the chaste white Christmas Rose surely deserves attention. The flowers of all of these must be dropped in water (left floating in it) immediately after they are cut. That is one detraction to their merits, but, like the Water Lilies, if the sepals are bent back or broken, they remain open.

\* \* \*

Should borders be planted in the fall or in the spring? Really, this is a serious and important question and a compromise arrangement is perhaps the best. By this I mean that both seasons are good, and as we have such precious little time for all the work of the spring, I favor getting the border thoroughly prepared in the fall, as early as possible—say by the second week in October or before—and plant the skeleton of it with the hardiest, most vigorous subjects and leaving the filling in with the others to be done almost the very moment the frost is out of the ground in April. Sometimes I wouldn't wait for all the frost to dissolve: turn up the ground and get your roots in. The cool, moist conditions of the early days following the twelfth to the fifteenth of April, which is our earliest possible dates in the lower New England States, are the best of all for the hardy plants that have to strike down root and get established before the first drought spell. Get them in, rub the soil cultivated, mulch the surface with two to three inches of fine manure and, if you haven't success, you ought to.

\* \* \*

Of course, it takes courage to clear off a border plot which may still be well filled with Dahlias, Chrysanthemums, the milk-white mugwort or Artemisia, the perennial Asters, Cosmos and Japanese Anemones, that are the chief glory of the garden until the end of October, but what else can we do if the garden must be replanted or rearranged? We can do nothing else. To delay is dangerous and may be fatal, although, indeed, the autumns seem to hang out nowadays away into what should be winter, and real winter only begins when we expect the first tokens of spring. Oh, those wretched, long-drawn-out American springs! Snow, snow, snow—endless snow! It melts—it comes again. The brown earth reappears, only to be covered with the winding sheet of snow. For the past three years I have planted hardy stock until the end of November, including, as well, a regular line of Dutch bulbs. The autumn, therefore, holds out inviting opportunities—opportunities that should be taken advantage of.

\* \* \*

We are in the sea of hardy plant gardening. We are only on the threshold of it in this country. In the British Islands, in Holland and in Germany, at least before the devastating, wrecking, bankrupt-making war, hardy gardening and hardy plant study have been carried to the stage of a science as well as a fine art. This is true literally. There they saw fine differences in plants,

selected these, cherished and named and propagated them, had them certified at the shows and vied with one another in the most proper cultivation and finest development of them. The man who succeeded with difficult races of plants or "nifty" plants was as an academician—one who was looked up to—as Sir Michael Foster with Iris Susiana and his tuberous varieties; George Yeld with his fine Day Lilies (these were not really "nifty," however); James Douglas with his New Zealand Forget-me-not (*Myosotidium nobile*); James Hudson with his Transvaal Daisy (*Gerbera Jamesoni*), which he wintered out of doors, and others who had the finest Ramondias, Saxifraga, gold-laced Polyanthus, and so on. The floricultural "schools" or, rather, schools of old-time florists, the Pansy growers of Ayrshire and Paisley, the Tulips of the Midlanders, the laced Pinks of both the northern and English growers, the remarkable race of Auriculas that Ben Simonite and his cronies had—the men who would rob their own bed of a blanket on a winter night and put it over the cold frame that their pet plants might pull through safely—these coteries we don't yet possess. But we are getting there. It is the age of specialization, and in America there are as good rosarians, as good tulip growers, as fine a line of Sweet Pea men, and probably as good a bunch of Dahlia cranks as anywhere in old Europe. Yes, when gardening and the true love of flowers get hold of a man or woman they don't leave him or her. They grow mellow under it. Their lines and minds are sweetened and enriched. Yes, "believe me." You rich men who chase the dollars; you ladies who gad around; you sporting people, automobile fiends, hangers on and others who don't very well know what to do next to kill time, get into the garden. Probably you are even a member of a garden club; you fly along the dusty roads in your fine cars, making the roads dustier still and killing the old woman's Dahlias and Phloxes by the side of the turnpike by the clouds of smothering "shoor" (Scotch for "dust in motion"), yet have you a garden of your own? Do you have heart to heart talks with your gardener, ever anxious to please? With all your opportunities to see other gardens, to visit the shows, and to help the nurseryman who has good stocks of the best and the latest, do you know plants, do you get down to the study of them, are you in accord with the tender spirit, beauty and loveliness of the garden? If not, you are losing much and by and by when your blood is running less lustily, when quieter joys will be sought, you will surely wish you had made of flowers a greater, a closer, a more intimate, companionable study. Get into it. Gardening and music, gardening and painting, gardening and reading—these are the lasting joys—they have been the solace of great men as well as poor men, all ages and in all lands.

\* \* \*

Luxurious plantings of any given subject insure the richest effect and probably, also, in most cases, the best effect. In a visit recently to the John Wanamaker estate at Wyncote, Pa., under the very able superintendence of John Dodds, there was seen probably half a mile of roadway walled on each side and having high banks behind the walls. Advantage had been taken to plant the Rambler or climbing roses just back of the coping all along, the varieties being Dorothy Perkins, Lady Gay, Newport Fairy, Excelsa, Crimson Rambler, White Dorothy Perkins and one or two others. Mainly the pinks and crimsons were employed. As the long, willowy shoots grow they are taken down the face of the wall and tied there to hooks or staples which were imbedded in the lime and cement. Each year the older wood is cut out and the new shoots laid in. The floral scenic effect of these draped walls in June can be better imagined than described. There were literally walls of flowers, a paradise of charm.

(Continued on page 348.)

# Planting the Alpine or Rock Garden

By George H. Chisholm, New York

GARDENERS generally denominate all plants Alpines that are of very humble growth and that require some protection during winter whether they are really natives of alpine situations or not. To these they add many species that are of difficult cultivation. In considering, therefore, the Alpine or rock garden we will suppose it to contain all such plants which, from their minute size, rarity, or difficulty of propagation or culture, are excluded from the other flower gardens, and look upon it as a garden of vegetable curiosities rather than as one in imitation of rocks and mountains, of which man at his best is but a puny imitator.

In the alpine garden a small pond or a large cistern should be made for those aquatic plants which are curious or minute, and, connecting, a small bog garden should also be made for the cultivation of many plants extremely beautiful in themselves, but which require a degree of humidity at their roots, not convenient to be applied by any other means. This beautiful and interesting assemblage of plants requires to be viewed closely before their



The stone steps have planted between them, *Arenaria montana*, *Dianthus superbus*, and *Sedum acre*, dotted each side at intervals with *Dianthus deltoides*, *Alyssum saxatile compactum*, *Saxifraga megasca*, *Sedum Aizoon*, etc., the empty spaces are filled with the annual Dwarf Crimson *Coreopsis*.



The stones are partly covered with *Veronica repens*, *Campanula Carpatica*, blue and white, *Iberis Gibraltarica*, *Aubretia deltoidea*, *arabis*, *Sedum Stolonifera*, etc., while *Cotoneaster horizontalis*, *Juniperus procumbens*, *Juniperus tamariscifolia*, *German Iris*, etc., help relieve the flat effect.

real beauties are discovered, and, therefore, the nearer they are brought to the eye of the observer the more readily their beauties are seen. Plants of such humble growth, and liable to so many accidents, are not in many cases fitted for the borders of the flower garden; neither are they found to succeed well if planted out.

In choosing the situation of the rock or Alpine garden, it is important that it is exposed to a free circulation of air and containing either naturally, or artificially, portions fully exposed to the sun, as well as others completely shaded. As regards the stone to be used, sand stone would perhaps be the best, but it is seldom that a choice can be made, and almost any kind of stone will do. The stone of the neighborhood should be adopted. for economy's sake, wherever the natural rock crops out; it is sheer waste to create artificial rockwork instead of embellishing that which naturally occurs, which was the case on Mr. J. F. Detmer's estate in Tarrytown, N. Y., where nothing was necessary but to clear the ground and add here and there a few loads of soil, with broken stones

to prevent evaporation, the natural crevices and crests being planted where possible.

Never let the rock garden appear as if it had been dumped out of a wagon. The rocks should have their bases buried in the ground. No vacuum should exist beneath the surface of the soil, or surface stones, and the broken stone should be so disposed that there are no hollows. Numerous Alpine plants have been destroyed from want of observing this precaution, the open crevices and loose soil allowing the dry air to destroy the plants in a short time.

The soil in which most Alpine plants will succeed is generally of the most primitive nature. A soil composed of half light sandy loam and half leaf mold will be found to suit nine-tenths of the plants entering into this species of garden. Manure seldom enters into the composition for growing Alpines; indeed, in general, it is injurious rather than beneficial. A pure air, exposed airy situation, which is kept cool during the excessive heat of summer



Introducing the taller growing plants such as *Veronica spicata*, *Archillea*, *Aquilegias*, etc., tapering with *Phlox sublata*, creeping wallflower, and *Pyrethrum aureum cristatum*.





Showing how *Saponaria ocymoides* will cover unsightly ground in a short space of time, and requires very little attention.

by the application of plenty of water, copiously given overhead to refresh them when the sun is off them, and to cool the surrounding air, seems the mode of cultivation most corresponding to their natures.

In cultivating a collection of choice Alpine plants, it is necessary, for the preservation of each species, that at least one plant or two should be kept in pots, as, when planted out upon the rocks, they are in danger of being overrun by their more rambling neighbors, or destroyed by excessive cold in winter. To prevent disappointment



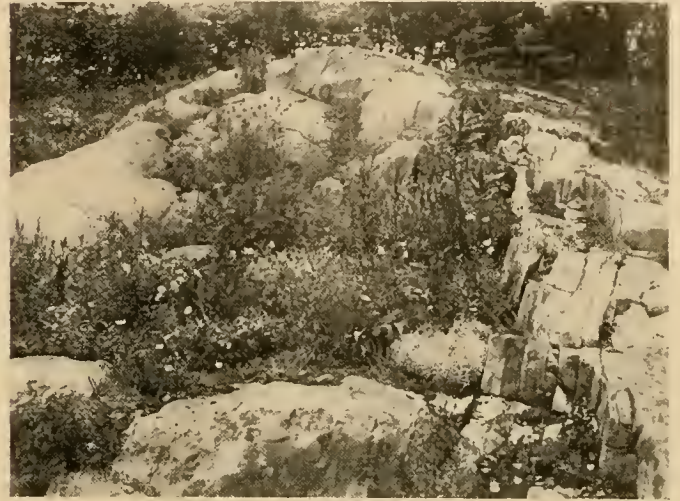
Showing *Phlox sublata* with *Sedum spectabile*, *Sedum Kamtschaticum*, *Sedum Middendorffianum*, with *Sempervivum* planted in the crevices.

and the loss of any valuable species, a collection should be kept in pots, which need not be larger in size, and a collection so kept has its beauties when arranged in a neat manner in the reserve rock garden upon a bed of finely sifted coal ashes, while during winter they ought to be plunged to the brim in the same material and covered with frames, etc., the intention of which is the preservation of the pots from expansion by frost as well as the preservation of the plants.

There are many shrubs and dwarf conifers useful for the planting on the rockery; particularly the stunted kinds of spruce, in addition to dwarf pines, various dwarf cypress, taxus and juniperus are useful. The dwarf rhododendrons may also be requisitioned, as they have

the advantage of relieving the bareness of the rockery during winter. When evergreens are planted on the rockwork, they should be planted while quite small, for tiny plants grow and fit themselves to the surroundings better than do larger and more mature specimens. Thus a tiny plant with a small root system may be planted in a small crevice between stones and succeed quite well, whereas a large plant placed in a similar position would probably prove a failure.

To secure a good stock of Alpines, seeds should be sown this month in a cold frame. The seed can be sown in drills from 4 to 6 inches apart and covered lightly. They will need to be kept moist and shaded until they begin



A bit of truly rugged rock effect richly set with the more conspicuous taller plants.

to come up; after the young seedlings are well up give them plenty of light and air, and some care as to watering, so as they do not become too wet or dry. When they are well out of the seed-leaf and have good roots they can be transplanted into other frames in rows about a foot apart, with 4 or 5 inches between the plants in the rows. They will have to be kept moist until they become well established, when they will start off into nice growth.

A rock garden properly arranged and well cared for is a source of much enjoyment and a continuation of surprises, from early spring until late fall. The making of



This glimpse of the natural rock with *Aubretias*, *Helianthemums*, *Erinus alpinus*, *Centaurea montana*, *Cerastium*, and *Portulacas*, etc., is typical of the example of rock gardening.

such a feature is not an easy task even for the professional gardener, especially if the rockery is of great extent. The details must be carefully mapped out before the plants are placed. The characteristics of each plant must also be considered with regard to the mature specimens, its season of bloom, its form and color, etc. It is necessary to provide for the planting of the small species of hardy bulbs, so that there will be no flowerless gaps between early spring and the blooming of the first rock plants. Then, too, ample space must be given each clump of plants to develop and the intermingled spaces between should be filled with dwarf annuals the first year or so.

Only those plants which are harmonious in the colorings of their flowers should be planted in proximity to each other. Color schemes in print are altogether orderly, logical and appear perfectly feasible, but when it comes to transferring them from book and paper to the soil, and reproducing these ideas in leaf and blossom—it's different. For instance, scarlet must not be planted near rose-purple, but scarlet and crimson blend with orange and yellow, while purple and blue merge into pale lavender and white. Much of the beauty of the rockery depends upon the informality of the plants. A natural arrangement is the aim, and to bring this into effect, avoid lines and forms, arranging the plants in informal masses of various sizes and shapes. Single plants should not, therefore, be scattered throughout the rockery (except "dwarf conifers"), as a mottled, unnatural effect will be produced by such promiscuous planting. Unless a careful selection of species and varieties is practiced flowerless gaps will result. The cheapness or fondness of certain species should not lead one to planting excessively of it, as a monotonous effect is likely to be produced.

As to the planting time, there is no better time than the present. On the J. F. Detmer Estate we have planted thousands of plants in the fall, and all have stood the winter without any covering, although we are situated on one of the highest and bleakest points in Westchester County (New York). Fall planting has been slow of acceptance, because it seemed foolish to begin planting when all the earth was preparing to rest. Spring seemed to be ever so much more seasonable time. Anyone giving attention to the structure of plants must realize what a severe shock and setback it is for the system of the plant to be dug up by the roots from the earth, shipped for a distance without necessary moisture and then transplanted in a new situation. After recovery from this experience the plant must immediately stretch forth its roots in search of food and begin the tremendous task of readjustment. It seems like heaping insult on injury to ask the plant to perform still another office for us, yet do we not expect it to grow apace and blossom forth in full glory the very same season. That is what spring planting demands. But if the planting is done in the fall there is a much better chance for the plant. It is not retarded just at the same time when its growth is quickening, but is dug up when the work for the year is drawing to a close and the plant system is preparing to make itself comfortable for the winter. If the plant is transferred at this season, it can make this adjustment in the new surroundings before cold weather sets in and thus be prepared with the first days of spring to put all its energy into new growth. There is no question of the superiority of fall planting in this respect; it gains for the planter an entire season, as the bloom the summer after fall planting will be abundant. So now is the time to get busy and plan for the reception of your rock and Alpine plants. The accompanying photographs taken on July 25 show the rugged rock effect, part of the natural stratification of the Detmer Estate. The rock and Alpine gardens are only one of the many features of this estate.

## THINGS AND THOUGHTS OF THE GARDEN

(Continued from page 345.)

ingly rich colors. It was what one sees in a gorgeous scene on the stage of a theatre, but scarcely hopes to find in the open air along the public highways.

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The first time I saw Dorothy Perkins used in a dependent fashion over walls was in Kew Gardens, London, where plantings had been made around the walls of the ornamental pond in front of the great Palm House. On the side on which the planting was made the wall was several feet deep, with the soil made up level behind and covered with a lawn. The curtain of pink blooms hanging over the gray of the cement and having the green grass foil behind was remarkable and pleased the many thousands of visitors daily while it lasted, a period of two weeks or more. The reproduction in the mirror of the water added to the general charm.

\* \* \*

Another way of using these rambler roses and other good climbing plants is to train them to trees in the open glades of woodland. Admitted the work is dubious of success often, and means very careful preparation of the soil at the base of the forest trees and constant feeding after, yet much pleasure and interest can be gotten. Yet even if such aristocrats as roses were not planted, there are other things—*Tecoma radicans*, Honeysuckle, *Clematis flammula*, Virginia Creeper. On trees that are not of much account or worthy of much care, yet which occupy a fairly prominent position in or near the residence, we can often let Clematic Jackmanii scramble, or the wild Clematis, too, and another excellent winter that will do well and furnish a breezy mass of silvery pink panicles in summer is *Polygonum Baldschuanicum*.

\* \* \*

Every time one sees a velvety green lawn, smooth, springy, closely mown, weedless and even, one wonders how it is gotten. Two words will answer the question, "Hard work"—even one word, "Attention." In each and every case the head gardener spends no end of pains upon this stretch of green sward you see. Here are some of the essentials: covering the lawn with an enriching and protecting light covering of clean (seedless) manure in the late fall; rolling and sweeping in the early spring, and summer; an early start at mowing, and constant, close mowing when growth is very active, letting it grow more freely when dryness is apparent or expected; attention to weeding; no weeds of any kind must be allowed for a moment; also sprinkling the lawn whenever the fresh greenness begins to lessen or the ground begins to get "cakey" or dry. On the other hand, if you don't fertilize, if you don't roll or weed or water or mow, or only do these moderately or intermittently; if you allow the grass to get ahead of you and become spear-like for a couple or three days the bottom will go out and you have seen the last of your velvety sward for that year. Worms are a plague; get rid of them by using corrosive sublimate. After all, a good lawn is as desirable as—even more so than—a fine flower border, for trees, shrubs and lawn can make a delightful place, but flowers alone could not.

\* \* \*

Those of you who are on the lookout for gems for the rock garden should get or try to get, *Mazus rugosus*, *Nierembergia rivularis*, *Nepeta Requiemi*, *Euonymus Kewensis*, *Acaena argentea*, *Corydalis lutea*, *Coboneaster horizontalis*, *Ehaliectrum minus adiantifolia*, *Viola cornuta caerulea*, *Dryas octopetala*, *Gypsophila repens*, *Ramondia pyrenaica*, *Iris punila* in variety, *Platycodon grandiflora*,—some for fall and some for spring planting.

# Seasonable Notes on Ornamental Climbers

It is not necessary to dwell upon the value of ornamental climbing plants as adjuncts to the house and garden; they are valuable not only on account of their intrinsic beauty, but also because of the possibility of employing them as beautiful and effective porch screens, and for their utility as a means of shutting off and covering unsightly objects.

If the best results are to be obtained it will be necessary thoroughly to prepare the ground before planting. If your soil is naturally good, all that is necessary will be to break it up to a depth of about eighteen inches, afterwards digging in three or four inches of well decayed manure.

The best time of the year to plant depends upon the kinds to be planted. As a general rule—referring to those vines of a perennial nature—the fall is the best time to plant the deciduous ones, and the spring for the evergreen kinds. Care should be taken when planting to make the soil firm around the roots of the plants, and watering must not be neglected until the plants are thoroughly established.

Another point to bear in mind is the necessity of selecting plants that are suited to the position assigned them. For instance, do not place a shade loving plant where it will receive full sunshine, or vice versa; neither should a rampant growing plant be placed where there is no room for it to attain its full development.

In the list of perennial plants following, their preferences for sun or shade will be indicated, also the nature and extent of their growth. This list must not be taken as being in any way an exhaustive one; it is merely an attempt to select a few of the more desirable subjects.

The Silver Vine (*Actinidia arguta*) is a native of Japan; it produces white flowers in early summer, but is most valuable for its beautiful, dark green, shining foliage. It is a vigorous grower, doing well in sun or partial shade, and is suitable for porch pillars.

Ampelopsis.—This genus contains perhaps the most valuable of all climbers for quickly covering walls of any kind, namely, *Ampelopsis Veitchii*, the Boston ivy; *Pseuderia quinquefolia*, the Virginia creeper, is also a well known and valuable plant; *A. Lowii* is a plant similar to the Boston ivy, but has more deeply cut leaves and is not such a vigorous grower. All of the *Ampelopsis* grow best in full sun, though they also thrive in partial shade.

The Dutchman's Pipe (*Aristolochia siphon*).—There is a rank and vigorous grower, suitable for covering arbors, or for any position where a mass of foliage is quickly desired. It produces its oddly shaped and rather inconspicuous flowers in May and June. It is not particular as to location, growing in sun or shade.

The Trumpet Vine (*Tecoma radicans*) is a desirable plant. The dark red flowers are produced in great abundance during the summer. It is rather slow growing and prefers a sunny position.

Clematis.—In order to get the various species and varieties of *Clematis* to give the best results, it is necessary to give a little extra care to their cultivation, especially in the case of the large flowered varieties. They prefer a rich deep sandy soil, which must be well drained, and it is advisable to incorporate a few handfuls of slaked

lime with the soil prior to planting. They succeed best in a semi-shaded situation. Some of the best of the large flowered kinds are: "Miss Bateman," white; "Duchess of Edinburgh," double white; "Jackmanni," royal purple; and "Mme. Edouard André," rich crimson. They flower in late spring and summer, and should be pruned back severely in the fall in order that they may produce strong young growth the following spring.

The Mountain Clematis (*Clematis montana*) produces immense quantities of white flowers in late spring. *C. montana rubens* is a red flowered variety. *C. paniculata*, the Japanese Virgin's Bower, flowers in July and August. *C. virginiana*, a beautiful native plant, blossoms from June to September. Very little pruning is needed in the case of these last mentioned varieties; all that is necessary is to cut out the weak and straggling wood.

The large flowered varieties of *Clematis* are admirably suited for the embellishment of porch pillars, while the other varieties mentioned, being of stronger growth, are better suited for covering arbors, etc., or for screening unsightly objects.

*Euonymus radicans* is an evergreen plant well adapted for covering low walls, to which it clings by means of adventitious roots. It has beautiful, dark green leaves and is a desirable plant, especially for shady situations. There are varieties having variegated foliage which are preferred by some people.

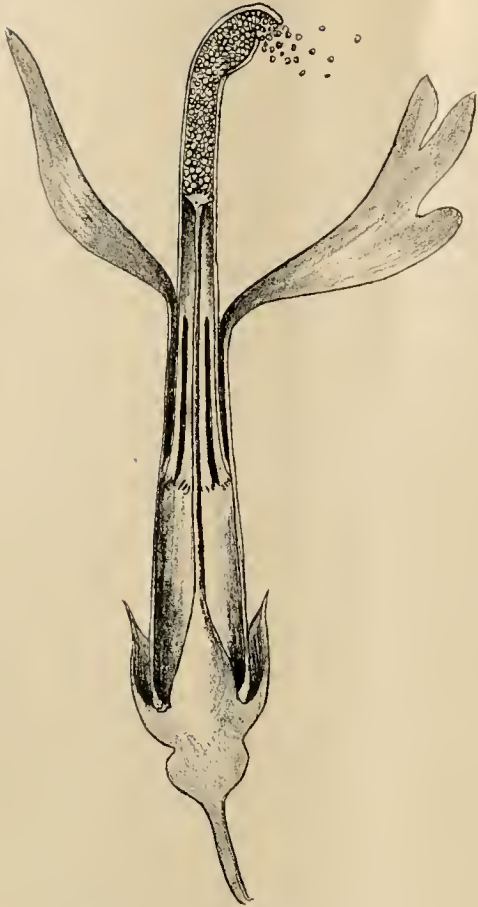
*Lathyrus latifolius* is the everlasting pea. It is herbaceous in character and grows from six to eight feet in height. It produces an abundance of blossoms in August. In the type plant the flowers are rosy red in color, but there is also a white variety. These plants prefer a sunny position.

Lonicera.—The honeysuckles are especially desired when a porch screen is desired, on account of the delicious fragrance emitted by them. *Lonicera Halleana* is perhaps the best for this purpose. It is of strong growth, almost evergreen, and produces an abundance of white flowers, changing to yellow, all through the summer. *L. sempervirens*, the coral trumpet, is not fragrant, but the scarlet flowers produced in spring and summer are very pleasing. The honeysuckles grow well in sun or partial shade.

The Kudzu Vine (*Pueraria Thunbergiana*).—When a particularly rampant growth is required this is the vine to plant. It is a remarkably rapid and vigorous grower and is not particular as to soil or location. It bears purple pea shaped blossoms in late summer.

"Crimson Glory Vine" (*Vitis Coignetiae*).—This vine produces wonderful effects in the fall by reason of the brilliant coloring taken on by its foliage. Perhaps it appears to best effect when allowed to ramble at will amongst the branches of an old tree. Its coloring is indescribably gorgeous, and it should be planted by those who have a partiality for "fall tints."

The Chinese Wistaria (*Wistaria sinensis*) is a plant well adapted for sunny situations, and produces its panicles of blue flowers in May or June. Sometimes a second crop is obtained in August. The Wistarias live to a great age and well repay liberal treatment in the matter of manure. They should be pruned in summer by cutting back the long, straggling shoots, unless it is desired to extend the plant; in this case, a few of the strongest shoots should be left for the purpose. *Wistaria multijuga* is the Japanese Wistaria, and is reputed to produce panicles of bloom three feet in length.—*Brooklyn Botanic Garden*.



Cardinal Flower (*Lobelia cardinalis*).

#### FLOWERS PUMPING AND EXPLODING.

EACH August for many a year I have watched for the coming of the cardinal flower (*Lobelia cardinalis*) and, knowing the family to which it belongs, and where it dwells by the river's brink, I believed that I knew the

flower itself, until one day last summer when I decided to examine its mechanism, writes Herbert W. Faulkner in "Guide to Nature." I was surprised at the "mystery" that it revealed, and that I can best describe by comparing the structure to a pump, whose cylinder is formed by the anthers united into a tube and whose piston is the stigma pushed forward by the growing style as the piston rod. The pollen is shed in the cylinder, is compressed there and is eager to escape.

When an insect drinks from the flower and backs out, he scrapes against a valve at the outer end of the tube, opens it and receives a charge of pollen on his back. We, too, can open the valve and see the pollen ooze out, and when we have set it all free, we see the stigma with its odd terminal rosette emerge and make ready for the touch of the pollen that must come from another flower. Other lobelias which I have examined prove to possess a similar apparatus to insure their cross-fertilization.

Many of the pulse family push their pollen at their insect guests, but none are more active in this way than the tick trefoil (*Desmodium nudiflorum*). The small, pink flowers grow in a loose spike and resemble a sweet pea blossom in form with hood, wings and keel. The pistil, stamens and pollen are all securely enclosed in the keel until an insect alights on it, when out they jump with a veritable explosion, the pollen flying in a cloud and dusting the astonished guest. The *Desmodium*, however, it not a magazine gun. One shot bursts it open and thereafter its pistil is exposed to receive the pollen from another plant. The sketches show a flower before and after the explosion.

The fringed orchids (*Habenaria*) treat their insect visitors as beasts of burden, clapping a package of pollen on their backs and gluing it there "for keeps." These pollen packages tied up in the form of clubs with adhesive handles lie exposed and waiting in little grooves or pockets close to the opening of the money wells where they will surely fasten themselves to the head or the eye of a thirsty insect.

In the first sketch, representing a section of a flower of the purple fringed orchis, is seen a pollen club being

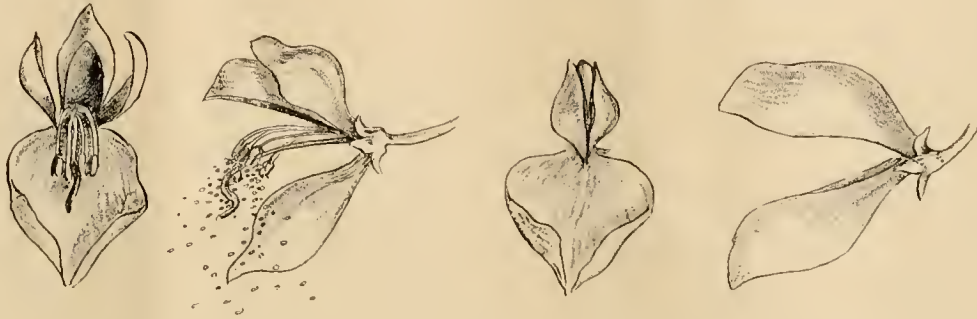


Purple Fringed Orchis (*Habenaria*).

withdrawn from its pocket by the head of a departing butterfly.

The second sketch shows a similar section of another flower where we see that the stigmatic surface is so low

first flower its slender stalk withers, its head droops forward and, carried to the second flower, it unfailingly strikes the stigmatic surface in the roof of the honey well, and the flower is fertilized.



Tick Trefoil (*Desmodium nudiflorum*).

and so far back that the pollen club, erect upon the butterfly's head, could never strike the mark. But nature so plans that as soon as the pollen club is withdrawn from the

The third sketch shows the front view of the flower of the orchis with pollen clubs lying in their pockets above the honey well.

## Some Peculiarities of Plant Life

W. C. Egan, Illinois

I HAVE often wondered if plants were endowed with instinct. We all know that instinct is an impulse to act without a preliminary reasoning as to why the act should be performed. Plants often act in this manner and why should we not attribute it to instinct?

Darwin experimented with a vine grown in a pot. The vine had reached some six inches higher than a stake which supported it and was wandering aimlessly around. He placed the pot within a few inches of a string fastened perpendicularly reaching higher than the vine. The following morning he found that it had reached over and entwined itself around the string. He unloosened it and placed it at the opposite side and the vine soon found it as before. How did the vine know where to find the string? Was it instinct?

Why do the runners of a strawberry plant extend quite a distance from its parent before they root at the tips unless it is to get into unoccupied soil and thus have ample food? Something akin to instinct must prompt it.

Some years ago I had a *Paulownia imperialis* in an individual hole some eight feet away from a well enriched flower bed. It remained there probably five years when I took it up. I had noticed a mass of feeding roots in the flower bed and presumed it came from the *Paulownia*, but as the roots of a tree in an open situation generally radiate from the main trunk like the spokes of a wheel and extend as far as the branches overhead, it would make the root system of this tree fully sixteen feet in diameter, entirely too large for the size of this tree. The puzzle was soon solved. The hole in which the tree was planted was about three feet in diameter, hardly large enough for a single perennial, but I did not know better then and none of the roots reached the outer edge when planted, nor were any of them more than three-quarters of an inch in diameter. When I took up the tree I found that none of the roots but one had gone beyond the original hole more than five or six inches and had not increased in size to more than an

inch thick. The one exception was a root originally pointing towards the mine of rich food, the flower bed, which had run directly towards it and upon reaching its borders had spread its fan-shaped system of feeding roots all through the bed. This root had forced itself through six and a half feet of hard clay loam in order to reach a rich foraging ground and was as thick as my arm at its base. The root had to enlarge its carrying capacity in order to convey the great supply of food its feeding roots were giving it. It was in fact the main source of food. How did this tree know of that mine of food eight feet away and what caused it to push forward to it? It must have stunted the downward flow of sap to the other roots and pushed this one on rapidly so as to reach the feeding ground.

A plant bent over permanently will soon turn up its tips and side branches. It seems to know that the full effect of sunlight on all its foliage is necessary in order to prepare its sap for assimilation. How does it know it, and knowing it what prompts it to act? It may be called a law of nature. So it is. Instinct is one of the laws of nature. The law of nature causes a duckling to take to the water. We call it instinct.

I mentioned the fact that the *Paulownia* had forced one root over six feet through a hard clay loam, encountering hard obstacles such as stones, etc. We marvel at this when we consider that the terminal point of a root is slender and pliable. The feeding roots are mainly of annual duration and are slim and hairlike. The roots we see when a tree is taken up are mainly bark-covered channels through which the sap gathered by the feeding roots is conveyed to the tree. The extended growth of a branch or root is caused by the growth—by multiplication—of the cellular tissues. New cells are produced and the new growth thus extended. The power pushing this new growth forward is mysterious but effective. It is said that a mushroom that may be crushed under one's foot has a power during its growth to lift a flagstone. This mysterious growing power is constantly pushing the tips of the root through the soil, but so slowly and

subtle in its progress that it does not bend or break. What of the tender point that has to battle with the hard soil and encounter flinty rocks? Surely these would soon be worn off and disabled. Nature takes care of this. These points all wear thimbles. The Lord made thimbles before man did and the trees wore them before woman did. She wears them to protect her fingers, the tree to protect its toes. These protective thimbles, or caps, are composed of "older and less delicate cells, which slough off and become slimy as they are pushed ahead of the elongating tip." They are not set on loosely like my lady's thimble, but are attached firmly to the point of the root they protect. The new growth—the multiplication of cells—takes place at the junction of root and thimble, and not only extends the root, but forms new cells on the under side of the thimble. As the outer cells are worn off the next layer takes their place.

We all know that the sap ascends the tree mainly in the spring and early summer and is distributed among the leaves which are the fireless cookers that prepare it for the tree's assimilation. This sap is composed mainly of the mineral elements obtained in the earth, held chiefly in mechanical solution in water. It is unfit for plant food until acted upon by sun and air. The numerous leaves of deciduous trees are flat so as to give a greater "cooking" surface. Here most of the water evaporates and the food prepared in the leaves passes downwards, depositing new layers of growth to trunk, branch and root, and furnishing food for the increase of cellular tissue that extends branch and root. Some shrubs are so constructed by nature that they will grow in shade and assume the normal form of their kind, but those that do best in the sun, and also will grow in open shade, assume, in shade, a different form than when in the sun. The witch-hazel, for instance, when in shade assumes a spreading, umbrella-like shape. It must have some light to act upon its sap so it spreads out its branches laterally so that every leaf has an upper surface fully exposed. Did instinct cause this?

You know that when we cut back the branches of a tree or shrub it breaks out with new branches further back and thus becomes bushy. You also know that when a tree is slowly dying it becomes thin at the top, often sprouts at the base and sometimes makes new growth on the trunk near the lower branches. The reason is that it is too weak to pump the sap up to the top and as a consequence the tree "breaks out" lower down.

Now, all leaves, flowers and branches start from a bud. We did not see any buds where these branches came from, still they were there, dormant but hidden. Nature insures against accidents and these obscure buds are the paid premiums that force out a renewed verdure.

Where the descending sap is building up all parts of the tree it also forms what are sometimes called "adventitious buds." They are not fully formed buds but "points" of active life which will perform the functions of true buds if called upon to act. They are distributed along the trunk and branches. These embryonic points of life may remain dormant many years and not act unless required.

A tree often prunes itself and sets us a good example of how neatly the job may be done. Sometimes the quantity of sap taken up into a tree is greater than the foliage can take care of. It then calls upon its adventitious buds for relief and new shoots are soon formed. These are called sap shoots or water shoots. Sometimes they remain, but more often the tree casts

them off—prunes them—when the proper balance between the flow of sap and leaf surface is obtained. I said casts off, shoves off would be better, for they are really shoved off. The tree rids itself of them in the same manner it casts off its foliage in the fall when it has no more use for it. It forms a corky substance or growth between the stem of the leaf, or base of the sap shoot, and the branches or trunk, that as it thickens in growth it shoves off the leaf, or sap shoot, leaving no perceptible scar. As soon as a branch dies it receives no more of the prepared food. At its base a ring of new growth takes place, which tightens in on the dead branch as the growth proceeds until it finally chokes it off and in time covers up the opening.

Vines are set in their ways. Some twine from right to left and seldom can be made to go the other way. Others reverse the proceedings and twine from left to right. The tendrils of the grape, the gourds and many others are provided with a spiral spring that relieves the tension when the winds sway the vine thus reducing chances of breakage.

Many plants possess odd and interesting features. One would hardly look for a perennial that would produce a volatile gas that may be ignited and have it flame up its flower spike and do no damage to the flowers—a flame two to three inches long running upwards with a hissing sound. Still we have it in the *Dictamnus alba*, the *Fraxinella* or Gas Plant.

Many have seen the showy vines of the *Bougainvillea glabra* that does so well in Florida and southern California, but how many can tell the colors of the flowers? I had a plant of the variety *Sanderiana* in a tub and had lots of fun in asking visitors to name the color of its flowers. Nearly all called it some shade of red and were surprised when I showed them the small yellow flowers that were surrounded by the brilliantly colored cordate-ovate bracts which are the attractions of the bloom. These bracts bear the same relation to the true flower that the yellow ray-florets of the sunflower do to it.

#### A HARDY ENGLISH WALNUT

FOR many years the English walnut has been cultivated with more than ordinary success in California, but only very recently has a sufficiently hardy variety been found to withstand the severe winters of the northern, eastern, and southeastern states. So profitable has the culture of the English walnut in the eastern and northern states become, that owners of farms and suburban tracts are beginning to set out large orchards, in preparation for the immense demand that is already being shown for this most edible of all nuts.

As to planting and cultivating, English walnut trees seem to require no particular soil, but should not be set out where it is low and wet. In planting on the lawn the ground about the base of the trees should be kept spaded for three feet in circumference, and after the first year some well-rotted manure should be worked into the soil around the tree. No cultivating should be done after the first of August, as it would encourage further growth, and from then until winter the annual growth of wood is ripening and hardening.

No more beautiful shade tree is known than the English walnut. It makes comparatively no litter, has a pure white bark, very closely resembling that of the white birch, and bears a heavy foliage with a rich, glossy leaf. The trees are almost immune from insect pests, a certain alkali sap which they possess serving to drive away the parasites which are so ruinous to other trees.—*Tree Talk*.

## BEGONIA ALICE MANNING.

THE begonia Alice Manning is extensively grown by Kenneth McLean, head gardener to John I. Kane, Bar Harbor, Maine, and he finds this variety to be extremely valuable as a basket plant, flowering for many weeks. The color is of a charming shade of primrose, flowers are double, the plants blooming profusely for about



*Begonia Alice Manning.*

six weeks. He also grows the varieties *alba phena* and *Golden Showers*. Bulbs started late in February bloom in June and, if starting them until April 15, a succession of bloom can be had until September. These plants are found very useful for piazza or porch decorations. Treatment is the same as that given other tuberous begonias and gloxinias.

## CLARKIAS FOR GARDEN AND GREENHOUSE

AMONG hardy annuals there are few more beautiful and useful than the varieties of *Clarkia elegans*, of which there are now some particularly good colors obtainable. For sowing in the open garden during April where the plants are intended to flower these Clarkias are ideal, their tall yet graceful habit and the delicately-poised flowers creating bright and pleasing effects in mixed borders, large beds, or, indeed, in almost any position that is not densely shaded by overhanging trees. In common with other hardy annuals, it is essential that the seed be sown very thinly, and when the seedlings are well up they must be thinned to 9 inches or 12 inches apart to allow the plants to develop their natural branching habit. As cut flowers these Clarkias are exceedingly pretty, possessing the merit of lasting well and lending themselves to artistic arrangement, this latter feature being well shown in accompanying colored plate.

For early spring decoration of the conservatory nothing is more telling than well-grown plants of this and several other varieties. For this purpose the seeds should be sown in September and the seedlings grown under quite cold treatment, just preserving the plants from frost and keeping them as near the glass as possible to encourage sturdy growth. The seedlings should be potted on and pinched back two or three times to insure nice bushy plants. *Scarlet Beauty* is perhaps the brightest coloring of all, and with winter pot culture the color comes a beautiful rich salmon pink, resembling the color of *Sweet Pea Earl Spencer*. *Double Delicate Pink*, *Double Salmon*, *Double White* and *Firefly* (a bright rose crimson) are also well worthy of cultivation, both in pots and in the open border..

## Hardy Phlox for Border and Color Effect

AMONG the great variety of perennial flowering plants for border effects and color grouping, the phlox may well lay claim to a high position. Their vigor, upright, compact habit of growth, immense panicles of flowers, and long period of bloom make them a great asset. The colors of the flowers are rich and varied, comprising white, pink, rose, salmon, orange, scarlet, crimson, lilac, lavender, mauve, purple, and violet. Phlox are among the earliest plants to appear in the spring and the last to die down in the fall. A period of continuous bloom from July to October may be secured by planting a succession of varieties and by cutting away the first trusses, others being produced later.

The present-day phlox are chiefly of hybrid origin. They belong to the family Polemoniaceae and are close relatives to *Gilia* and *Polemonium*. *Phlox paniculata* (*decussata*) and *P. maculata* were the parents of most of the highly developed varieties of today. *Phlox paniculata* is an erect plant growing to a height of two to four feet, with pink-purple flowers varying to white. *Phlox maculata* is a somewhat more slender and a more dwarf plant with spotted stems and pink-purple flowers. Both of these species are indigenous to the United States, but up to 1850 they were seldom cultivated. At that time improvement was begun, and by 1885 varieties of such high merit had been produced that it seemed that a stage had been reached which would be difficult to surpass.

However, this opinion was soon dispelled as the phlox shortly demonstrated that its powers of variation and improvement were not yet exhausted. The chief advancement up to thirty years ago was the development in the size and shape of the flowers, while improvement of color was overlooked. At that time there was a superabundance of varieties with pink, purplish, and slate-colored flowers, with or without deeper coloring at the center. Later, bright reds made their appearance, followed by orange-scarlets of dazzling brilliancy, and in due course the rich purples and deep violet-blues were obtained. At present the late-flowering kinds are being ignored, which is to be deplored, for although they have smaller flowers, the panicles are denser and more pyramidal. The quality of lateness is worthy of crossing with the finest strains so as to extend the season and thus make the plant play its part to the fullest extent. Recently a remarkable strain was obtained in England as a result of a cross between *P. paniculata* and a hybrid form secured from a cross between *P. canadensis* and *P. Laphamii*. These two are early-flowering plants, ten to eighteen inches in height, with small panicles of bluish fragrant flowers. The new strain, *P. Arendsii*, is a vigorous grower of branching habit, with flowers varying in color from white to rose and pale violet. It attains a height of two feet and produces a succession of bloom from May to July.

Of the various species of hardy phlox, one that de-

serves especial mention is *Phlox subulata* (moss or mountain pink). This dwarf species is suitable for low borders and rockeries, forming a mat of pretty moss-like foliage over the surface of the ground. The plant is a very profuse bloomer, producing a great mass of pink or blue flowers, which hide the foliage completely. It blooms early in May and is exceedingly hardy. Hard frosts rarely cause any injury, although it is not unusual for patches to die away in winter when the weather is mild and damp.

*Phlox* may be propagated by seeds, cuttings, or division. The hybrid *phlox* will not breed true from seed, but it is found that about forty per cent. of the seedlings will be as good as the parents. In order to secure the best results with seed, cross pollination is necessary. The seed should be sown in February in moderate temperature, and as soon as the seedlings are large enough to handle, they should be placed singly in 2½-inch pots and grown in cold-frames or a greenhouse. The new plants should be set out early in the spring, allowing two to two and one-half feet between plants. In this manner it is possible to secure bloom the first season from seed.

To perpetuate varieties of especial merit propagation by cuttings is resorted to. Cuttings may be taken in the fall from flowering stems which had been previously cut back immediately after flowering. Cuttings two to three inches long should be selected, preferably with a heel, and rooted in sand in a shady cold-frame. They should then be potted in light sandy loam and kept in the cold-frame over winter with a protection of sash and straw. Early in the spring these young plants should be set out similarly to seedlings, or placed in a nursery row until they have attained sufficient size for permanent planting. Another method employed where greenhouse facilities are available is to take up old plants from the garden in December, pot them, and force growth. Good strong cuttings may then be obtained in March, which are rooted and potted in the usual manner.

The most common and easiest method of propagation to be employed by amateurs consists of taking up the plants in the fall or spring and dividing the clumps with a spade or knife. *Phlox* increase by underground stolons growing outward, and it is these young vigorous shoots on the outside which produce best plants. The newly divided plants should be set out at once. With the dwarf and creeping species (*P. subulata*), large plants may be converted into numerous small ones by shaking some light soil among them in the summer and then dividing in the fall, when the trailing branches will be found to have rooted.

The garden culture of *phlox* is very simple. As they are gross feeders, the soil should be worked up to a depth of eighteen inches to two feet and well enriched with well-rotted manure. The manure is especially necessary in light sandy soil to conserve moisture. It should be used sparingly in stiff heavy soil, however, in view of a prevalent spot disease caused by a fungus, *Cercospora phlogina*. The disease is characterized by circular brown spots on the foliage, which on the upper surface show a dark brown border. The distance of planting should vary from two to three feet, depending upon the effects desired. For color grouping clumps may be set two feet apart without being overcrowded. *Phlox* suffer in hot weather because of their tendency to form roots at the surface. To avoid this, mulching with well-decayed cow manure should be resorted to in June. Moderate shade is also beneficial during the hot part of the day, so that an eastern or western border is preferable to one facing south. For the best results *phlox* should be divided every three or four years.—*From Missouri Botanical Garden Bulletin.*

## ROSE NELLIE PARKER

THE *Rose Nellie Parker*, which was awarded a gold medal by the National Rose Society (Great Britain), is one of the 1916 rose novelties introduced in this country by Charles H. Totty. It is a beautiful hybrid tea rose brought out by Hugh Dickson, Ltd., Belfast, Ireland, and is somewhat after the style of *Ophelia* though its flowers are soft white with a little yellow coloring



*Rose Nellie Parker. Awarded Gold Medal National Rose Society, Great Britain.*

at the base of the broad petals. When the buds open they show a good deal of orange yellow shading but this fades away as the flowers expand. This rose is of a strong, vigorous, upright, branching growth with large, handsome foliage. The flowers are large, very full and of most perfect form. It is said to be a free and abundant producer.

## FLORAL NOVELTIES,

A WELL-KNOWN architect up Westchester way, according to the *Saturday Evening Post*, was standing before one of his newly completed creations. Its mistress, plentifully sprinkled with diamonds at eleven in the morning, turned to him and said:

"It's grand! And I've just decided not to employ a landscape gardener. I know just what I want myself. Banked up right against the porch there I want a real thick border—now what is that name? You know; those bright-red flowers that look so dressy—yes; now I have it—saliva!"

The architect was staggered for a moment, but soon recovered and came back enthusiastically.

"The very thing!" he agreed. "And right in front a nice row of spitunias!"



## In Memoriam—Jackson Thornton Dawson

IN the death of Jackson Thornton Dawson, which occurred in the Arnold Arboretum, Jamaica Plain, Mass., on August 3, America lost one of its most distinguished and highly esteemed horticulturists, a man who for several decades held a most unique position in his profession and whose place it will be very difficult to adequately fill.

Mr. Dawson was a Yorkshireman by birth and first saw the light of day in 1841. He came to America when very young and at the early age of eight years started to work for his uncle, a nurseryman in Andover, Mass. He, therefore, had limited opportunities for education, such as exist today, yet the work he has accomplished has been nothing less than marvelous. He worked for some years for the celebrated nursery of Hovey & Company at Cambridge, Mass., at that time the most noted establishment in the new world for new, rare and choice plants. He later worked as horticulturist at the Brussey Institute and in the early seventies was called by Prof. C. S. Sargent to assist him in making and developing the Arnold Arboretum, which now covers over 260 acres and contains the most complete collection of trees and shrubs from tem-



JACKSON THORNTON DAWSON.

perate regions to be found anywhere in America. For over forty years Mr. Dawson labored to make the Arnold Arboretum the mecca of lovers of trees and shrubs in the new world, and his work in this respect is even more highly appreciated in Europe than in America.

As a propagator, Mr. Dawson was a veritable marvel. He could take the most refractory subjects and propagate them with comparative ease. He seemed to have an almost uncanny intuition as to how a plant could be propagated by merely looking at it, and the list of difficult subjects which he propagated of seeds, grafts, layers and roots in many ways would require a volume to describe. The writer might instance acacia pubescens and one difficult of propagation. Mr. Dawson grafted this plant and had specimens over seven feet high when a year old,

while cuttings rooted at the same time were merely a few inches high.

Mr. Dawson was a passionate lover of plants. It has been said that plants respond to affection. They certainly did in wondrous measure under his care. The modest little propagating house near Mr. Dawson's residence has been visited by thousands of tree lovers and none visited it without gathering some inspiration from seeing the astounding number of trees and shrubs being raised from cuttings, layers, seeds and grafts which had come from China, Japan, Russia, South Africa and other distant lands. Thousands of varieties have been propagated in this one little house and specimens by hundreds of thousands have been distributed to all parts of Europe and North America.

Every caller at the Arnold Arboretum who met Mr. Dawson knew instinctively that he had met a rare genius and many of our wealthiest citizens, both here and abroad, were proud to know him as a friend. He was genial, kind hearted, ever ready to impart knowledge, and all those who labored as his assistants through nearly half a century have nothing but words of praise for him.

W. N. CRAIG,

*President National Association of Gardeners.*

The passing of Jackson Dawson removes one of the conspicuous American horticulturists of the past half century. Previous to the Civil War associated with Hovey, the gazetteer and pioneer of two generations ago, Mr. Dawson resumed his connection on the conclusion of peace and after an honorable discharge.

Horticulture of fifty years ago was in a primitive stage, literature was scant, foreign practices were in vogue and pioneer experiences typified the calling; the new country was evolving practices suited to the new world and by adoption of exotic methods and creating anew hitherto unknown codes, the young student had an opportunity to share in a rich and valuable experience.

That it was fully appreciated by the young scholar was convincingly shown by his later life. His work bridges the gap between the present day school of horticultural practice and that of two generations ago.

He belonged to that age that gave us such men as Ellwanger, Meehan, Parsons and Berry. Horticultural practice was in the refining process, empiricism had to be eradicated, knowledge spread abroad and sane and scientific experiment reviewed in proper perspective.

Into this field of endeavor Jackson Dawson gravitated by fitness and selection. During his earlier years he was a frequent writer in technical magazines and often appeared as lecturer before societies and various organizations interested in plants and their culture.

Mr. Dawson was distinctly a lover of plants; his enthusiasm and tireless energy when in quest of some rare, inaccessible or localized plant for a view thereof, a stock or as a guide of others, he knew no limit short of success. The greater the hazard and more difficult the task, the more certain would his insatiable determination attack it and almost invariably wrest victory where others found defeat.

He was steeped in plant lore and never tired of discussing it with his friends. His work at the Arboretum, where scientific investigation was ever under way, gave him peculiar opportunity to quench his thirst for knowl-

*(Continued on page 366.)*

## To Enlarge United States Botanic Garden



*The Crittendon Peace Oak (Quercus Macrocarpa). This tree was successfully moved in the U. S. Botanic Garden about ten years ago to make room for the creation of the Grant Memorial Statue.*

A BILL has just passed the United States Senate which proposes to add the reservations known as East and West Seaton Park to the United States Botanic Garden. This land, which lies just west of the present garden, is bounded by Third and Sixth streets, Missouri and Main avenues, and will add some eighteen acres to the Botanic Garden, which now consists

of about eleven acres, thus providing about thirty acres. There has been more or less agitation for some time

past to improve the United States Botanic Garden, which is sorely in need of it, while many advocates have also been found favoring the removal of the garden to what is known as Rock Creek Park.

The main objection raised to the removal to Rock Creek Park has been on the ground that it will be too far from the central population of the city of Washington. There is, however, a greater objection to its removal, and the Botanic Garden should be enlarged and beautified where it is now located, in the very heart of the city of Washington, that trees planted by Crittendon, Lincoln and many of the great men of the past and the many other historical features connected with the present garden may be preserved.

The report submitted on the bill which passed the Senate was in part, as follows:

"If the bill passes, it is proposed to improve the area by the planting of extensive flower beds, the erection of modern conservatories, containing rare plants of educational, artistic and scientific value, and other alterations which will convert an area now of absolutely no value to anybody into a modern botanic garden, comparable to similar gardens in other large cities and foreign capitals.

"In 1902 the park commission for the District of Columbia made a report to Congress, including in their report a comprehensive plan for the beautification of the entire Mall, and providing a suitable connection with the Capitol grounds. In this plan a broad central parkway was contemplated from the Lincoln Memorial through the Monument grounds to the Capitol, flanked on either side by public buildings. The new buildings of the Department of Agriculture and the new National Museum were located in accordance with the park commission plan, and it is to be hoped the entire plan may eventually materialize.



*The Bartholdi Statue in U. S. Botanic Garden. The Capital Is Seen in the Background. The Stone Base Seen in the Rear of the Fountain Is the Foundation of the Grant Monument for Many Years Under Course of Construction.*

"In the amendment to the bill which your committee propose it is intended to follow out the ideas of the park commission, simply substituting flower gardens and conservatories for lawns and trees, thus in no way affecting the vista from the Lincoln Memorial to the Capitol, which was sought to be created and preserved by the park commission, and obviating every possible objection that can be made to the proposed legislation.

"The Botanic Garden was established on its present site in 1850, sixty-six years ago, when the population of the United States was about 23,000,000 and that of the city of Washington about 40,000. Since that time the population of the country has increased over four-fold, and the city is about nine times as large as it was at that date. But the Botanic Garden has never had an addition to its area, although the collection of plants has been steadily added to.

"Need for the increase has long been recognized, and it has been suggested by some that the garden be removed to a point in Rock Creek Park, some five miles north of the White House. While an arboretum might well be located at that place for the development of useful and ornamental trees and shrubs, as well as flowers, to remove the entire garden to a place so inaccessible to the general public would be to deprive most of the people of its attractions who now visit it.

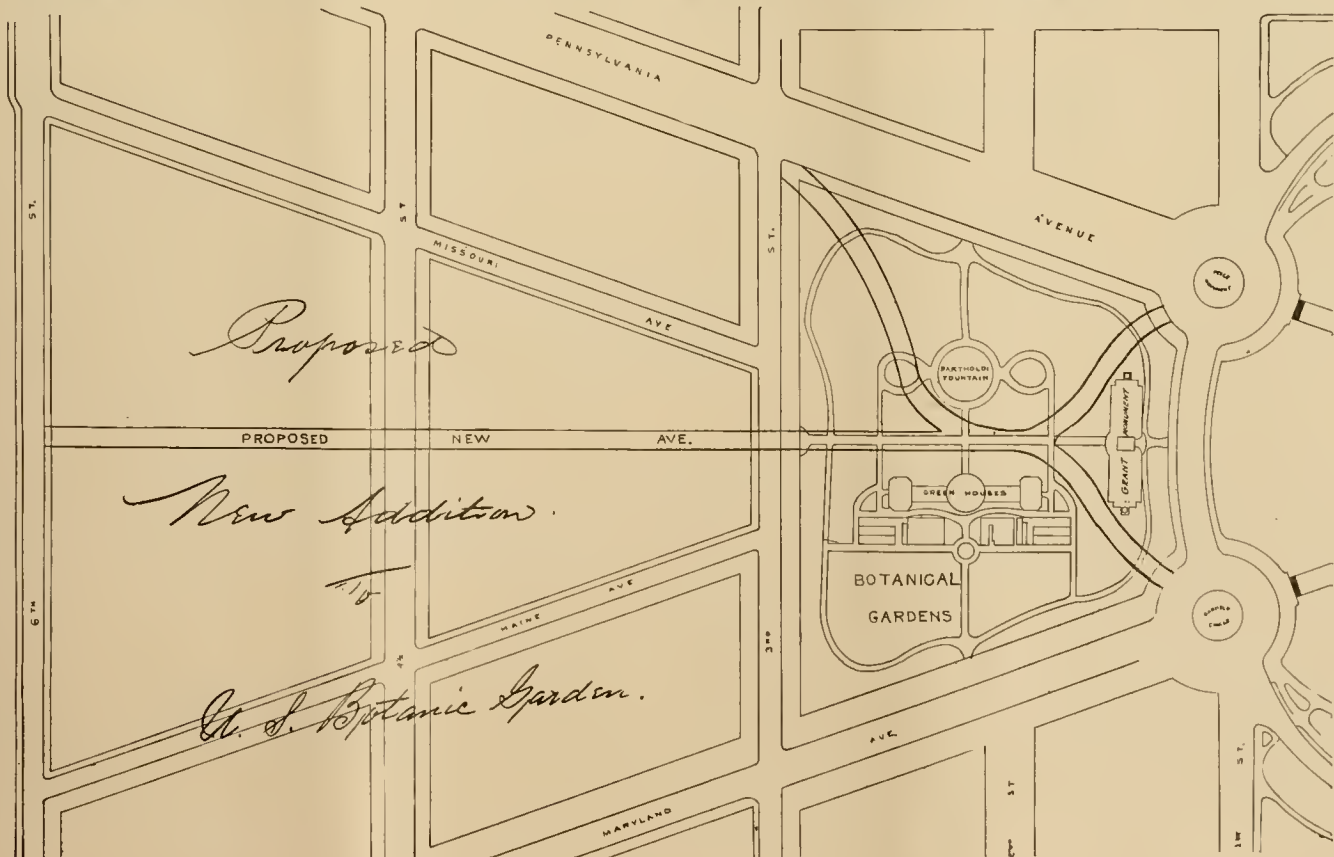
"It is imperative, however, that the garden should be

enlarged to permit of its proper development, and the proposed method will not cost the government a dollar for additional land, will result in the beautification of a most unsightly portion of the city, and be in keeping with plans for the future improvement of the Mall.

"The capital of the United States is far behind foreign capitals and the large cities of this country in the maintenance of a botanic garden, and the proposed enlargement will be a step toward giving the people of the country what they have a right to demand."



*European Hornbeam (Carpinus Betulus). Planted in U. S. Botanic Garden by Abraham Lincoln. Said to Be the Finest Specimen in the United States. To the Right Is a Cedar of Lebanon (Cedrus Libani).*



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THE HOLLIES AND THEIR CULTIVATION

THE various kinds of Hollies are unquestionably among the most useful of all evergreens, for they exhibit a considerable diversity of habit and foliage and there are many uses to which they may be put. Their natural position is an undergrowth to oak woods, and in such places examples 30 feet to 50 feet high, which have trunks a foot or more in diameter, may be met with. But they are equally adapted for planting in full sun, and are at home as isolated specimens or as clumps. Some kinds are excellent for planting as lawn specimens, while no better evergreen hedge plant can be found than the common Holly for general planting, although some of the broad-leaved kinds, such as *Hodginsii* or *Shepherdii*, stand better in the vicinity of the sea.

Although the various Hollies lend themselves so well

to general cultivation, they are decidedly difficult to establish unless a few points regarding transplanting are observed. When the roots are to be pulled about to any considerable extent, it is necessary that transplanting should be done either during late April or early May, or in August or early September. At these times the vitality of the plants is most pronounced and Nature commences at once to repair injuries, whereas, if the roots are disturbed in the dead of winter, they lie dormant for several months in cold soil, and the plants often suffer severely. Another point which is worth considering at planting-time is the reduction of the branch system to counter-balance the injury done to the roots, and it will be noticed that if a few branches are removed or shortened, the plants will be greatly benefited. Deep planting must also be avoided, for the most vigorous plants are those which have their feeding roots near the surface of the soil. Should the weather be dry at planting time, the trees must not only be well watered when planted, but syringed overhead twice a day for a few weeks. A surface dressing of decayed leaves will also do good. If by any means a large ball of soil can be moved attached to the roots the work may be done at almost any time; in fact, plants can be moved any month in the year, but in such a case the roots are scarcely disturbed.

The propagation of Hollies may be effected in one of three ways. All species may be increased by seeds, which take a long while to germinate, often from one to two years. Cuttings of half-ripe shoots of species and varieties inserted in sandy soil under a hand-light, or in a cold frame in July or August, will root the following spring, while fancy kinds may be budded or grafted upon stocks of the type. The latter, however, is not a plan to be generally adopted, unless in the case of those varieties which have weeping branches, for there is great danger of the stock growing and spoiling the scion. In some gardens the practice obtains of clipping Hollies into formal cones, and the smoother the surface of the plant the more perfect is it considered to be. Some people describe this clipping as pruning and appear to consider it to be quite the correct treatment; but anything more hideous than these closely clipped plants it is difficult to imagine. The best plants are those which assume the form of the best woodland examples, and any necessary pruning should take the form of thinning out the branches rather than clipping.

One item which often causes dissatisfaction is the failure of certain plants to produce fruit, and the fact does not appear to be generally understood that certain examples bear male flowers only and others produce female flowers only. While, however, the former plants never bear fruit, a female plant may do so even though there be no male plant near, although few of the seeds will be fertile. Those seeds which are perfect probably owe their fertility to insect agency.

As is very well known, the common Holly (*Ilex Aquifolium*) is composed of a large number of varieties, some of which have been cultivated under one name or another for upwards of a century. They exhibit a great diversity of habit, some being as vigorous as, or more so than, the type, while others rarely exceed a few feet in height. Some, again, have pendulous branches, others large or very small leaves; some have variegated foliage, others are distinguished by their very spiny or almost spineless leaves, while in still other instances the varieties are distinguished by the color of the fruits. In selecting variegated varieties, it is always better to choose those with the variegation about the margins of the leaves rather than those with green margins and colored centers, for they do not revert to the type so readily as the latter.—*The Garden.*

# Work for the Month of September

By Henry Gibson, New York

## THE FLOWER GARDEN.

**T**HOUGH it is somewhat early for moving many of the occupants of the hardy borders that may want a shift, yet it is none too soon for the paeonies. This herbaceous plant has been so improved of late years that it is becoming more popular each year. By a careful selection of varieties the flowering season may be prolonged, which is worthy of consideration in so much as the flowering period of any individual variety is but a short one. This is but one fault of the paeony, others being that it multiplies rather slowly and some of the varieties produce blooms so large and heavy that the stems are unable to support them, with the result that they are beaten down by rains and ruined in the dirt. This last trouble, however, may be to a large extent overcome by the selections of varieties that have a strong, sturdy stem and by the use of some mechanical device or support such as are used for tomatoes and other plants.

Against these disadvantages, however, we find many traits in the paeony that would give it a premier place in every garden, be it large or small. It is a plant that has practically no enemies, so that neither spraying or hand-picking or insects is necessary. It is perfectly hardy and can be grown anywhere where the apple tree grows. The blooms are exceedingly large and fragrant and are to be had in a variety of colors from white to pinks through reds to purple, and as a cut flower it is as valuable as it is for landscape effect. As to soil, the paeony is not at all particular. It may safely be said that land that will produce good vegetables will grow good paeonies. The soil should be deeply worked and plenty of well rotted manure incorporated with it. The crowns should be planted about four inches below the surface and three feet apart, whether planted in rows or in groups. Fresh manure should never be allowed to come in contact with the roots, for the paeony is as sensitive as the rose in this respect.

With the exception of June, September is the month of roses. The hybrid teas will now be blooming freely with flowers of good quality and better color than in June. Unless the beds have been well fed earlier in the season give manure water now or some other form of stimulant. All tall flowers, such as Cosmos, Dahlias, etc., should be kept tied to stakes, and don't be afraid to cut the blooms as they open. Dahlias should be doing well at this time, and an occasional dose of commercial fertilizer would be of benefit to them. Some of the lateral shoots should be thinned out, which, while reducing the number of blooms, will materially increase the size of those that remain.

October is considered the best month for planting the hardy outdoor lilies, but the Madonna Lily and *L. Auratum* are better for being planted now.

If the cuttings of the various bedding plants have not been taken this work should be attended to at once. The effect of the bed from which the cuttings are taken need not necessarily be spoiled, as the quantity required can be taken off at intervals and leave no holes or bad spots behind. Geraniums, *Celestus*, *Alyssum*, *Ageratum* *Verbenas*, *Heliotrope* and other tender bedding plants are all best if raised from cuttings. Remove all dead and decaying leaves and other refuse from the beds and borders and don't allow the garden to get untidy because it is drawing near to the end of the season.

It is not too late to seed the lawn yet, if done as early in the month as possible so as to insure good root develop-

ment before frost. Watering a newly seeded lawn is poor practice. It is far better to leave it alone until a good rain comes along, because, to start properly, the new lawn must have all the conditions that accompany rain, such as darkness and a humid moisture laden atmosphere.

## COVER CROPS.

There are several very valid reasons why cover crops should be sown in every orchard. In the first place, it acts as a mulch on the ground during the winter and prevents root killing of the more tender varieties of trees during severe weather. It keeps down weed growth the following spring and improves the character of the soil by adding humus, which, by the way, is very deficient in practically all soils. Moreover, cover crops assist the ripening of the young weed by utilizing some of the moisture in the soil. Select the cover crops that are most likely to meet the demand of your soil. Heavy clay soils require crops of a non-nitrogenous character, such as rye, buckwheat, oats, millet, rape, etc. Light soils require those of a nitrogenous character. Therefore, use those crops that gather and store this element—crimson clover, red clover, cow peas, beans or vetch. Soils that are fairly evenly balanced should have a mixture of these cover crops—say equal parts of rye and crimson clover or buckwheat and vetch.

## THE VEGETABLE GARDEN.

Lettuce is one of the possibilities of September. Seed sown the beginning of the month will mature before the bad weather sets in, and with a little protection this batch will last well in the cool weather. Spinach, for a very early crop next spring, may be sown this month and covered during the winter.

The cabbage worm on the late plants, and also on the cauliflower, will need some attention at this time. It may be dangerous to use a poison spray now, so one has to do the next best thing. Pick off the caterpillars by hand. It is a slow, tedious process, but if you are going to allow these crops to be a prey for the bugs, you had better pull them out and feed them to the chickens at once. Parsley for winter use may be planted into a frame at once.

Early celery should now be ready for blanching. Pick off all diseased leaves and spray with Bordeaux on the first appearance of blight, or, better still, spray as a preventative. Celery plants want lots of water and a top-dressing of nitrate of soda will keep the plants growing quickly, which is what is wanted if one would have tender salad.

## THE GREENHOUSES.

Rust is apt to get a start in the Carnations at this time of the year. It has been the experience of the writer that this disease is caused by leaving the plants wet overnight. Therefore, see that you spray early enough in the morning to allow drying off before nightfall. Keep the soil well stirred in the rose benches and keep diseased leaves picked off. Ventilate freely, and during dull weather keep plenty of air on with enough heat to maintain a genial atmosphere.

All summer flowering bulbs should be ripened up by withholding water at frequent intervals until the foliage turns color. The pots can then be placed on their sides to finish the ripening process. Biennials sown last month should be planted to a cold frame. There is no special care required with these plants beyond getting them established before cold weather sets in.

### REMODELLING GREYSTONE

The extensive improvements at Greystone, the estate of Samuel Untermyer, Yonkers, New York, and over which Arthur Griffin presides as superintendent, are well under way. The construction work on the terraced vegetable garden, begun last fall, is almost completed. The scheme comprises some two or three acres, and is fitted with every excellent facility for producing the best. Installed in this garden is an ornamental rotary water system, a series of fountains supplied by natural gravitational force and maintained by mechanical pressure. Water pumped from the lower grade to an elevation keeps up the supply. With this ornamental truck garden are linked rose gardens, pergolas, and a series of formal flower gardens planted in color scheme. These gardens, now part of the Greystone estate, are laid out on what previously was known as "Duncragger," purchased by the present owner about three years ago, and whose object is now to make as one both these estates.

Nor is the work confined to this recently acquired



*Transplanting a Large Maple at Greystone.*

property. The grounds of the original Greystone are being remodelled. A large Alpine rockery now in course of construction will in all probability eclipse anything of its kind in the Eastern States. Towering one hundred feet above the ground already may be seen overhanging crags dominating a restful water basin below, which it is intended shall be fed by mysterious waterways and cascades from the rocky pile. The project as so far developed affords the owner an extensive outlook to the Hudson River and the world-famous Palisades.

A formal garden three or more acres in extent and of either Italian or Persian design is now in the making. This latter layout will be surrounded by very high and ornate walls, and when completed will be a leading feature of interesting Greystone.

In addition to construction work, the replanting of some twenty to thirty thousand Rhododendrons was done last spring, and in the tree moving business anything within possibility has been successfully accomplished, as might be instanced by the moving towards the end of May of a huge maple, shown in the accompanying illustration.

### FALL PLANTING OF SHRUBS.

THE first essential in any kind of planting for permanent effect is to know the kind of shrub or tree that will naturally develop from your plant. When each plant is set and before you finally decide just how and where to plant it, try and see with a prophetic eye what the result will be in five or ten years. Allow for growth

and development. If you do not know the growth habit of the shrub, study the catalogue of some good dealer. The descriptions are accurate and can be depended upon.

Few shrubs require less than six feet between them, and wide spreading bushes like the lilac or syringia should be set ten feet apart. If an immediate effect is required, set half distance and as they grow take out every other one. No tree or shrub can develop properly without plenty of room and if a handsome perfect specimen is desired, space to grow must be given it. Patience is a requisite of the landscape gardener.—*Exchange.*

### HARDY FERNERIES

WHILE flowers are indispensable for the ornamentation of a residence, a collection of hardy Ferns forms an equally important addition, and when properly and tastefully arranged they may be made to assume as natural an appearance as they do in a wild state; the rustic appearance, too, of a hardy fernery forms an agreeable contrast to the more dressty portions of the grounds.

It is difficult to lay down definite rules for the construction of a fernery, so much depending upon the position which it is to occupy and the space at command. In fixing on the site, the first thing to be aimed at should be a shady, secluded nook—not one that can be seen from the windows of the mansion or cottage, nor yet from the flower garden, but a part that is unexpectedly come upon when walking through the grounds. The situation should also be one that is sheltered from winds. Moisture, too, is essential to the well-being of hardy Ferns, but this cannot always be given in sufficient quantity to carry them safely through hot summers. In forming a fernery, anything like straight lines must be avoided. If the space to be occupied be long rather than broad, it should be broken up here and there so as to form miniature dells, recesses and projections; but all should have as natural an appearance as possible. The plants in all cases should be allowed sufficient space in which to develop. Where outdoor Ferns have failed to do well, the ferneries have generally been cramped for room. What is wanted is breadth and length. If the fernery be so arranged that it could be traversed by a narrow path from which the plants could be examined, all the better. The stones employed should be placed in as natural a manner as possible, and yet they should possess a certain amount of artistic arrangement.

Anyone who has searched for Ferns in their native haunts cannot have failed to observe that they luxuriate in a light, sandy soil, and this must form, if possible, the main bulk of the fernery. For very delicate sorts a compost may be formed of peat, leaf-mould and loam, with a sprinkling of sand to keep all open and porous, but the stronger sorts will succeed best in loam without the addition of peat. Fern roots, being generally of a wiry nature, will grow in almost any soil that is of ordinary texture, but it ought not to be too heavy. Ferns dislike manure, both in solid and liquid form. In arranging the plants I would not separate the evergreen from the deciduous kinds, but so dispose of them that when the foliage of the latter dies down in the beginning of winter, there would still remain plants enough to interest the cultivator. I would, therefore, plant plenty of sorts that would retain their verdure throughout the winter. In planting, an error of too common occurrence must be avoided, viz., that of planting too deeply. Generally speaking, the crowns must be kept well above the soil, but the plants should be made firm, and the stronger-growing sorts should be planted first. Dwarf-growing varieties with fine fronds should have the most sheltered nooks assigned to them.—*Gardening Illustrated.*

# Creating the Bog Garden\*

By Arthur Smith, Ohio

ESTATE owners are fortunate who have a natural bog upon their property, but if not, then it is very worth while to form one.

The requirements for a bog while few and simple, are all absolutely necessary. They are: plenty of moisture at all seasons, means by which surplus water can drain away, and at least a foot thick of fibrous peat with Sphagnum Moss growing on it. If peat is difficult to obtain it can be helped out by leaf mold, in which case it should be thicker and have some coarse sand mixed with it. Or, a compost may be made of fibrous sod that has been piled for several years. Care must be taken that there are no live roots of running grasses left in, otherwise they will cause endless trouble in the future. To one part of this add three parts of leaf mould and one part coarse sand.

Comparatively few people are aware of the multitude of charming plants which make their home upon peaty bogs. As it is useless attempting to induce them to live anywhere else, we must, if we want their enjoyable company, create an environment suitable for them.

Those who have seen any of the peat bogs of this country (unfortunately there are many who look at things without seeing them) must realize the wealth of material which exists that is worth bringing into our gardens. A bog garden is worth while even alone or that interesting example of the existence of brain power in plants, the Sun Dew, *Drosera*, found in bogs all over the world. Another example of the same fact, the Venus Fly-trap, *Dionaea*, which Linnaeus called "the Miracle of Nature," grows on bogs in North Carolina, but unfortunately is not hardy in the northern states. Then there is the queen of the peat bog, the beautiful and showy Moccasin-flower, *Cypripedium spectabile*, which would be more frequently found about home surroundings if it were native of some other country and cost several dollars a plant. Curiosities like Sarracenia and the lovely Menyanthes with its exquisite waxlike pale pink flowers, have their home in bogs; altogether, as Robinson wrote, "conservatories of beauty" are to be found sometimes covering hundreds of acres, in situations of this kind.

Superficially considered there may not appear much difference between the requisites for a bog garden and a water garden; there is, however, a specific distinction which requires to be emphasized before one can thoroughly understand the principles underlying the construction of artificial bogs.

Many plants known as aquatics will grow in a bog, but no true bog plant will thrive as an aquatic. If a natural bog is examined it will be found to be invariably composed of peat which floats upon the surface of water more or less deep, and that a portion of the peat in which the plants are growing is raised above the water. Thus, while some of the roots of bog plants may reach the water below, nearly all the plant itself is growing *above*, not *in*, the water; and if the water rises the peat rises with it. Therefore while the plant is always living under a condition of perennial moisture, it is never in stagnant water. This marks the distinction between a true bog plant and a water plant. Natural bogs have of course been many hundreds of years reaching their present condition and it is unnecessary to go into the causes which bring about their existence

and the presence of a floating mass of vegetable matter, suffice it to say that their being where they are presupposes a stratum underneath impervious to water, therefore in constructing an artificial bog a water-tight bottom must be secured.

The excavation should be made two feet deep, which will be sufficient to allow for a water-tight bottom of six inches. Puddled clay is the best material for the bottom and it should be puddled two inches at a time. The sides must be sloped and the clay extended up them nine inches above the surface of the clay at the bottom. Provision must be made for the ingress and egress of water in such a manner that both can be regulated. The egress of water should be so placed as to normally keep the water six inches deep. If clay cannot be obtained concrete or paving stones laid in cement may be used instead. When completed, a water-tight basin capable of containing always six inches of water should result. The remaining part of the excavation should then be filled with peat or compost as previously stated. Irregularly shaped mounds or ridges should be formed about the surface, rising a foot or more above the level. These will afford situations for plants requiring a few inches of soil over their crowns when dormant; that prefer less moisture than others, *Cypripediums* for instance; the mounds give a larger planting surface from a given excavation, and not the least advantage from them is that the bog garden will thereby have a more natural and pleasing contour. As capillary attraction works readily in peat or leaf mould there will be no difficulty in keeping the tops of the mounds sufficiently moist. Rocks to act as stepping stones should be placed at convenient intervals to enable one to walk about it, and see and attend to the plants.

A bog garden may form an adjunct to the water garden, and also can be combined with a rock garden where the latter is at all extensive and water is available. If a bog garden is to be made over a considerable area it is not absolutely necessary to make the whole of it water-tight. A channel of water may be led to and fro and branched along the depressed parts. Care should be taken in constructing to have the least possible fall so that the water trickles slowly, and it is also absolutely necessary to guard against any possibility of a rush of storm water.

When a piece of naturally swampy ground is chosen for a bog garden it will be sure to have a crop of water loving plants, such as Rushes, Sedges and the like, growing on it. The first thing is to thoroughly root these out, as, although they would be suitable for the margin of a water garden, they would only work harm among bog plants. This is more easily done if a temporary trench is dug so as to drain the swamp, as without the water the position is much more convenient for preparation and the roots of the undesirable plants more easily eradicated.

If the area of bog is extensive it will of course afford room for a greater variety of plants and some of the less rampant subjects that delight in a moist situation, but which are not properly speaking bog plants, may be used; such as Japan Iris, Astilbe, Eulalias and Lilies. As other aspects of hardy gardening the possibilities for effective planting and grouping are legion. Like all other special features of country home surroundings, the bog garden should be artistically tied to the general landscape.

\* A chapter from *Flower Gardening With Hardy Plants*, a new book by Arthur Smith, shortly to be published.

The following are among the choicer denizens of bogs; they are, with one or two exceptions, natives: *Acaena*, *Arethusa*, *Calopogon*, *Calla palustris*, *Caltha*, *Calypso*, *Chiogenes*, *Cypripedium*, *Darlingtonia*, *Dio-naea*, *Droserae*, *Habernia*, *Helonias*, *Iris*, *Lathyrus palustris*, *Lewisa*, *Lilium parviflorum*, *Lophiola*, *Lysimachia*, *Medeola*, *Menyanthes*, *Narthecium*, *Ophio-glossum*, *Parnassia*, *Polygonum*, *Primula parryi*, *Py-rola*, *Rhexia*, *Sabbatia*, *Sarracinia*, *Saxifraga*, *Sparga-nium*, *Spathyema*, *Trollius*, *Utricularia*, *Xerphyllum*, *Zygadenus*.

As mentioned above, there are other subjects classed as water plants that will do well in a bog; their use must be dictated by the amount of space at disposal and the taste of the planter. Among which are: *Acorus*, *Actaea*, *Astilbe*, *Gentiana*, *Hemorocallis*, *Iris kaempferi*, *Lobelia*, *Myosotis*, *Saururus*, *Nesaea*, *Sym-locarpus*, *Veratum*.

### LIQUIDAMBAR STYRACIFLUA.

IN selecting a tree for the street or lawn, one is very apt to see what his neighbor has and then plant the same. Thus we see whole localities planted with Carolina Poplars or Silver Maples, when it would have been just as easy to secure and plant a much better tree.

The nurseryman is much given to following the crowd in this respect, under the pretext that he must supply the demand when he should try just a little harder to guide the demand, for none know better than he the most desirable tree to plant.

If one analyze the good qualities of ornamental shade trees, the Sweet Gum (*Liquidambar styraciflua*) will be found to stand very high. The fact that it is very common in a natural state in the South makes it a harmonious figure, and does not discredit it for frequent use.

It is exceedingly handsome, having a very symmetrical habit of growth, beautiful star-shaped, bright, glistening foliage, a glorious autumn coloring, and generally a distinguished looking cork bark. In addition to this, the foliage has a delightful balsamic odor when crushed.

To these qualities add the fact that it is comparatively free from insect pests and disease, is a fairly fast grower and a long-lived tree, and you have a list of good points that are hard to beat.

Perhaps the only objection that can be brought against the tree is the limited area in which it will grow. Naturally, it does not grow north of Connecticut and Southern Illinois, but is found growing wild very plentifully southward to Florida and Texas.

What a difference it would make to the appearance of some of the Southern towns if their own native Sweet Gum were growing instead of so many of the undesirable Carolina Poplars.

Although it is found chiefly in moist woods, where it grows to the height of 150 feet or more, it grows well in dryer situations, but does not attain such large proportions—possibly 40 or 50 feet.

In the nursery it seems to thrive in either wet or dry situations, although preferring the latter.

The planting of the Sweet Gum should be done carefully, and at the right time, or many failures will result. When lining out in the nursery rows the best results will be obtained by cutting back to the ground, making the plants throw up a new trunk. Even when transplanting larger sizes it is a safe rule to prune severely, but avoid shortening in the leader or it will spoil the symmetry of the tree.—*The National Nurseryman*.

### THE SNAPDRAGON.

FEW if any of our well known garden flowers are more satisfactory generally than the Snapdragon. For filling beds or borders of any size it is useful and will furnish a beautiful display of bloom from July until the end of October. In color the flowers are so varied as to render possible the most beautiful schemes, and lasting so long, successfully bridge over the entire summer and autumn. For cutting the snapdragon is also useful, and being easily raised, flowers are at the command of young and old. Two very popular types of snapdragon are tall *Antirrhinum majus*, and the dwarf or Tom Thumb kind—*A. majus nanum*—these latter being but varieties of the former, which is likewise the progenitor of most of our valuable garden forms. In addition to the foregoing there are many handsome species less known perhaps, but nevertheless excellent border or rock garden plants.

Being of perennial habit the snapdragon may be increased by cutting as well as by seeds, and while it is generally increased by the latter method, by cutting is the only certain way to increase many colors or varieties, September being the proper month for the operation.

Insert the cuttings in a bed of sand in a cold frame, water carefully and shade from sunlight. Keep the frame closed, ventilating only during the day when the temperature is high or when moisture condenses excessively on the plants and on the inner surfaces of the frame. When rooted, transfer the plants to boxes or pot them off singly, and place them in a good greenhouse until the spring. By propagating early in the spring, good bedding plants may also be obtained from cuttings—bottom heat at this time, of course, essential.

Plants of named and well established varieties should be raised from seed, the quickest and most satisfactory way being to sow them indoors during March or April, and after transplanting into flats, thence into four-inch pots to place the plants into cold frames to harden off preparatory to bedding out. Those who have no facilities for raising the seedlings indoors may sow the seed outside as soon as the weather and soil conditions will permit. These plants will, of course, flower somewhat later than the foregoing, but will nevertheless afford a pleasing display. Magnificent border effects may be created by planting the tall growing kinds toward the rear and the dwarf ones along the front of the border. For this purpose, when purchasing seed, the heights of the plants should be carefully noted and indicated on the label bearing the variety. The distance apart must be governed by the height of the plant, overcrowding being deleterious. Fifteen to eighteen inches may be regarded as approximately right. Seeds should be sown outdoors in patches very thinly, the seedlings being thinned out as desired.

The *Antirrhinum* is not solely a garden subject, for if sown in the greenhouse during any of the fall months and potted commensurately as it grows, excellent plants in full flower may be had during the late winter and all through spring, while for cutting purposes a bench filled with plants will amply repay the labor. It is customary for many florists to lift the plants from the garden ere they are injured by severe frosts, and after removing the old flowers stems to plant them in benches for the winter's supply of flowers, a very economical practice, and therefore to be commended.—*Canadian Florist*.



# Pentstemons: Their Value in the Garden

OF late years there has been a very decided tendency, in ornamental gardening, to break away from the conventional lines. Fashions in flowers change, as in other things. There are many people who tire of continually seeing the same kinds of flowering subjects in beds and borders year after year. This feeling is very natural, for however beautiful the plants may be the too frequent use of a few kinds begets monotony, and it is then that the introduction of a different type of plant and fresh style of bedding is pleasing to the eye. In this connection I strongly advocate the more extensive use of Pentstemons in the more important parts of the garden, as, by reason of their brilliance and beauty of coloring, combined with extreme grace of habit and growth, they are well worthy to enter into any scheme of planting, and to occupy the best position which can be accorded to them. Details of cultivation I have endeavored to set down in a manner which may enable those unacquainted with the plants to succeed with them, the growing of Pentstemons being simpler than that of most subjects used for summer bedding. My attempt at describing the beauties of the plants I feel to be quite inadequate, as those who appreciate them and grow them well will agree.

There are now a very large number of the hybrid varieties of Pentstemon, embracing shades of color from white to deep crimson, scarlet and purple, with many beautiful intermediate shades. The growth of the improved forms is very neat. They make slender but stiff, upright stems, the flowers being produced in the form of a panicle. The leaves are narrow, long and entire, very glossy and handsome, the stems well furnished with them to the ground. The normal height of the flower-stems is from 18 inches to 3 feet, vigorous and well-grown plants sometimes exceeding the latter figure. The flowers are very handsome, somewhat resembling Gloxinias, and are in many cases prettily marked or blotched. Brilliant as is the coloring of the flowers, there can never be said to be anything approaching gaudiness about them, the brightest and strongest colors being in every case toned down by the white or paler color in the "throat" of the tube-like corolla. Again, the graceful hanging of the flowers on their boldly upstanding stems prevents any appearance of stiffness, but it imparts extreme freedom and grace to the plants, and renders them of great value for associating with plants of a formal and compact habit of growth. The garden forms of Pentstemon have been derived by means of seedlings from several of the species, notably *Pentstemon Hartwegii*, *P. Cobaea* and *P. gentianoides*, while several others may have entered into the process. There are several species which, in their natural and unimproved form, are very pretty and interesting plants, though not much grown. The species are in nearly every case perfectly hardy, their native homes being in North America and Mexico. They do not, of course, possess the showy characteristics of the hybrids. It is to the hardiness of the species that we owe the vigor of constitution of the garden forms, although, as in the case of most improved varieties, they do not retain their hardiness in the same degree as the parent species.

As I have already said, I consider Pentstemons quite worthy of occupying a position in the best parts of the flower garden, instead of being used merely to fill odd nooks and corners, after the manner of those who do not realize the possibilities of the plants. When used in the latter fashion they are often planted in positions where their charms are not apparent, and they frequently be-

come overgrown with more vigorous subjects. Their flowering period extends from about the end of June, throughout the entire summer and autumn, up to the advent of frost; in fact, the first frosts—which are sufficient to make the more tender of bedding plants present a bedraggled and forlorn appearance—seldom do them any harm, and I have seen them in mild seasons still gaily in bloom within a few weeks of Christmas. Therefore, I think that they may safely enter into any scheme of bedding, even if they do not flower quite so early as some subjects. It may also be stated here that they withstand heavy rains and wet seasons far better than the majority of flowers. This is owing to the fact that they delight in plenty of moisture while growing and flowering freely, and also that the tubular form of the flowers and their downward direction are a protection against heavy rain. Whether they are used in mixed varieties or in groups is a matter of individual taste, and also depends upon the style of bedding and the other kinds of plants used. Generally speaking, I favor the planting of a bold mass of a single variety in a group; especially effective is this style of planting where a border is entirely devoted to them. In this case a very fine effect may be secured by graduating the colors of the groups, commencing with white and blush shades, and proceeding with stronger pinks and reds towards the intense scarlet, crimson, and purple tones, again working out to the paler colors. A border planted in such a way, and given proper attention (which is simple enough) will make as fine a show and attract as much admiration as any feature of the garden. An edging of dwarfer plants of another kind could, of course, be used, or, to make the border one entirely of Pentstemons, the variety *Newbury Gem* may very well be employed as an edging. This variety is excellent for the purpose, being of bushy habit, not much over a foot in height, and bearing rather small, bright red flowers in great profusion. If the plants are to be used in borders containing other plants, they should be planted where there is ample space to form large, bold groups, which is far more effective than a few plants dotted about. They are also of great value for planting as a groundwork, in large beds containing taller plants, as, for instance, tall standard Roses, provided that they are not crowded into places where they will have insufficient room to develop their panicles of bloom. If planted with Roses, they give a fine display, and render the beds attractive long after the Roses are past their best. In beds, also, where tender plants trained as standards or pillars in the style now popular are to be planted out for the summer, Pentstemons form an excellent groundwork, and may be used in this way, selecting the colors which will associate best with the other occupants of the various beds.

Pentstemons are perennials, and if given protection from excessive wet and hard frost will live for years. As, however, this would entail some trouble, and cuttings root readily, the plants which have done a season's service are seldom kept. It is always the best plan to propagate the numbers required annually and so obtain vigorous young plants. By means of cuttings, also, any particular variety may be rapidly increased, and the sorts are kept true. The best time to insert cuttings is during September, the earlier part of the month for preference. The ideal time, however, will vary a little, according to locality, and to the state of the weather. In very cold gardens they might with advantage be put in at the end of August, but in warm places they should be left until the latter part of September, or even later. The time of propagating is

also affected by the supply of cuttings, as it is often found, when the operation is contemplated, that there are few shoots suitable for forming cuttings, in which case it is better to wait a while than to take the wrong sort of shoot. The cuttings should be rooted by the time the days are short and cold, so that they may keep healthy throughout the winter. Experience will soon show the best time in each locality, according to season. I have, in a warm district, and for one reason or another, been as late as the end of October before putting in cuttings, and obtained an excellent "strike."—*S. Ashmore in Gardeners' Chronicle* (English).

#### AUTUMN SOWING AND RENOVATION

THE best time of year to sow down new putting greens, fair greens, tees, lawns, etc., is between about the 15th or 20th of August and the 20th of September. The soil is warm at the end of the summer season and sufficient rain and dew may be expected which will effect a quick germination and the young grass will become well established before the cold weather arrives. Then weeds are less in evidence in the autumn than they are in the spring, but it is always a good policy in sowing down new ground to turn over the soil and do the necessary grading in the spring or early summer—cultivating frequently to destroy any weed growth, so that when the seed bed is prepared, the soil is much cleaner and freer from weed seeds and the surface is consolidated. When work is done in a hurry, it is generally badly done.

Topdress and renovate all existing turf on a much larger scale in the autumn than in the spring, using more seed, sand and compost, and improve parts of the fair greens that cannot be artificially watered.

We have had a very wet spring and many courses, especially on clay soil, have been in a very sticky, muddy condition most of the season. The excessive rain and dampness has no doubt caused sourness, and this should be corrected this fall with a dressing of ground limestone on the fair greens, tees, etc., and pulverized charcoal together with previously sweetened composts and sand on the putting greens.

This has been a bad season for clover and water grass, or pearl wort, because of so much rain. Existing turf has thrived, but spring seeding has in many instances not been satisfactory—as heavy rains have caused washouts and uncovered the seed, but in other cases results have been good and it has been fortunate there has been so much rain.

Highly nitrogenous fertilizers should be used this fall to encourage the grasses and not the clovers. While bone meal is a good fertilizer and best applied in the autumn, it would not be advisable to use it this season on greens possessing much clover. It will quite often produce a thick crop of clover in a turf apparently free from clover.

The last of August or the first of September, according to the weather, the putting greens, tees and important parts of the fair greens should be vigorously raked and cross-raked and on large areas tooth-harrow and cross-harrow, so as to open up the surface soil, and in some instances it may be advisable to use pitch forks, spiked boards or spiked rollers to perforate the surface.

Take out all weeds, crab grass and other objectionable growth, at the same time scratch up any clover patches. Then thicken up the existing turf with a special mixture of seed suitable to the soil and local conditions and cover with a quarter-inch dressing of prepared compost or humus, supplemented with a complete artificial fertilizer. Work the seed and covering soil into the existing turf with birch brooms or the backs of rakes and then roll down. On large areas after tooth-harrowing the ground,

it is much better to mix the seed and compost together and apply them at the same time. On heavy soils, include a large percentage of sand and organic matter and on light sandy or gravelly soils, apply dressings rich in humus or organic matter.

The last of September or some time in October, during the wet weather, lime any sour parts on the fair greens, tees, etc., and dress the putting greens with sand and pulverized charcoal, using from 200 to 300 pounds of charcoal per green mixed with three or four times its own bulk of sharp sand. Work same into the turf with birch brooms or the backs of rakes.

Then before the cold weather arrives, give the greens another quarter-inch dressing of prepared compost, but do not use any quick acting fertilizers. This will serve as a covering for the young grass from the autumn sowing and the writer has never favored covering the greens with any straw or other material for the winter, unless it is put on very thinly, so that the turf can be seen through. Grass does not suffer from the cold weather as it does from the hot weather; winter-killing taking place in the early spring when the surface drainage is not correct and water is lying in the low spots alternately freezing and thawing.—*L. Macomber in The Golf Course*.

#### PLANTS FROM SPORES OF THE BOSTON FERN.

TWO reports have come to the writer of the development of spore-grown plants from *Nephrolepis bostoniensis*. The reports come from widely separated localities and growers, but agree more or less as to details. Unfortunately the results were obtained years ago, and none of the plants so produced are now alive.

The writer is interested in getting information as to any authentic cases of the Boston fern being grown from spores, and will especially welcome an opportunity to see living plants so produced. *N. Wittboldi* was supposed to be a spore sport from *bostoniensis*, but the characters of all the plants which I have obtained under the name of *Wittboldi* seem to indicate that it is a form of some Malayan species. *N. philadelphensis*, a chance sporeling at Horticultural Hall, Fairmount Park, Philadelphia, seems to be the same as *N. washingtoniensis*, itself, I believe, a chance sporeling, and both are undoubtedly to be identified with another Malayan species, sometimes called *N. floccigera*. These are all broad-leaved forms, very different from *bostoniensis* or *exaltata*. *N. Elmsfordi*, reported as a sporeling from *Whitmani*, stands, I believe, as the only form in the Boston fern series credited with this origin.

Information is asked, therefore, on the following points:

1. Is there any known instance of the development of plants from Boston fern spores?
2. From the spores of any variety of the Boston fern?
3. What were the characteristics of the plants so grown?

If living plants are now being grown, the writer would like an opportunity to call and see them if near New York, and in any event would be glad to receive small plants for which an exchange from a list of a hundred named forms is now available. It may be noted that microscopic examinations so far made have shown complete sterility of spores among Boston fern forms, but it is not impossible that they may occasionally produce fertile spores.

R. C. BENEDICT, Resident Investigator,  
Brooklyn Botanic Garden,  
Brooklyn, N. Y.

# The Diabroticas

A General Discussion of the Striped Cucumber Beetle, The Western Cucumber Beetle, The California Flower Beetle, The Southern Corn-Root Worm and the Belted Cucumber Beetle.

By R. A. Sell, Texas.

MEMBERS of the Diabrotica family present many intricate and perplexing problems to the gardener, the florist and the general farmer. The popular characterization "a slim green lady bug," with stripes or spots as the case may be, gives a hint that is sufficient in most instances to distinguish the class. There are many more representatives of this class of insects in the United States, but the ones mentioned above are the most common.

In the north and east the Striped Cucumber Beetle (*Diabrotica vittata*) is very destructive to cucumbers, melons, pumpkins, etc., and its ravages extend to the southern part of the United States. It is replaced on the Pacific Coast by the Western Striped Cucumber Beetle (*Diabrotica trivittata*). These striped forms are pale green with black stripes on their wing covers.

The spotted forms are distinguished by having spots instead of stripes on their wing covers. The Southern Corn Root Worm or Twelve Punctata (*Diabrotica duodecimpunctata*) works on vines, beets, spinach, etc., while its larvae—a white worm-like insect, with strong biting jaws—is so destructive to the roots of corn and cane, especially in the middle and southern states, that it well deserves its name. In the last few years its work on the pollen and essential organs of flowers has increased so much that florists are becoming alarmed lest it will assume such proportions as the Western Flower Beetle has in California.

The Belted Cucumber Beetle (*Diabrotica baltaeta*) is the most beautiful, but beauty is not appreciated in a destructive insect. Instead of black spots the wing covers are usually light green with yellow spots so arranged as to give an appearance of green bands. Its head is red and its antennae are exceptionally long. While it usually attacks truck crops it is often quite destructive to alfalfa, cotton, cow-peas and soy-beans. Its worst ravages so far have been in the Rio Grande valley.

The Western Flower Beetle (*Diabrotica soror*) is the worst of the many insect pests that are found in California and the adjoining states. It attacks flowers, fruits and field crops. It gets its name from being seen so frequently on those magnificent Shasta daisies and California poppies, but under favorable conditions it will at-

tack some part of any kind of plant that is worth cultivating. It differs from a Twelve Punctata in having its legs and the under side of its body black.

All of these beetles deposit their eggs on the roots or stalks of growing plants, a little below the surface of the soil. In some instances the larvae are much more destructive than the adults. They are very numerous since one female lays from five hundred to fourteen hundred eggs during her laying season, which is from three to seven weeks.

This army of worm-like insects works on the roots where they cannot be seen until the effects begin to show on the whole plant. By the time they work up to the surface of the soil they have already done a considerable damage. At this stage nicotine preparations are the most efficient remedies.

Not only do the habits of the different forms of the diabrotica differ, but the habits of the same form vary according to locality—the Striped Cucumber Beetle has but one generation a year in Minnesota, while it has three generations a year in southern Texas; the Southern Corn Root Worm works on corn in Missouri and Oklahoma, while in Louisiana and Texas it works on cane.

Possibly the quickest way to relieve a small area from the attacks of the adults is to apply a dust spray—air-slaked lime, wood ashes or even soot. When applied by several persons at once it will effectually drive the beetles from the field. In some instances a bent nozzle spray is more convenient. To make it more permanent, powdered arsenic, paris green or tobacco dust may be mixed with the lime. The regulation arsenate of lead spray is successful under certain circumstances and the Bordeaux mixture sometimes relieves the plant, but the poison bait spray, arsenic with some kind of syrup, seems to be the most efficient, though it has not, at this time, been completely tried out under various field conditions.

As practically every State or Government station has a working entomologist devoting his entire time to experiments and questions that arise regarding this group of insects, any gardener or florist can render a valuable service by furnishing data concerning the ravages, the successful or unsuccessful remedies as noted in his locality.

## The Iris Worm (*Macronoctua Onusta*)

By R. A. Sell, Texas.

ONE of the discouraging things to the plant lover is to go into the garden and find his plants suffering from the attack of some insect or fungus. Lovers of the Iris should not be surprised during the summer months if they find the foliage of their Irises turning yellow, and then drying up, and to see the whole plant gradually disappear, unless some action is taken to prevent it.

The Iris worm (*Macronoctua Onusta*) seems to have become quite abundant in recent years, and is now perhaps the worst enemy of the Iris, doing a great deal of damage in nurseries and gardens alike. It seems to be little understood, and as far as I know has not been much investigated by the Experiments Stations.

About the first of May, the close observer can readily see on the inside of the Iris leaves near the tip a green worm about one-eighth of an inch long feeding on the tender inside portion. It eats its way down the inside of the leaf, growing all the time and becoming easier to detect as it grows larger; the cavities cut by it are conspicuous, even when the worm is small. The characteristic thing about the work of the worm, as distinguished from that of other pests, such as slugs, is that the young Iris worm shows a tendency to cut at right angles to the fibre of the leaf.

The worm does not confine itself to the leaf only, but when it reaches the rhizome it eats its way into it, making a large cavity, and it is at that time that the plant feels the effect most, as the worm is then an

inch or more long, and of dark brown color. If an affected plant is dug up about the first of August, the worm is almost sure to be found in the cavity of the rhizome. The rhizome often shows a tendency to decay, and emits an offensive odor.

After this the worm does not eat much, and is very inactive, indicating that it is about to enter the chrysalis stage. Very soon after it enters that stage, and finally, about the end of September, emerges as a moth. The moth is slightly over an inch long with a dusty brown body and brown wings, obscurely marked with darker brown, it has no conspicuous color or marking. It flies at night, and is rarely seen in a wild state and is said to live only a short time, and probably lays its eggs about the base of the Iris stalk, the egg hatching about the end of April following.

If the eggs are laid in the refuse which accumulates at the base of the plant in the fall, gathering up and burning such refuse should be one of destroying a good many of the eggs. Another suggestion would be to spray the plants with arsenate of lead when the young growth appears in the spring, for as far as we know the young worm has to eat its own way into the inside of the leaf. A sure remedy is to cut off and burn the tip of the leaf below the worm in its early stages, but that is practical only in small gardens. Plants that are badly affected so that the rhizomes are decaying should be lifted in August and the decayed part cut out with a sharp knife, dip the newly cut surface in air slaked lime, which will dry the wound and prevent further decay, then plant them back again, and they will soon recover.

Although it is usually the bearded Iris which suffer most from the worm, it has been found to attack also the hard foliaged sorts, such as *I. spuria* and *I. monnieri*, also *I. chrysographis* and *I. wilsonii*; in fact, it does not confine itself to the genus *Iris*, for it has been found to attack *Pardanthus chinensis*, so that apparently any genus of the order Iridaceae might be attacked by it.

### A WILD FLOWER GARDEN

By Morris M. Rathbun, California.

WILD floral life of every section of California, spread in colorful panorama, now is one of the attractions for lovers of flowers in Los Angeles. The claim is made that the five-acre section of Exposition park, near the center of the city, that has been converted into a wild garden, is the most pretentious effort of its kind in the country. Regardless of the accuracy of this assumption, it remains true that certainly the hitherto barren ground now is a perpetual source of delight and education to flower lover and student alike.

The idea of an immense wild flower garden in the city was conceived by the secretary of the Chamber of Commerce some years ago, but it was not until a city beautification plan was put into effect in 1915 that it was possible to actually do the necessary work. When the funds were at hand, creation of the wild garden was made easy through the preparation of years by Theodore Payne, an enthusiast and authority on the wild flowers of the state. Placed in charge of the planting, Mr. Payne brought together two hundred and thirty varieties of native wild plant life, nearly all of which bloomed for the first time early this summer.

Included in the masses of color are the tiniest specimens of blooms, ranging from the modest yellow violet to the larger shrubs and even the fir trees of the northern part of the state.

In this garden, illustrated in the cover design of this issue of the CHRONICLE, not much greater in area than a city block, may be seen in their native habitat flowers that otherwise would force journeys of thousands of miles to observe. Eminent horticulturists have complimented the collection as being typical of all California, and students of botany find a feast within easy reaching distance. It is no uncommon sight to observe several classes from public and private schools in the garden at the same time.

Color tones not found in cultivated plants are noted in the wild flowers. The sticky monkey flower with its hundreds of buff salmon blooms, the exquisite lavender of the thistle sage, the violet nightshade and scarlet larkspur contribute to the unique effects, while the more familiar brilliant poppies, yellow mountain daisies and wild geraniums lend gorgeousness to the whole.

There are many private estates in Southern California having wild flower plots, but until Los Angeles made its native garden none existed. The charm of the new idea has appealed so strongly that Pasadena announces a wild garden to be that shall cover twenty acres, and other communities are expected to follow this innovation in municipal beautifying.

### JACKSON THORNTON DAWSON.

(Continued from page 355.)

edge; a new plant discovered anywhere in the civilized world would sooner or later—generally sooner and often first—appear at the Arboretum. His would be the task of rearing, perpetuating and increasing the stock, and the methods he would adopt transcend fiction in their marvellousness. Receipts of stock frozen, desiccated, parched or immature, would be treated by means that from a hopeless appearance, would emerge triumphant. He combined to a rare degree the cultivator's craft and the scholar's knowledge, and to what extent we are indebted to him for the propagation and dissemination of the Wilson collection of Chinese plants is unfathomable.

Jackson Dawson had a most genial, straightforward temperament. His was a nature irrepressibly and perennially kindly. To his intimates he extended a strength and depth of friendship of profound intensity, and it begat like friendship in return. To know him was to love him, and to love him dearly. He was a good citizen, a most desirable neighbor, a priceless friend and the dearest father; a sturdy, upstanding, whole-souled man, every inch of him.

As a society, we shall miss his cheerful presence and valued counsel; with profound regret do we extend to his bereaved family the sympathy of his comrades who held him in such high regard and who will forever cherish his memory.

EMIL T. MISCHE,

*President American Association of Park Superintendents.*

### BOSTON'S 1917 OUTDOOR SHOW.

BOSTON will hold a large flower show in June, 1917, on a vacant lot near the Boston Museum of Fine Arts in the Back Bay Fens. Large marquees will contain the more tender plants, while rock gardens and other features will be placed in the open. Leading members of the Massachusetts Horticultural Society have already promised \$7,000 towards a guarantee fund, and it is hoped to raise this amount to over \$10,000. Orchids, azaleas, rhododendrons, stove plants, rock and herbaceous plants and ferns will be a few of the leading features.

# NATIONAL ASSOCIATION OF GARDENERS

WILLIAM N. CRAIG, President,  
Brookline, Mass.

OFFICIAL COMMUNICATIONS

M. C. EBEL, Secretary,  
Madison, N. J.

## EXECUTIVE MEETING.

An executive meeting of the trustees and directors of the association will be held in New York City during the first week of September. This will be an important session. The meeting place for the next convention of the association, which is held annually during the first part of December, will be decided on. Other matters of importance to the association will also be brought up for consideration, which will include several plans for increasing activity in the association.

The Board will be glad to receive communications from any member containing suggestions for the advancement of the association and on ways and means by which it may help its members individually or collectively. Such communications should be addressed to the secretary, M. C. Ebel, Box 290, Madison, N. J., before September 1.

## NEW MEMBERS.

The following new members have been added to our roll during the past month: Robert Osborn, Edward R. Ling, Westford, Mass.; Ralph Clausen, Charles Brown, Henry C. Whitmarsh, Thomas H. Sneddon, Marcel M. Twinney, Walter Sims, William Stuttgart, Jonathan A. Maggart, Charles Sampey, Lake Forest, Ill.; Bertram W. Pringle, Robert E. Jackson, Vincent A. Wrynski, Waukegan, Ill.; Herbert B. Rapley, Cleveland, Ohio; George Hewitt, Grotton, Conn.; William J. Devery, Grotton, Conn.; Michael W. Reid, Augusta, Ga.; Charles Turgiss, Montvale, Mass.; Robert Jeffrey, Derby, N. Y.; Jacob Henry, Jr., Grotton, Conn.; Geo. S. Low, Senieckley, Pa.

## A JUST GRIEVANCE.

To the Editor Gardeners' Chronicle:

Sir—Is it possible for the working man to get justice from his employer if he has no union to back him up? What sort of pay does the man get who has no union? Take gardeners, for instance. There is a profession which requires intelligence and knowledge which takes years to acquire. There are thousands of gardeners in America, but they are so scattered that an effective union is impossible; so they have to depend on the generosity of the employer, and gardening is the worst paid profession in the world today.

For a case in point you don't have to leave New York City. The New York Botanical Society is composed of rich Americans, and the managers are doctors and professors who are graduates of Columbia University. They hold a valuable concession of land from the city and get a grant of money each year for its upkeep. And they pay their gardeners, the men who grow the plants and make the studies of the professors possible, a minimum wage of \$45 a month, with a possible maximum of \$60, which it takes years to attain.

Just think of it! Skill paid at the same rate as the porters who sweep up the papers from the subway platforms!

A GARDENER.

The grievance set forth in the above communication is a just one and one that should be remedied—but how it can be accomplished so long as men are found willing to engage for the miserable wage specified? It, however, seems almost incredible that an institution in the standing of the New York Botanical Society less than the ordinary street laborer is paid today. It is possible that it is all due to an oversight on the part of its managing board because the subject of the gardener's compensation has not been properly submitted to it? If so, we would suggest that the gardeners appeal to the board, for it comprises a class of men that can readily see the justice of such an appeal.

That the profession of gardening taken as a whole is the worst paid of all professions, this we will not conceal for our investigations have disclosed that the ministry is the worst sufferer in this respect and also that a struggling physician or lawyer is less fortunate than the average gardener engaged on private places.

We do agree, however, that the gardeners' compensation in

public service is entirely inadequate to the services he is supposed to render and this we are sure accounts in a large measure for the frequent disappointment one meets with to find the horticultural features in parks not of the quality they should be.

## AMONG THE GARDENERS

The many friends of Richard Brett, for many years superintendent of Windholme Farm, Islip, N. Y., will regret to learn of his death, which occurred at his late home, Orange, N. J., on July 23. Mr. Brett was compelled to give up his position more than a year ago owing to his ill health.

A new range of greenhouses is under course of construction on the estate of Walter Hunnewell, Wellesley, Mass., over which T. D. Hatfield is superintendent.

Extensive improvements are under way on the new estate of Charles M. Schwab, Loretta, Pa., where James J. Aitchison presides as head gardener. More than a half million dollars is being expended in the laying out of the gardens. A greenhouse range costing approximately \$100,000 is also being erected.

S. J. Ingram has secured the position of gardener at "Chieftains," Portchester, N. Y., over which W. D. Robertson is superintendent.

Percy Huxley has secured the position of head gardener to Joseph Leiter, Beverley Farms, Mass.

W. H. Golby has been appointed head gardener to E. A. Clark, Jamaica Plains, Mass.

William Wiley has secured the position of head gardener to Mrs. T. G. Plant, Cohasset, Mass.

## AMERICAN ASSOCIATION OF PARK SUPERINTENDENTS.

(Continued from page 368.)

Evening: Business Session.

Paper—"City Planning in Relation to Park Properties," by Prof. H. V. Hubbard, Cambridge.

Discussion led by W. S. Manning, Baltimore; H. W. Busch, Detroit; C. C. Lancy, Rochester.

Paper—"Research and Accounting as They Affect Park Administration," by a representative of the National Municipal League.

Discussion led by Theodore Wirth, Minneapolis; H. W. Merkel, New York; A. A. Fiske, Racine.

Third Day, October 12—

Morning: Business session; reports of committees; election of officers; unfinished business.

Afternoon: Recreation as arranged by local committee.

Evening: 7 o'clock dinner; new president presiding.

Address—"The Role of National Parks in the Nation's Life," by R. H. Marshall, Washington, D. C.

Address—"Functions and Evolution of Municipal Parks," by Jas. B. Shea, Boston.

Address—"What This Convention Means to Us," by New Orleans park official to be selected.

Closing ceremonies.

This is a very ambitious program, with an array of participants of eminent character. The local features will be arranged by next month when a full and complete program will be issued.

## WANTED

An experienced nursery salesman, one thoroughly acquainted with the nursery business, accustomed to soliciting from private people; a good closer, able to close a sale when others can not do so. Must be actively engaged in the business at the present time. The Elizabeth Nursery Co., Elizabeth, N. J.

## WANTED

An experienced landscape gardener. Competent to take charge of the laying out of large estates. Exceptional opportunity for the right man. Lewis & Valentine Co., Landscape Contractors, Roslyn, L. I.

## WANTED

A competent assistant foreman, who thoroughly understands the nursery business and has had experience in this line, accustomed to waiting on private people, accurate in getting up orders, a good, thorough, active man who will take an interest in his work. The Elizabeth Nursery Co., Elizabeth, N. J.

# American Association of Park Superintendents

OFFICIAL COMMUNICATIONS.

EMIL T. MISCHE, President, Portland, Ore.

R. W. COTTERILL, Sec.-Treas., Seattle, Washington.

## PERSONAL AND OTHERWISE.

It will indeed be good news to our membership to learn that our former president, Wm. H. Dunn, has resumed his old place as superintendent at Kansas City, effective July 1 of this year. Mr. Dunn is the man who built up the wonderful Kansas City park and boulevard during its constructive stage and it is very appropriate that he should assume his former post. Ralph Benedict, another of our members, has been in charge of the system for the past three years as assistant executive officer, and Mr. Dunn is loud in his praise of the work of Mr. Benedict, who will continue as his assistant. One or both will be with us at the New Orleans convention. If only one is sent Mr. Dunn will give way to Mr. Benedict.

Theodore Wirth writes that he figures on passing up the next convention in order that his unassuming assistant, C. A. Bossen, may attend. This is a rather nice custom which Mr. Wirth has and our only regret is that matters cannot be arranged so that both can attend, as they are both loyal active members of the association.

The pleasing news comes from former president Gustave Amryhn at New Haven, Conn., that he is planning to be with us at New Orleans.

Adam Kohankie, the "Duke" of Washington Park at Denver, has been honored by being elected as the first president of the newly organized Denver Society of Ornamental Horticulture.

John C. Olmsted recently made a study of the park situation at Louisville, Ky., for the Board of Park Commissioners and will shortly render a formal report.

Invitations for our 1917 convention are beginning to pile up with the secretary. Asbury Park, N. J., "The Town Without a Frown," was first to file; then came St. Louis with documents from the mayor and various associations; Chicago came next, followed by Columbus, Ohio, and Buffalo, N. Y. None of the invitations so far received bear the endorsement of the local park commission. Last year at San Francisco we heard quite a bit about Ottawa for 1917 and it is quite likely that Alex Stuart will be on the job at the right time.

Members should take note that proposed amendments to the constitution or by-laws must be filed in writing with the secretary at least thirty days prior to the date of our annual convention. If you think our constitution needs fixing in any particular, don't come to the convention expecting to advocate a change unless the data have been in the secretary's hands prior to September 10. This is in order that notice may be given to the membership of any proposed changes which will come up.

An International Recreation Congress will be held at Grand Rapids, Mich., October 2 to 6, under the auspices of the Playground and Recreation Association of America. The dates are fortunate in that they are the week preceding our convention, so that it will be quite possible, as far as time is concerned, to attend both conventions as many persons will no doubt do.

Without mentioning any names, here is a peculiar situation one of our well known members is in at the present time. He has for eight years been park superintendent of a city of over 100,000 population and has done excellent work, practically building up a very creditable park system. The park board, appreciating his work, increased his salary, but the city council refused to allow the change in the budget. In order to sustain the dignity of the park board our member took the matter into court and won. The city council appealed to a higher court, but the decision of the lower court was affirmed. The council, however, refused to make the allowance and were cited for contempt of court. Now in order to evade the effect of the court order the council in making up the budget for the last half of this year has made no allowance whatever, eliminating the position. This leaves our member with a position with no salary, so he is quite naturally looking for another one.

## CONVENTION NOTES.

President E. T. Mische announces the following committee appointments in connection with our eighteenth annual convention at New Orleans, October 10, 11 and 12, 1916:

**Convention Committee**—Wm. Allen, New Orleans, chairman; Chas. W. Davis, Memphis; Nelson Crist, Atlanta; Clarence L. Brock, Houston; John Meisenbacher, Tulsa, Okla.

It will be the duty of this committee to handle convention arrangements, such as hall, headquarters, inspection trips, social features, etc. They will be assisted by a local committee of New Orleans park officials, which Mr. Allen will organize.

**Transportation Committee**—John F. Walsh, New York; W. S. Manning, Baltimore; Gustave N. Amryhn, New Haven; Jas. B. Shea, Boston; H. W. Busch, Detroit; Alex. Stuart, Ottawa; J. H. Prost, Chicago; C. H. Bossen, Minneapolis; Geo. Champion, Winnipeg; J. W. Thompson, Seattle; J. G. Morley, San Diego; Carl Fohn, Colorado Springs; L. P. Jenson, St. Louis.

It will be the duty of this committee to work up interest in the convention and to organize groups and parties, arranging routes and stopovers. This committee will work as individuals, each in his own section of the country, corresponding with such other members as may be necessary in order to secure concerted action. There is much more to be gained by traveling in groups and it will devolve upon this committee to develop this idea. The success of the convention really rests upon this committee, so it is hoped that each member will apply himself diligently.

The president and secretary have but one suggestion to make to the Transportation Committee and that is this: No doubt delegates from Atlantic Coast states will desire to take the boat trip from New York to New Orleans direct and quite a large party should be organized for this trip.

Delegates from the West and Middle West should have St. Louis as a "mobilizing" point, planning to arrive there on the early morning trains of October 8, spending the day at St. Louis and proceeding by night train to Memphis, arriving there early on the morning of the 9th; spending the day at Memphis, and proceeding by night train to New Orleans, arriving there on the morning of the 10th, opening day of the convention. In view of the fact that St. Louis and Memphis were contenders for this convention, it would be a very nice thing to spend a day at each city enroute to the convention by an organized party which would number probably fifty people or more. These are merely suggestions which the officers submit as food for thought.

**Convention Programme**—The duty of arranging the convention programme has through custom fallen to the lot of the president and secretary.

In this connection President Mische has well defined ideas that will be carried out this year. Mr. Mische is inclined to the belief that we do not get enough out of our conventions, devoting too much time to social functions, so he has outlined a preliminary schedule which contains a number of original features. This programme will be amplified in our September notes. Briefly summarized it is as follows:

### First Day, Tuesday, October 10—

Morning: Opening business session preceded by meeting of Executive Committee. Opening ceremonies; applications for membership; election of new members; officers' reports; address of welcome and response.

Afternoon: Inspection tour arranged by local committee.

Evening: Business session. President's address; communications; resolutions; amendments; question box.

### Second Day, Wednesday, October 11—

Morning: Business session; papers; discussions.

Paper—"Playgrounds in Parks, from a Designer's Viewpoint," by J. C. Olmsted, Brookline, Mass.

Discussion led by H. S. Richards, Chicago; M. L. Moore, Toledo; Laurie D. Cox, Syracuse.

Paper—"Trend of Playground Movement as it Affects Parks," by L. H. Weir, Cincinnati.

Discussion led by J. B. Shea, Boston; Geo. Champion, Winnipeg; J. W. Thompson, Seattle.

Paper—"Social Aspects of Park Properties," by Dr. Graham Taylor, Chicago.

Discussion led by G. A. Parker, Hartford; G. W. Burke, Pittsburgh; F. C. Albers, Cleveland.

Afternoon: Recreation as arranged by local committee.

(Continued on page 367.)

# DIRECTORY

NATIONAL ASSOCIATIONS, LOCAL SOCIETIES  
AND GARDEN CLUBS WILL BE FOUND IN  
JANUARY, APRIL, JULY, OCTOBER, NUMBERS.

## HORTICULTURAL EVENTS

American Dahlia Society's Annual Show, Engineering Building, 25 West 39th st., New York, N. Y., September 26-28.

Horticultural Society of New York, Fall Exhibition, American Museum of Natural History, November 9-12.

Annual Chrysanthemum Show of the American Institute, Engineering Building, 25 West 39th st., New York, N. Y., November 8-10.

New Haven Horticultural Society Annual Exhibition, New Haven, Conn., September 13-14.

New London (Conn.) Horticultural Society, Chrysanthemum Show, November 8-9.

Newport, R. I., Mid-Summer Exhibition, Newport Garden Club and Newport Horticultural Society, August 17-18-19.

Rhode Island Horticultural Society's Flower Show, September 12-13 and November 14-15, Providence, R. I.

St. Louis Spring Show, 1917, St. Louis, Mo., March 15-18, 1917.

Tarrytown (N. Y.) Horticultural Society, Chrysanthemum Show in Music Hall, Tarrytown, November 1-3.

Westchester and Fairfield Horticultural Society, Fall Show, Greenwich, Conn., October 31 and November 1.

## SEWICKLEY HORTICULTURAL SOCIETY.

A well attended meeting of gardeners and florists was held on Monday evening, July 17, at G. Wessenauer's Flower Shop, Broad street, Sewickley, Pa., to discuss the forming of a new society for this district. G. Wessenauer was temporary chairman. The meeting was very enthusiastic, all the gentlemen present stating their intention to become members of the new organization. It was then decided to become known as the Sewickley Horticultural Society; also agreed that membership be open to anyone interested in Horticulture.

The following officers were duly elected: President, G. Wessenauer; vice-president, R. Boxel; treasurer, Wm. Thomson, Jr.; secretary, M. Curran. Executive Committee: Alex. Davidson, J. Carman, J. Barnett, Wm. Thomson, Sr., and Chas. Patton. The president named the following committee on by-laws: Wm. Thomson, Jr., C. Patton and J. Barnett.

The society agreed to meet second Monday of each month. Next meeting will be held at Wessenauer's Flower Shop, August 16, at 8 p. m. All gardeners in the district are invited to attend and to bring along their friends, thus making the society be from the beginning a grand success.

M. CURRAN, Secretary.

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## NASSAU COUNTY HORTICULTURAL SOCIETY.

A Sweet Pea exhibition was held in conjunction with the monthly meeting of the Nassau County Horticultural Society at Glen Cove on Wednesday evening, July 12. While the exhibits were not very numerous they were of very good quality and made an excellent display. James McDonald, Henry Gibson and Ernest Westlake acted as judges. Herbert L. Pratt (Henry Gant, gardener) was awarded first prize for 12 varieties of Sweet Peas, 12 sprays of each, and for 6 varieties of Sweet Peas, 12 sprays of each, and Special Mention for a collection of Herbaceous Flowers. W. E. Kimball (James McCarthy, gardener) received first for 25 White, for 25 Pink and for 25 Red Sweet Peas and second for 6 varieties of Sweet Peas, 12 sprays of each.

President James McDonald presided at the meeting at which a great deal of routine business was transacted. Two new members were elected. It was decided to hold the annual chrysanthemum Show in Pembroke Hall, Glen Cove, on November 2 and 3. The society's prize for 25 White, 25 Pink and 25 of any other color Sweet Peas were all captured by Henry Gant.

JAMES MCCARTHY, Cor. Sec.



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This one is in a rapidly sloping location, which condition has been turned to distinct advantage by utilizing the space beneath, as a work and storage room; which need would otherwise

have required a special building. The house itself is constructed of U-Bars, giving to it that light, bubble-like result which means so much to you, in both the quality and quantity of blooms produced.

Other houses may at *passing glimpse*, look like the U-Bar, but that's the only way they are like it. No other house is constructed with U-Bars or has the U-Bar constructed curve eave. It is a construction as indestructible as it is of proven highest producing efficiency.

Look into the U-Bar. Send for catalog. Or send for us. Or both.

## U-BAR GREENHOUSES

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### AMERICAN ROSE SOCIETY.

The following new roses have been registered with the American Rose Society:

By Frank L. Moore, Chatham, N. J., Muriel Moore. The flower is white; when in bud it is a bluish white. The bud is longer than that of My Maryland and not quite so double. The foliage is distinctly different, the leaflets having a rich green color; are narrower and have edges more finely serrated; in fact, the edges are almost smooth. It is a profuse bloomer.

By Howard & Smith, Los Angeles, Cal., Los Angeles. Color flame pink shaded to yellow, toned with salmon. Foliage light green, extra heavy. Buds long and pointed opening to a bloom of large proportion. A cross between Madame Segond Weber and Lyon Rose. Growth exceedingly vigorous; has none of the die-back habits of Lyon Rose.

The Hartford Rose Test Garden Committee has made the following report:

The committee appointed to judge the new rose entries visited the Hartford of plant specimens and seeds, a

pa time in which he had been passionately interested from childhood.

After his discharge in 1864 he went to work in the nurseries of Hovey & Co., at Cambridge, where the patient, devoted young student found ample opportunity for the indulgence of his enthusiasm and indomitable energy in the realm of botanical classification, geographical distribution, propagation and cultivation of plants. His introduction to the public came through his recognition of the Scotch heather which had been growing wild in Massachusetts and his making the fact known to the world.

In 1871 Mr. Dawson was offered a position under Francis Parkman of the school of horticulture of the Bussey Institution. Then, after two years, Professor Charles S. Sargent took the place of Mr. Parkman, and a little

### HOLYOKE AND NORTHAMPTON GARDENERS' AND FLORISTS' CLUB.

The regular meeting was held August 1 at the establishment of R. S. Cary, South Hadley. Attendance was well up to the average and practically the whole time was devoted to the reading and discussion of



essays. H. E. Downer read one received from the National Association of Gardeners entitled "Horticulture as a Profession from the Standpoint of a Gardener," written by J. Johnson, N. Y. This was full of good points and a most interesting discussion ensued.

G. W. Thornmiley, florist at the State Hospital, read a paper entitled "Reminiscences of Bedding Plants," from which we gathered that some of the stock offered today falls short of the standard of quality obtaining in years past. This naturally started something and the discussion ranged all the way from the customers' pocket-book to the problem of obtaining efficient help.

Mr. Thornmiley also entertained us with his experiences on a recent trip to Florida. His description of the vegetation was such as to make us wish to see for ourselves.

H. E. D.

#### THE GARDEN CLUB OF ALLEGHENY COUNTY.

A great Flower Show will be held in Pittsburgh in June of 1917, under the auspices of The Garden Club of Allegheny County. The proposed date is June 13 to 16.

One of the largest and most centrally located halls in Pittsburgh will be engaged wherein to make the display. The plan and scope of the exhibition will be of the most comprehensive character. The choicest products of the many fine gardens in Pittsburgh and vicinity will be displayed in competition to an extent never before attempted in that city.

An opportunity will also be afforded to florists, nurserymen, seedsmen and other allied trades to participate therein. A preliminary schedule offering \$5,000.00 in prizes is now being drafted. This will be sent out to gardeners, growers and everyone interested as soon as possible so that they may have ample time to grow and prepare their exhibits.

Arthur Herrington of Madison, New Jersey, who has so successfully managed and arranged recent large exhibitions in New York, Newport and other places, has been engaged as manager.

#### HORTICULTURAL SOCIETY OF NEW YORK.

This society will hold an exhibition on Saturday and Sunday, August 19 and 20, in the museum building, New York Botanical Garden, Bronx Park, New York City. It will be mainly a gladiolus show, but premiums are also offered for Montbretias and also collections of annual flowers. The exhibition committee is also authorized to award prizes for exhibits not included in the regular published schedule of premiums. Such exhibits will be welcome. Schedules are now ready for distribution and will be sent on application to the secretary, George V. Nash, New York Botanical Garden, Bronx Park, New York City.

GEORGE V. NASH, Secretary.

#### SOUTHAMPTON (N. Y.) HORT. SOCIETY SUMMER SHOW.

The Southampton Horticultural Society held its tenth annual exhibition of flowers and vegetables on July 26 and 27 last. Although for nearly a week before the exhibition the gardeners had to combat the effects of storm, rain and fog, the exhibition consists chiefly of outdoor flowers.

One very good display was from H. H.



## Consider This Point About Alphano And Make Your Lawn This Fall

OVER and over again it has been proved beyond all dispute that the tiny soil bugs called bacteria, have as much to do with the soil's fertility as any one thing.

One thing certain, where there is no bacteria, there nothing can grow.

It is now freely acknowledged that the most valuable part of animal manures is the humus they contain. This fact is so mainly because it is in the humus that the bacteria thrives and multiplies.

The office of the bacteria is to gather nitrogen from the air and liberate the min-

eral foods locked up in the soil.

They are soil digesters.

Alphano Humus fairly teems with all the essential bacteria.

Make your lawn with it this Fall. It furnishes abundant food for the immediate use of the roots. It will freely inoculate the soil so that by next Spring the grass roots will also have an ample supply of rich, predigested foods all ready for the growing season's demand.

The same fact applies to your garden and shrubs.

The Fall use of Alphano is just plain, simple common sense.



\$12 a ton in bags  
\$10 a ton in bags by the carload  
\$8 a ton in bulk by the carload  
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Rogers (gdr., R. Melrose), which consisted of Begonias in pots and hanging baskets, also Gloxinias and Archimenes. The judges awarded this a gold medal, certificate of merit for arrangement and certificate of culture.

Among some of the successful exhibitors were Henry A. Dreer, Inc., Philadelphia, for Water Lilies; Julius Roehrs Co, for hardy cut flowers; John Lewis Childs, Flowerfield, L. I., for display of Gladioli.

Among others there were I. Hicks & Son of Westbury, William Trieker of Arlington, N. J.; the Sharonware Workshop of New York and the Fulper Pottery Co. of Flemington, N. J. The judges were Messrs. Howard Nicholls of Yonkers, N. Y.; W. A. Manda, Orange, N. J., and John Brock of Tuxedo, N. Y.

In the dinner table class on the second day there were six entries. Mrs. Rufus L. Patterson was first, Mrs. Horace Russell, second.

#### NASSAU COUNTY HORTICULTURAL SOCIETY.

The monthly meeting of the Nassau County Horticultural Society was held in Glen Cove on Wednesday evening, Aug. 9, President James McDonald presiding. The schedule of the coming Dahlia Show which had been prepared by the executive committee was read by Robert Jones, chairman of the committee, and was very favorably received. It contains 63 classes, covering exhibits of dahlias, roses, other outdoor flowers and vegetables; also a class for the best decorated dinner table. It was decided to adopt it as read. With only one or two exceptions the classes are open to all for competition and all exhibitors will be welcomed.

Secretary Gibson is still receiving many offers of prizes for our chrysanthemum show, and the outlook is most favorable for a very successful exhibition.

John Ingraham of Oyster Bay had a gorgeous display of gladioli on exhibition, for which he was awarded a certificate of culture and the thanks of the society. Harry Goodband was awarded first for 12 spikes of gladioli and first for 12 asters. John W. Everett won first for 6 tomatoes. Messrs. John Johnstone, Joseph Robinson and Thomas Twigg acted as judges.

By request Mr. Ingraham gave a talk on gladioli, in which he told of his method of culture, and also mentioned the varieties which he had found to be most suitable for growing conditions on Long Island.

JAMES MCCARTHY, Cor. Sec.

### BULBS IN GRASS.

I have taken a deep interest in this subject for a long time, and it is surprising to me how long bulbs will continue to flourish without being disturbed. Crocuses planted here in 1884 give grand results every year: in fact, I think they improve. They were planted singly, one corm in a hole, with some added compost. I have counted as many as eighty blossoms on a single clump of the yellow form, the result of planting one corm. I mention these points to encourage any intending planters, as I know there are many who are sceptical as to the lasting capabilities of bulbs, and especially Crocuses. It is doubtful whether any kind of bulb succeeds better in grass than the Crocus.

Amongst Narcissus, *Telamonius plenus* is perhaps the hardiest and the most profuse-flowering bulb in grass, and certainly none have a more pleasing appearance, as the deep orange color is very effective. How long clumps will continue without disturbance I know not, but they have grown here to my knowledge for thirty-eight years, and show no signs of deterioration. To succeed with bulbs in grass, the grass should not be cut until the foliage has naturally ripened, and this is where so many persons fail, as they fancy bulbs can be grown successfully in the lawn proper.

The most simple and the most effective method of planting is by the aid of an iron bar, making a hole nine inches deep, putting in, firmly, six inches of rich compost, planting the bulb, and filling up the hole with similar compost. The grass quickly grows over the surface, and the bulbs reap the benefit of the added compost for many years.—*Exchange*.

### PRIMULAS FROM AMERICA.

#### An English View.

The great continent of America is not specially favored in the possession of native Primulas. In all, there are said to be about nineteen or twenty species, of which some eight or so are microforms of others, but are known by specific names. Of these, not a great number are in cultivation, and but few are obtainable in nurseries.

Our own Bird's-eye Primrose, *Primula farinosa*, is one of the species found in

North America, and is too well known to require description. It accounts for no fewer than five microforms, differing more or less, but hardly of horticultural value when we have *farinosa* itself. The microforms are *americana*, *davurica*, *groenlandica*, *magellanica*, and *mistassinica*. The others of the same section, *P. farinosa*, *P. borealis*, and its form *Loesi*, *P. egallicensis*, and *P. integrifolia*—which is a different plant altogether from *P. integrifolia* from the Engadine, and is a form of *P. sibirica*—are practically negligible for garden purposes.

The section called *Cuneifolia*, which includes some three species, comprises two

American Primulas, which are in cultivation, and which deserve consideration. The third, *P. saxifragifolia*, is a form of *P. cuneifolia* from Japan and East Asia, and is not available. The others are in commerce, and have been cultivated with more or less success. Of these *P. Rusbyi* has purple flowers, of a peculiar shade, and is not specially attractive. It comes from Mexico, and, although hardy in many parts of the United Kingdom, is difficult in every way. The most successful growers I know cultivate it in pots in a cold house, with the pots plunged in ashes and with similar material put over the crowns in winter. It comes late into bloom.



Every LUTTON Greenhouse, like this one, is so flooded with light that you can see clear through it from end to end without observing any heavy shadows.

### Formula for 100 Per Cent. Greenhouse Satisfaction

- LUTTON V-Bar Frame, guaranteed rust proof and casting less shadow than any other type of frame.
- All metal parts rust-proofed, even the smallest bolts and screws.
- Curved eaves, free from shadow-casting members.
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- Absence of glass-to-metal contact, which minimizes glass breakage.
- Cast iron wall ventilating panels.
- Everlasting slate benches.
- Heating and ventilating apparatus under perfect control.

Such a house, designed and built by the LUTTON COMPANY'S staff of experienced horticultural architects and engineers, and operated by a competent gardener, is sure to give its owner 100 per cent. satisfaction, not only in results, but also in pride of possession and in freedom from repair expense.

However, at times we are called upon to build greenhouses which do not include some of these features, just as you, at times, are called upon to plant certain things when your own judgment tells you that it would be better to plant

something else. We are glad at all times to figure on building greenhouses of All Types and Sizes, but we have only one standard of quality for each type—the very highest.

The illustration above shows a LUTTON Greenhouse erected on the new estate of C. K. G. Billings, Esq., at Locust Valley, Long Island, better known as the Piping Rock District. The well-known James Bell is in charge here.

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The other, *P. suffrutescens*, is of easier cultivation. It is a real rock garden plant of sub-shrubby habit, and loves a light, well-drained soil. It is hardy well north. It also does very well in pots in a cold house or frame. *P. suffrutescens* has deep green leaves and good trusses of cherry-pink flowers. It can be multiplied by cuttings, layers, and seeds.

To the third section, that of *nivalis*, we owe the best of all the American *Primulas*. This is *P. Parryi*, a noble plant, which is difficult to grow with many, but which others succeed quite well with. It is a handsome plant, with erect leaves and trusses of very brilliant crimson-purple flowers. The finest specimens the writer has ever seen were growing in an ordinary border, with slight shade from fruit trees. Other good plants were in good loam in a bed of roses. Others grow it in damp, but well-drained loam, leaf-soil, and peat, in partial shade. It is such a handsome plant that it is well worth taking care of, but the difficulty seems to be to secure sufficient moisture with ample drainage. The other species of this section, *P. angustifolia*, *P. Cusickiana*, *P. eximia*, *P. Macouni*, and *P. pumila* may be passed over as either unprocurable or inferior to others of the magnificent genus to which they belong.—*Gardeners' Magazine* (English).

CULTURAL NOTES ON VIOLETS.

It will soon be September and time to house the plants of the double varieties of violets that are grown in the field, the more successful growers being of the opinion that the plants should be under glass before the season of heavy dews. In preparing the beds have plenty of old leaves; it is not necessary that they be rotted; in fact, leaves gathered last fall are to be preferred, for they will generate a little heat in the soil and the violet plants seem to grow and push their roots into half-rotted leaves better than in leaf mold that is finely decomposed. A layer of three inches of leaves in the bottom of the bed will prove of great advantage in violet culture. Whatever manure is used should be thoroughly rotted. The violet will not root into fresh manure at all. An old gardener, who was very successful in violet culture, once told us how he prepared his frames. They were made in a similar manner to hotbeds, only instead of manure a foot of leaves was placed at the bottom and eight or ten inches of soil placed on them. The leaves will furnish a mild heat nearly all winter and greatly assist in keeping the frames warm. We tried that method the following fall and thinking that the leaves would not furnish nutriment enough we incorporated a good quantity of half-rotted manure in the soil, the manure still being more or less lumpy. The violets grew finely and produced an excellent crop of large flowers. In the

# Hammond's Copper Solution Hammond's Grape Dust

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For Black Spot on Roses or Grapes use HAMMOND'S COPPER SOLUTION.

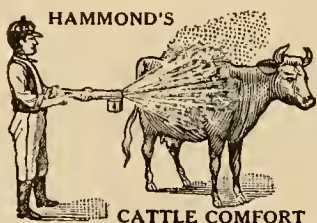


For Mildews on Roses, Rust on Grapes, Roses, Carnations, use HAMMOND'S GRAPE DUST, in use full thirty years.



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Saves Currants, Potatoes, Cabbage, Melons, Flowers, Trees and Shrubs from Insects. Put up in popular packages at popular prices. Write for free pamphlet on Bugs and Blights, etc., to B. HAMMOND, Beacon, New York.



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In use over 25 years  
Cattle Comfort is an unctuous preparation, detrimental to flies and gnats that afflict domestic animals—to be applied to the base of the horns, along the back to the root of the tail and on the neck and fore quarters.  
The application of Cattle Comfort will relieve Cattle, Mules, Horses, Dogs, and Fowls from the noxious effects of Horn Flies, Gnats and Mosquitoes, and is healing to any sore. Applied to the perches in the hennery it prevents the spread of lice; put on the heads of fowls it destroys head lice; applied to mangy dogs it a Ford's relief and effects a cure.  
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SOLD BY THE SEEDSMEN.

## HAMMOND'S PAINT AND SLUG SHOT WORKS

BEACON, N. Y.

spring when we lifted the plants we found the roots had all gone into the leaves, there being no feeding roots in the soil, and in making their way through the loam had avoided all the manure, this still being in the lumps as when placed in the soil. In lifting the plants avoid allowing the roots to become dry; lift with a good clump of soil and do not keep the plants too long in the air, only lifting what can be handled expeditiously. Plant firmly, but avoid walking on the beds; water as soon as planted and water well, so that the soil will be firmed around the plants. Shade for a few days until growth starts, and then give all the air and light possible.—*American Florist*.

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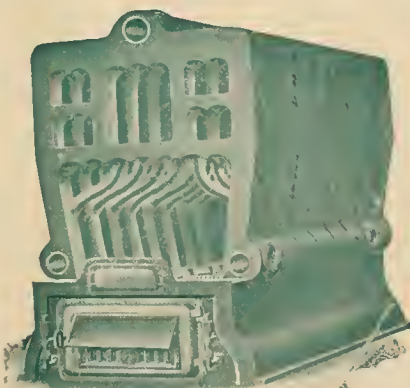
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# GARDENERS' CHRONICLE

OF AMERICA

A  
HORTICULTURAL DIGEST



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—*the critic*

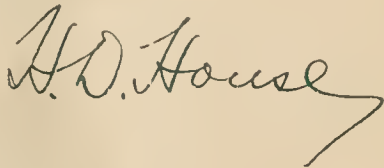
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### His answer

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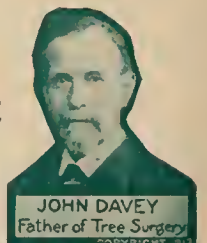
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All this stock is in perfect condition. Inspection solicited.

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*A complete list of all*

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FREESIAS—IRIS, NEW EARLY FLOWERING DUTCH.

Novelty Winter Flowering Spencer Sweet Peas.

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*If we do not have your name on our catalog register, please write for one.*

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*Stumpp & Walter Co*

30-32 Barclay Street  
NEW YORK CITY

# GARDENERS' CHRONICLE OF AMERICA

Devoted to the Science of Floriculture and Horticulture

Vol. XX.

SEPTEMBER, 1916.

No. 9.

## *Things and Thoughts of the Garden*

By The Onlooker

**A**SSUREDLY this has been one of the most trying seasons we have had for several years. Until the end of June or nearly until then, there was rain at frequent intervals accompanied for the most part by cool temperatures. Many seedlings died; those that made a start did so slowly. Then since the early part of July there has been a period of drought, and over all the middle western part of the country, and as far east as the lower New England States, a high temperature ruled as well. The whole Aster crop in these parts has been burned up. Happy the man who had an irrigation system on his place. I have not even a hose pipe laid down and as a consequence my Asters have come to nothing. On the whole, however, the flower borders look not so bad. Among the more brilliant bloomers were the Zinnias, Stokesia, Nierembergia, the Balsams, Cannas, Scarlet Sage, Gypsophila, Phlox Drummondii, Petunias, Verbenas, and Four-O'Clocks. These are a few of the specially successful drought resisters here. Things that have not been really satisfactory are Montbretias, dwarf Anemones, Nasturtiums, which have scarcely thrown a flower all summer and many were thrown out in disgust long ago. Geraniums have been a kind of half hearted—some good some bad. One thing is noticeable in all of this, that the plants that were put out early, say in April or the first few days of May, have succeeded best, which is natural. It may be remembered that after the snows melted about the 12th of April the weather remained warm and open. Had we known how it was to remain so we could safely enough have got the greater part of the bedding plants out by May 10. There is much advantage in an early start. Gladioli have also fizzled out quickly, but on the whole they have been a great blessing in the cut flower supply. Now the noble Galtonia candicans is coming in and the Dahlias are at their best. It has been a dreadful season for them. What fine subjects the yellows and the scarlets are, especially in show and cactus types.

\* \* \*

From the reports from Houston, Texas, where the national association of florists had their annual convention, it was noticeable that one of the best features in that warm and rather trying climate was the American Beauty Roses in the open beds. This seemed very remarkable. One naturally enough expected to read of grand Water Lilies and pond vegetation, but the success of the Roses only emphasizes anew the fact that these are the finest and best plants of all temperate countries. No person who grows even one dozen plants need be without a bloom or a bud to pick the whole Summer through;

even into November we usually have a few. What a gem Ophelia is. More and more I am confining my choice to Roses of first class shape, supported of course, by vigor of growth and constitution. Another commendable variety is Duchess of Wellington. Jonker J. L. Mock is one of the best of the rose pinks, also Mme. Melaine Soupert, a fine large flowered primrose variety; and Mme. Jules Grolez, a thrifty, very dwarf Rose with firm, well made blooms and I lately saw Mme. Edouard Herriot doing finely in a northern garden, while Radiance is another of the best both in the open and under glass. The new Gorgeous, which M<sup>r</sup>. Totty has introduced, has given a good account of itself in England; and Constance, another novelty, is well spoken of, being described as an improved Rayon d'Or. No garden can have too many Roses and now is the time to plant them.

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I feel a warm word of commendation is well deserved by that fine dwarf annual named *Hunnemannia fumariacopolia*. It grows about a foot high, has Poppy-like yellow flowers, glaucous dissected leaves, and blooms very persistently all the latter part of the Summer and into the Fall. It seems to resent transplanting; at least at no time have I had success even with the most careful handling in showery weather. Sow the seeds in May in the place where the plants are expected to flower. One splendid point in favor of *Hunnemannia* is its good keeping qualities when cut. It remains in fine condition for three and four days even in warm weather. It also ships well.

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Everybody is now busy re-arranging their hardy flower borders or planning new ones; while trees, shrubs, fruits, evergreens can be and are being set out. I have been looking over a very helpful book lately, named Cridland's "Practical Landscape Gardening," published by the De La Mare Co., of New York, at \$1.50 net, and find it thoroughly businesslike and very helpful in laying out grounds and gardens.

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A weather bulletin put out recently by the Meteorological Department at Washington went at some length into figures as to the meaning of an inch of rain. We had always reckoned an inch of rain as equal to one hundred short tons to the acre, but according to this bulletin the actual amount is equivalent to  $113\frac{1}{4}$  short tons per acre. "An acre of ground contains 43,560 sq. ft., consequently a rainfall of one inch over one acre of ground would mean a total of  $43,560 \times 144$ , or 6,272,640 cubic inches of water. This is equivalent to 3,630 cubic feet. As a cubic foot of pure water weighs about 62.4 pounds,

it follows that the weight of a uniform coating of one inch of rain over one acre of surface would be  $3,630 \times 62.4 = 226,512$  pounds, or, as stated, 113 $\frac{1}{4}$  short tons." What is there in rain that there is not in ordinary supply water? We all know how very little effect watering has, that is, artificial watering, compared with rain. Does the rain bring down nitrogen, carbonic acid, oxygen, or what does it bring? Is it the warming it gets that softens and adds to its value to the plants? In the irrigation systems we see the nearest approach to rain that man has devised, and this form of watering is very good. What the land certainly does not want is a beetling deluge of water either from a hose or by a thunderstorm.

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Among the plants in the garden of old-fashioned flowers in Prospect Park, Brooklyn, N. Y., are the following: Phlox, Larkspur, Coreopsis, Rudbeckia Golden Glow, China Asters, Dahlias, Polygonum cuspidatum, Four o'Clocks, Balsams, Petunias, Verbenas, Sage, Rose Geraniums, African Marigolds, Zonal Geraniums, Sweet Alyssum, Nasturtiums, Evening Primrose, Lilium candidum, Cerastium, Sedum spectabile, Red Hot Poker, Bergamot, Snow on the Mountain (*Euphorbia marginata*), Boltonias, hardy herbaceous Asters, Physostigias, Phytolacca or Portwine plant, Joe Page Weed and Meadow Rue. This is not a complete list, but comprises the chief subjects. The plants are in great masses of a kind in riotous profusion, with winding paths in and out and round about. This collection is also called the Grandmothers' Garden.

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A horticultural writer the other day was recommending his readers to try to get new or young potatoes from old ones by simply placing the old tubers on a shelf and keeping them moderately moist. By doing this and keeping them also in the dark in an average temperature of about 60 deg., the new tubers in a few weeks grow from the old ones. It is true that at least one man that I know succeeds in getting nice fresh potatoes in the late autumn by this method, but he is positively the only one I ever heard of who did succeed. I tried the game twice and got nothing but sprouts. When a man recommends a thing he ought to say what amount of likelihood there is of the crop appearing, but there is too much striving to be, or appear to be, original with some of our writers. These same have the knack of beating out a grain of gold to cover a square yard.

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Having all but failed with the Sweet Pea crop in the open air this Summer, we are just as full of zest as ever to have a good stand under glass in the coming winter. October is an excellent month in which to sow, whether it be right into the soil of the floor of the house or in raised benches. The former is the more natural, and, for the tall growing modern varieties, it is the only suitable way. Many sow now, however, in small pots and grow on the plants in cold frames until after the Chrysanthemums are over, when they are either planted out in the solid beds or are at that time potted into their final pots, which may be 12 in. in size. This latter is a fairly good method and in the hands of a careful man, gives excellent results. Everybody is sowing Yarrowa. It is such a free-growing variety and so persistent in its blooming. Let us hope that the others of those Australian varieties that Stump & Walter Co., Arthur T. Boddington Co., Burpee and others are advertising will be as good. But there are also Mrs. Joseph Manda, a beautiful soft rose pink; Bridal Veil, white, Sensation, an improved Christmas Pink; and Anita Wehrman, lavender. There are abundance of varieties now to choose

from, but no one can go far wrong in selecting these. The Fordhook Pink and Fordhook Rose are each strong and throw long-stemmed flowers.

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Among the annuals that can be sown at once for Spring flowering, the Schizanthuses and the Clarkias are my prime favorites. Do we always make the most of the annuals? There are quite a number that fill a useful place. Take the humble Pot Marigold that has come to the front in the last year or two as an example. There are other things equally meritorious that have yet to be tried. At Kew Gardens, London, they used to make a regular practice of growing little known things, many of them old plants that had passed out of sight, although well deserving recognition. New introductions were similarly treated, and in this way the public and the trade had many a subject brought to notice that otherwise would have blushed unseen and spread its beauty on the desert air. It may not be known how fine a plant the annual Gypsophila is for Winter, yet if sown in January, in shallow boxes, and grown on fairly well up to the light, it comes rapidly onto flower and affords fine material for cutting. In the same way the Sweet Alyssum is desirable and easily handled. The blue Swan River Daisy (*Brachycombe iberidifolia*) is a third dwarf annual we can recommend, while of course there are Godetias, Linarias, Pansies, Mignonette, Oxalis rosea, Impatiens Holstii, Trachelium caeruleum and Primroses of sorts as Malacoides, Forbesii, Bulleyana varieties, and the scarlet Cockburniana. Some of these are not strictly and truly annuals, but can be treated as annuals. The fact is we don't experiment enough; in experimentation lies half the pleasure of gardening.

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We have been gathering the berried branchlets of the Candleberry or Wax Myrtle, also called Bayberry (*Myrica cerifera*), which grows freely on the low gravelly hills near us. This dwarf shrub much resembles a Ghent Azalea and produces tufted clusters of light grey berries about the size of small peas close upon the stems. In days gone by the folks in Connecticut, where the Candleberry also is abundant, used to boil the berries and skim off the saponaceous element for making candles. In the last two or three years this shrub has been sent into the markets at Christmas where it has found a ready sale among retail florists. We have had some sprays in a vase for over a year and they are just the same as when first brought in. There is a quiet decorative beauty and unique character about them that make them highly desirable. At the present time when the fragrant leaves are still on the branches, they have an added charm.

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Wherever the Winterberry (*Ilex verticillata*) grows this too, should be cut for household decoration. It is abundant in Michigan and around the shores of the Great Lakes. This is much more largely employed by florists than the Candleberry is. Snowberry, Haws, Berberis, and Spindle tree are among other berried shrubs that are used temporarily in decorations. We can likewise soon gather in our store of Everlasting flowers like the Helipterums, Gomphrenas, Helichrysums, Ammobiums, Gnaphaliums and such flowers, as well as some of the fancy grasses. Indeed, the latter should have been got ere now in most instances—those like Hare's Tail, Quaking Grass, Feather Grass, Cloud Grass, as well as the larger kinds, including Pampas Grass and the very graceful Miscanthus gracillima. The mention of these latter brings to mind the magnificence of the Miscanthuses (or Fulalias, as they are often called) for planting in beds, borders, and in the front part of shrub-

berries. *Arundo Donax*, the Giant Reed, is another of these fine ornamental grasses that deserves a place, even if it has to be protected against severe frost in Winter. If any one wants to see bold clumps of these subtropical looking grasses let him visit the Widener estate at Ogontz, Pa.

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Who would not have a little bed or planting of the *Physalis* or Winter Cherry? This is quite undeservedly neglected, and one is led to believe that it is far less well known than ought to be, the case. In favorable localities and situations around New York, on Long Island and down through New Jersey it is perennial, and once established scarcely needs any care. A little top-dressing to enrich the soil is a help. It produces clusters of orange red "Chinese Lanterns," each the size of a medium apple. It is easily raised from seed which can be sown early in the Spring.

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Those who are in a position to gather hardy fern fronds can do so soon and place them in cold storage (if they are also lucky in having a cold storage cellar) for the winter. They come in very useful for the table or for the display of fruit, and materially help out when the finer indoor ferns are none too plentiful. Cut also Beech and Mahonia and dry them.

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Before the next issue of *THE GARDENERS' CHRONICLE* comes out, the greater part of the Holland bulbs will have been planted. There is likely to be an excellent opportunity to buy in quantity at exceedingly moderate rates this year, and it may be timely to call attention to some of the smaller and finer *Narcissi*, the Snowdrops, *Puschkinia libanotica*, the Grape Hyacinths, Squills, etc., which are not of so much account out of doors in our rigorous Winter and Spring but which, if potted up in November and carried through in cold frames, can be flowered in a moderately heated greenhouse or conservatory as early as the month of February. Others can be brought on in succession through March and April. Hardy plants of a dwarf neat growing habit can also be used in this cool house. The minimum of heat is required; the chief thing is to shelter the little plants from the snows and the frosts and so give them a chance to come along and display their marvelous loveliness when nothing is to be seen in the great outdoors.

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Why not take occasion this autumn to get a real good supply of the finer Darwin Tulips? The early flowering Tulips are desirable too, but for sheer grace and supreme beauty there is nothing in the whole floral world more desirable than the long stemmed Darwin and Cottage Tulips. Clara Butt, Pride of Haarlem, Europa, Bouton d'Or, Harry J. Veitch, Rev. Ewbank, Psyche, Inglescombe Pink, are among the finest that occur to mind as examples, but any of the large bulb merchants can make out a list of the most desirable two dozen. The bulbs will do well in the same position and in the same soil for two years in succession, but should be lifted after that and be thinned out, the offsets being taken away and grown on to be planted for flowering the second year after, unless they are of large size, when they will flower the next Spring after the autumn in which they are set out.

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Every garden, large or small, must have, and ought to have, some evergreens. We don't plant anything like sufficient. True, it costs money to do much planting of evergreens, or of deciduous stock, either, and then there is

the danger of their being attacked by red spiders and other pests in our dry summer. Yet every section has one or more good evergreens that do well. For New Jersey southward there is the Red Cedar (*Juniperus Virginiana*); for northern New York, the Hemlock and spruce; for New England, the Balsam Fir, Spruce, Scotch and Austrian Pine, while for garden uses in all these sections where special attention can be given the list of decorative evergreens is large and comprises *Retinospora pisifera*, *R. filifera*, *R. squarrosa*, Colorado Blue Spruce, Hemlock Spruce, Japanese and Canadian Yew, *Thuva gigantea*, *Biota orientalis*, Japanese Box, *Libocedrus decurrens*, Japanese Larch, also *Taxodium distichum*, *Juniperus Sabina* and *Juniperus chinensis*, *Cedrus atlantica*.

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Make inquiries of your nurseryman—some for fall and some for spring planting. He may have difficulty in getting one or the other of the plants, but keep at him. It is his duty to supply you with what you want, and if he is not awake to the need of the time, rouse him!

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Some inquiries: Do you grow Black Currants? I have had a marvelous crop this year. A very healthy, excellent fruit is this. Have you thought about your bulb order for this fall? Don't forget that the Darwin Tulips can be successfully forced. They are among the stables and grandest of all flowers. The Loganberry is an American raised (Californian) fruit like a Raspberry, but darker, yet is but little grown in gardens here. Why is this? The fruit is slightly acid. Swiss Chard, also called Seakale Beet, is one of the finest vegetables for a small garden. It is the leaves that are used. A short row will keep a family supplied all summer. Are your Asturians flowering? Mine are just a mass of leaves. These I have kept cut over several times to let light into the flower buds, but still no luck. Look up *Oxalis lasiantha*; it is a splendid red flowered summer blooming species. Plant *Forsythia suspensa* where its branches can fall over a bank or rocks or the side of a wall or bridge.

#### THE EDIBLE ASPARAGUS.

TO have really good asparagus a thorough preparation of the soil is necessary. While this popular vegetable can be grown in almost any soil, it prefers a sandy or gravelly loam that has been deeply plowed, or spaded, and heavily manured. If the bed is for a home garden I would advise hand-trenching a couple of feet deep, working in plenty of barnyard manure. Do not be afraid to use manure liberally; I never knew asparagus to have too much of it. The bed should be prepared in the fall and the planting done in spring. For a small garden the rows may be three and one-half to four feet apart, and the plants two feet apart in the rows. For field culture the rows are better five feet apart, to permit cultivation by horse.

Use one-year-old seedlings, if you can get them. They are equal in size to what the seed stores sell as two-year-olds. Dig or plow out furrows eight inches deep, spread out the roots of each plant and merely cover them with soil. Fill them in from time to time as they grow, until the ground is level. If the roots are covered eight or nine inches deep when planted, a large proportion of them will never grow. Keep the plants well cultivated during the entire summer. Give them a winter mulch of stable manure. In spring a top-dressing of salt and a good commercial fertilizer may be applied. It is better not to cut any stalks until the third season. The plants then will be strong, and a well prepared bed should last twenty or twenty-five years.—*Review*.



# The Rock Garden in September

By William N. Craig, Massachusetts

IT is quite generally assumed that while a rock garden is a thing of beauty in May and June that during the bulk of the balance of the year it is more or less of an eyesore, or at least it is not a part of the garden worthy of more than a very cursory inspection. Much depends on what has been planted in the garden, perhaps the grower may prefer to have only subjects which bloom in Spring or early Summer. In such cases, of course, flowers in late Summer can hardly be looked for, but if, on the other hand, a careful selection of plants is used, a goodly display of flowers may be had at this season, and, in fact, some may be had until frost seals the ground.

I might mention in passing that late Summer and early Fall is a vastly better time to plant out stock for this style of gardening than Spring; some subjects are better left until Spring, but I have found that Aubretias, Androsaces, Leontopodiums, Sedums, Linarias, Arabis, Campanulas, Primulas, Violas, Potentillas, Dianthus, Drabas, Geraniums, Armerias, Arenarias, Silenes, Sem-pervivums and many more rarely fail if planted at this season, if care is taken to give them a light mulch of leaves when freezing weather occurs. A heavy mulch given with the mistaken idea of keeping the plants warm, simply causes such subjects as Helleborus, the large foliaged Saxifragas, Heucheras, Aubretias, and others, to rot, especially when we get such heavy snowfalls as in February, March and April of the present year.

We are too much in the habit of leaving our planting of not only rock plants, but herbaceous perennials, trees and shrubs until the over burdened Spring season. Compare the growth of any of the various types of plants named which have been Fall planted with those set out the following Spring and these latter will be found not in the race at all. Of course, there are some varieties of rock plants, herbaceous perennials, roses, ornamental trees, shrubs and fruit trees which are better Spring planted, but my experience of over a quarter of a century in New England has been that the horticultural craft as yet has failed to see the great advantages of Fall versus Spring planting.

But to return to the rock garden. These notes are penned on September 8 and are intended as a little encouragement to those who may have been laboring under the delusion that a rock garden at this season is little more than a stone pile and without floral beauty.

The question may be asked, "Is it not quite expensive to plant such a garden?" It will be easy spending considerable money on one, if all plants are to be bought, but this is quite unnecessary as with the aid of even a cold frame seedlings can be raised in quantity. Some varieties are slow in germinating, but a large proportion, including many of the most beautiful, are quickly and inexpensively produced in this way. Many can be secured from cuttings and others from division of the roots.

At present the Campanula family probably gives us more flowers than any others in the rock garden. *C. Carpatica*, the well known Carpathian bell flowers, has been flowering since early July and will persist until early December. Some good forms of this Campanula are *Coelestina* with soft blue flowers and *White Star* with extra large white ones of great substance. *C. fragilis* of a delicate trailing habit has quite large flowers, less cup shaped than those of *C. carpatica*. *C. rotundifolia*, the well known "blue-bells of Scotland" can be depended upon to flower practically the whole Summer and it looks particularly well growing out of chinks between rocks

where seed has dropped or been scattered. *C. linifolia* is at its best now, it has very narrow foliage and deep blue flowers very similar to those of *C. rotundifolia*. *C. pusilla*, the miniature hare bell is a little gem growing in compact tufts, four inches in height with soft pale blue or white flowers held erect. This is a very profuse bloomer.

Of course the forms of *Viola cornuta* are known to be the most persistent bloomers of any of the rock plants. *Alba* and *atro-purpurea* are still a mass of bloom. The last named possesses the greater vigor and to be seen at its best should have very little shade, as indeed should the greater number of rock plants. A comparatively small number succeed in heavy shade. *Viola gracilis* var. *Purple Robe*, is a beautiful plant. It lacks the vigor of *cornuta* but its intense violet flowers are larger although much less freely produced.

*Linaria cymbalaria* is a good trailing plant which will grow where there is very little soil and it is one of our best and most continuous bloomers for hanging over rocks. There is a pure white and lilac form. *L. pallida* has lilac flowers, somewhat larger than those of *L. cymbalaria*, but of similar habit. *L. alpina* with purple and orange colored flowers is another good variety, more dainty than the other varieties named.

Androsaces are very charming little plants: flowering just now is *A. lanuginosa*, a gem with pretty silvery foliage on trailing growths, the flowers are rose colored with a deeper eye. *A. primuloides* with rosy lilac flowers is another dainty variety. *Silene Schafta* is a beautiful late blooming catchfly with large bright pink flowers at its best now. *S. maritima* with its grayish leaves is a good trailing plant now, yielding a second crop of its white flowers.

*Papaver nudicaule*, the pretty Ireland poppy, is still blooming. *Globularia nudicaule* which bloomed in June is now giving a second crop of flowers which are of a pretty blue shade. *Heuchera brizoides* is a very satisfactory bloomer with graceful spikes of rosy-carmine flowers; many gardeners would not recognize an old friend *Plumbago Larpentoe* under the newer name our botanists have given it, viz.: *Ceratostigma plumbaginoides*. This latter name is unlikely to come into general use fortunately. *P. Larpentoe* is a pure September bloomer and we have no deeper blue flowers amongst rock plants if we except the *Gentianas*.

*Lotus corniculatus* is a pretty light yellow prostrate growing member of the Leguminosae family which makes a fine carpet of growth. *Leontopodium alpinum* carries more flowers than at any time during the season. The peculiar flower of the Edelweiss enclosed in woolly tracts attracts any one's notice. The flowers in our hot climate are not so white as in their native Alps. *Aster alpinus* is just coming nicely into flower. Its large bright purple flowers are very striking, the form *Himalaicus* with lilac flowers is perhaps the best.

*Tunica Saxifraga* of a graceful trailing habit and small pink to white flowers is a splendid and persistent blooming plant. *Ajuga Genevensis* and *Nepeta Mussini* are of the continuous blooming type. *Myosotis palustris* *Semperflorens*, the water-loving forget-me-not, is still blue with flowers and in very dry locations, too.

*Dianthus deltoides* which was cut over when its first crop of flowers had faded, is again blooming profusely. Brilliant is the best of the pink forms. *D. carmineus*, a much dwarfer grower than *deltoides*, with rich rosy

pink flowers is a glorious variety: in my estimation the finest of all the *Dianthus*. We hardly look for *Primulas* in September, but *P. Cortusoides* is a continuous blooming member of this charming family. *P. Sikkimensis*, *P. Bulleyana* and *P. capitata*, all late bloomers, passed many weeks ago. All *Primulas* do not demand shade. *P. cortusoides* does better in sunshine and the past Summer caused plants of *P. capitata* in moderate shade to rot away altogether in some cases.

Some *Sedums*, such as *Laggeri* and *Carpathicum*, are September bloomers, so is *Erysimum ochroleucum* with its bright yellow flowers. There are still a good number of flowers on *Aquilegia chrysantha*. Amongst taller growing subjects of value in rockeries, *Verbascum Olympicum*, *Olympicum album* and *blattaria* are each carrying some spikes. *Lobelia cardinalis* is hardly

classed as a rock plant, but plants this season in quite dry positions are three to five feet high and still blooming freely. We do not properly appreciate the brilliant cardinal flower as a rock or border plant. It does surprisingly well in the average hardy border. Collect seeds as soon as ripe and sow in a frame. Purchased seeds usually fail to grow at all.

*Geum coccineum* Mrs. Bradshaw is a hardy plant which blooms practically for six months and in quite dry pockets it seems to be quite at home. This is one of the finest hardy plants introduced of late years. The first flowers are just appearing of the *Colchicum*s, or autumn *Crocus*, and they remain with us for some weeks. There are other flowers additional to those named, and no doubt others who grow this most interesting of all types of garden flowers can add many more varieties.

## Opportunities of the Garden

**I**N nearly all gardens of fair size, and even in tiny ones, there may occur sometime some chance variation of a well-known flower. It may be some slight change in color or form, some difference in foliage, which might add to the delight of all gardeners and give to the plant itself some peculiar distinction and charm. Or, if the chance variation does not occur in your own garden, why not offer your assistance (or interference, perhaps) to Nature in the working-out of her well-ordered laws, and held to develop new varieties yourself? This will require, for the most part, only a little knowledge of kindred plant families, and care in the pollinating of the flowers, and later, in segregation from the parent types.

There occurred in our own small garden, five or six years ago, writes *Elma Loines* in *Landscape Architecture*, a variation of the Rocky Mountain columbine. This flower, as my readers well know, is normally long-spurred, and has five petals, which contain the spurs and outside five sepals. The sepals are pure blue; the white corona appears on the inner and upper edge of the spurred petals. The seed-pod has five divisions. The chance variation, which occurred in just two flowers on a plant of possibly a hundred blooms, had no white at all in the petals, no spurs and, one might almost say, no petals, for what now appeared to be petals were really sepals. These were of pure sky-blue, and were no longer five, but ten in number. With this transformation, the whole aspect of the flower changed. It ceased to be a columbine and became something distinct in itself. As the flower unfolded from the bud and came into bloom, it was like a lovely blue chalice filled with the deep gold of many stamens. Gradually it opened more and more, but never lost entirely the appearance of the cup.

From these two flowers were gathered seven rather spindling seeds; and of these seven but two germinated. The seedlings were set apart in a little garden by themselves, but they never bloomed until the third year. They then bloomed gloriously. On one plant were counted one hundred blossoms, on the other fifty; and, oddly enough, each plant produced nothing but the new flower, i. e., there was not a single reversion to the old type. This was remarkable, for, in the working-out of Mendel's law, one would fully expect either that each plant would bear two types of blossoms, or that one plant at least would bear blossoms entirely of the original type. I came to the natural conclusion, therefore, that if the five other seeds of the seven original had germinated, some of them at least would have continued true to type. So, in this case, there was no need to throw out the old, or spurred variety. When the two plants went to seed, a

marked tendency toward variation was at once noticeable in the number of the divisions of the seed-pods, which varied in odd numbers anywhere from three to eleven.

The next generation came entirely true to the new type, with the exception of two new variations, one which showed a tendency on the part of alternate petals (as I will now call them) to become concave, as if they were trying to revert to the spurred petals, which are slightly incurved; the other, a tendency to increase the number of petals, for two blossoms had twelve instead of ten. The seed-pods of this, the third generation, varied somewhat in the number of divisions, but were in general five, i. e., like those of the spurred type.

The new flower, after six years, seems to be pretty well established, although it is of course possible that the spurred type may occasionally recur in succeeding generations. The flower has been named *St. Columba*, as it was derived from a columbine, and chance has it that it is at perfection in the locality where it was first grown about June 9, at the time of the feast of the Celtic saint.

It comes into bloom with the earliest of the spring flowers, and in northern latitudes remains in bloom for six to eight weeks. It is charming as a garden plant and, when cut, is graceful in the house.

If the chance variation does not occur in the garden, another method of developing new varieties may be tried, in order to obtain changes in color, height, or form; that is, pollinating by hand. Considerable care has here to be exercised. The parents of the proposed hybrid must be selected from plants belonging to the same general families. They must come into bloom about the same time. The plants must possess differentiating characters, such as dwarfness and tallness, or differences in color, form, etc. The flower of the seed-bearing plant must be kept away from the influence of foreign pollen during the time that it is in bloom. Just before the flower which is to bear the seed comes into bloom, that is, before the pollen ripens on the anthers of the stamens, all the stamens must be picked off, if the separate flowers are self-fertilizing. Then, when the pollen is ripe and fresh on the pollen-producing plant selected, the pollen may be gathered on a small camel's-hair brush and brushed well over the stigma of the seed-bearing flower. Care must then be taken that no insect bring pollen of the flowers of the seed-bearing plant to the hybrid. This may be accomplished by having the plant off in a small bed by itself, provided that all the flowers be cross-fertilized; or else by covering the special flower with

thin paper or gauze, which will not interfere with the ripening of the seed.

The seeds, when ripe, must be planted off by themselves, and care taken for several generations that the hybrids be kept separate from insect interference or self-fertilization from the pollen of the seed-bearing flower. When the parent flowers of the potential hybrid are very small, if they be closely akin, they may be planted so near together, and yet so far apart from other similar plants, that there is a strong probability that the bees and insects will bring about the desired cross-fertilization. But of course one is taking chances. This method I once tried with success.

By planting two varieties of the viola family close together in a flower-bed apart, and allowing the insects to cross-fertilize for me, because the flowers were so tiny that I thought that hand-pollination would not be so sure of success, I got about forty-five variations in the markings and color of the Alpine violet. The Alpine violet is yellow in the lower and white in the upper petals. The other parent selected was purple and yellow. The hybrids were, in the main, yellow and white, yellow and white with purple or sky-blue veinings, blotches, and stripes, or with the added color only on the back of the upper petals. Each plant would bear many flowers, showing many variations, except those which came true to the parent types, which were pure throughout. Gradually I selected the one that I thought the best, a flower with the lower petals yellow and the upper sky-blue. But, even after several generations, this selected variety would almost invariably alternate on the stem with the Alpine violet. Now I am trying the effects of slipping, in order to get this type pure throughout. But even the oddly marked hybrids, with their differently colored flowers on the same plant, have piquancy and charm enough to be saved, too.

Flowers that lend themselves to experiments of this kind are, among others, the wild white eupatorium of the northern woods. Color might well be introduced by crossing with the dwarf, less hardy variety, *Eupatorium caelestinum*, with its flowers of amethystine blue.

As plants for rock-gardens are now in great demand in this country, the wild white saxifrage offers opportunity for developing and change in color other than pink, which has already been produced.

Color might be given to the wild white clematis.

Many of the mints might be turned into garden plants after improvement in size.

The Labrador tea, too, lends itself to experiment; also the wild cucumber vine, and innumerable other plants.

If opportunities do not seem to offer for the development of new varieties in these two ways, one can always collect abroad seeds of some wild flower not grown in gardens at home. While wandering in the vineyard of a friend above the Porta Romana, in Florence, I was much attracted to the wild dwarf larkspur that I found growing there in profusion. I brought some of the seed back with me and, after trying it out in different soils and location for a number of years, have naturalized it so that it has developed interesting qualities, and is now so much at home that it comes up by itself each year. It responds readily to enrichment of the soil, and makes either a delightful border edging, with its pert little spurred buds and flowers of the blue of Parma violets and its lacy, cut foliage, or a mid-garden plant, where in heavier soil it will grow to a height of two or three feet, and spread out into a mist of blue and green.

Such haphazard experiments as these may well become a hobby with any lover of flowers, and a hobby which will give great joy to anyone who may have the interest and a little summer leisure to pursue it.—*Elma Loines, in Landscape Architecture.*



Courtesy of Mt. Desert Nurseries.

*Spiraea Kamtschatica* Naturalized in Woodland.

# Planning a Wild Garden

IT is doubtful if any branch of gardening has attained a greater degree of popularity during recent years than that known as wild gardening. This can be carried out in an economical manner, often by the owner of the site, and its upkeep does not involve much labor. A well-arranged wild garden is certainly a source of delight, for if the site is fairly extensive, it can be rendered extremely diverse and beautiful in its formation and character.

There are positions adjoining many country houses that would make ideal wild gardens if properly taken in hand by a landscape artist, who would preserve existing and create fresh beauty. It is necessary to depend to a large extent on the existing natural features for the outstanding characteristics, and further developments should be made to harmonize with the surroundings. One usually has to utilize whatever stretch of ground is available, but whenever possible choose an undulating site, as such a position can be made so much more interesting and attractive than a comparatively level area. When dealing with a level situation, it is often possible to vary the monotony of the surface by throwing up mounds and forming miniature valleys in suitable positions, which enables the planter to create more beautiful and diverse features than would otherwise be possible.

An undulating site possesses great advantages, however, for then the work of planting can proceed uninterruptedly. When such a stretch of ground is available and there are already a few large specimen trees to lend dignity to the surroundings, and perhaps a tumbling hillside stream besides, a veritable panorama of beauty can be formed by making a judicious selection of the best shrubs and plants, and by planting them in an artistic and informal manner. In this connection some of the better conifers should be included, as their warm coloring is especially welcome in the winter. Of course, the most striking effects can be created when a broad expanse of ground is available, although quite pretty features may be formed in a comparatively small area.

It is a point of some importance when planting to arrange for surprise features about the garden in certain positions, by planting groups of shrubs to effectually screen the view beyond until one comes close upon the scene. Different subjects should be used for this purpose, so as to give each section an individuality of its own. It is also desirable to provide glades in certain positions, for they are always a source of attraction when appropriately located towards the outskirts of the garden, so as to reveal a view of the country beyond or include some adjoining garden feature. When well placed, glades give an impression of extent, which is often desirable if the grounds are rather small. They may be planted with a dwarf-growing subject like *Erica carnea*, or some other Heath; and if of grass, bulbs should be planted freely to provide a display of blossom in the spring. A glade bordered with Silver Birch trees and carpeted with Bluebells forms a delightful picture when the latter are in bloom.

When a stream runs through the wild garden, it can often be widened into pools at intervals, and in suitable positions large boulders of rock may be placed to form miniature cascades. Water should always be utilized to

the fullest extent, as it tends to give a sense of completeness and natural charm, and numerous moisture-loving plants can be grown near the streamside.

The walks should be pleasantly winding, yet direct withal, and if of grass keep them mown regularly. Self-sown flowers may be encouraged, as they often provide patches of color in appropriate positions, and lend a desirable naturalness of aspect to the scene. Groups of flowering shrubs are always welcome in suitable positions. A portion of the wild garden might well be devoted to an artistic grouping of the Japanese Maples, and if thinly disposed in the grass they are more attractive than when massed in beds. Various flowering shrubs, such as the Magnolias, Spiræas, Lilacs and Berberis in variety, should be well represented, not omitting *B. Thunbergii* and *B. virescens* for their rich leaf coloring in the autumn. The English and Spanish Brooms and the double-flowered Gorse merit inclusion, and when associated with large stretches of the hardy Heaths help to complete a characteristic moorland scene. Rhododendrons and deciduous Azaleas will create bright patches of color in early summer, and should be planted when the soil suits them.

Roses in variety never fail to please, and are especially effective grown in large masses. Fellenberg is a great acquisition, as it flowers incessantly until checked by frost; while *Rosa rugosa*, *R. rubrifolia* and the Wichuriana varieties create a glorious display. The latter are especially desirable to cover old tree stumps. Numerous hardy perennials might be massed in irregular groups, and of these the Delphiniums, Pæonies, Lupines, Phloxes, Anchasas and Oriental Poppies are some of the best for the purpose.

The English and Spanish Irises look well in large irregular beds, and the Siberian Iris flourishes near the streamside. The incomparable Japanese Irises create a glorious show in July, and they succeed in a similar position if planted in well-enriched soil. The waving plumes of the Spiræas, Astilbes, Rodgersias, Lythrums and Epilobiums are seen at their best near the water's edge, and they should be planted in bold groups. Other plants that prefer moist soil are the Willow Gentian, *Artemisia lactiflora*, *Senecio Veitchianus*, *S. Clivorum* and *Rheum palmatum*. The broad-leaved Gunneras are particularly handsome and effective, especially near the water. *Saxifraga peltata*, with its attractive foliage, is an ideal plant for the streamside, and *Osmunda regalis*, the Royal Fern, flourishes in a similar position. Large colonies of *Primula japonica* and *P. cashmeriana* might be formed in moist soil, and where they can have the benefit of partial shade. Some of the large-flowered Polyanthus are very beautiful, and they succeed admirably when planted in the grass.

By growing these subjects and similar hardy plants in bold and irregular groups, glorious effects can be formed, and not only will a garden of flowers result, but a scene of natural beauty and interest will be created. Such a garden requires a certain amount of care and attention, for if the plants are allowed to grow quite unattended it would soon become a wilderness, and many of the subjects would be choked with grass and weeds. It is advisable to keep the plants regularly weeded, and those that need it should be suitably supported. The grass may be mown at the end of June, after the wild flowers have blossomed, and again in the autumn, which will suffice to keep it under control and at the same time permit the indispensable naturalness of aspect that should pervade such a garden.—*The Garden* (English).

# New and Desirable Herbaceous Plants

By Arthur E. Thatcher, Maine.

**D**URING the past fifteen years many new species and varieties have been introduced, and it is no doubt a truism to say that we can dispense altogether with some of the older forms which were popular fifty years ago in favor of the much improved and beautiful new kinds. But it must not be supposed that all the old friends can be discarded. There are some which will undoubtedly continue to be grown so long as gardens exist, and this applies more to species than varieties, for it is among the latter that one looks for the majority of new plants. Although a large number of the newer introductions originated in American and European gardens, the most noteworthy are to be found among the new plants discovered by Mr. E. H. Wilson.

Horticulture is composed of many different branches, each having its own special claim upon the individual, and while all are of absorbing interest I do not think there is one that has greater claims upon us than the cultivation of herbaceous plants. In this country it is probable that they have not yet attained the same degree of popularity as in Europe, but with the ever-increasing love for outside gardening, which is so noticeable here, I feel sure that the day is not far distant when their merits will be fully appreciated. In no country in the world can they be grown more successfully, and one has only to notice the luxuriance of the native flora, such as *Solidagos*, *Asters*, *Cypripediums* and *Lobelias* to see this. I would like to say a word here about cultivation as one frequently meets people who are under the impression that herbaceous plants when once planted can be left to take care of themselves for an indefinite period, but this is quite erroneous; and though they may not be so exacting in their requirements as the denizens of glass houses, yet to maintain them in good health and produce the best results the necessary amount of attention must be given. In making a herbaceous border, which is to be permanent, it should first of all be seen that the drainage

is good, as very few except semi-aquatics will succeed under water-logged condition, and the border should be not less than six feet in width, but much finer effects can be produced if from eight to ten feet can be allowed. A good background is always desirable, and two excellent subjects for the purpose are climbing roses or a row of sweet peas, but, of course, what to use must be decided by the situation of the border. Drench the soil in the fall to a depth of two and a half to three feet and incorporate plenty of decayed manure or other enriching material and leave the surface in a rough condition till spring so that the climatic effects may sweeten the soil and render it in good condition for working. The latter part of March or the first two weeks in April is the best time to plant if the frost is out of the ground sufficiently, and it is advisable, if one is not well acquainted with the subjects, to make a plan of the border beforehand, showing where each variety is to be planted. Harmony of color is of great importance and can only be obtained by making a plan or having a good knowledge of the plants, and of equal importance is the arrangement. Tall growing plants must, of course, find positions at the back of the border, but the mistake is not infrequently made of carefully graduating the heights so that the tallest are at the back and the lowest at the front, just as one would arrange *Geraniums* on a greenhouse bench. In this way plants lose their individuality, for much of the charm of the border depends on seeing each separately. The most effective arrangement is obtained by planting some varieties in groups and others as single specimens, and by having plants of medium height near the front of the border much greater depths results and the general effect is altogether more pleasing.

Early flowering varieties should not be too near the edge of the border, unless they retain good foliage till the fall, and others which flower at a later season should be



Courtesy of Mt. Desert Nurseries.

*A Grouping of Herbaceous Plants in a Well-Planned Garden.*

in front of them so that no bare places are apparent. By a judicious selection a succession of blossom may be had from spring till late in the fall, but to obtain such a desirable condition it is necessary to be conversant with the very large number at our disposal and then they can be ordered from the catalogues, but failing this I would suggest going to a good nursery where herbaceous plants are made a specialty of and picking out what appear to be the most suitable. It is well to remember that the best plants are always the cheapest in the end.

In making this selection of new and desirable varieties I have endeavored to include those only which may be relied on to prove satisfactory, and except in one or two instances they are perfectly hardy. I have also separated them into two sections, the first being suitable for what one might call the herbaceous border proper and the other for waterside planting or where the soil is continually moist.

Blue flowered plants, apart from Delphiniums, are not numerous, but two very beautiful additions have recently been made. Both are varieties of the old *Anchusa italica*, one being named *superba* or Dropmore variety, with dark blue blossoms, and the other called opal, has flowers sky blue in color. These are two remarkably fine plants, unsurpassed by anything with which I am acquainted. As they seldom seed and sometimes show a tendency to die in winter, it is advisable to propagate a few plants during the fall, so that one may be sure of retaining them. *Aconitums* are on a par with Delphiniums for stateliness, and the best should always be included, as they continue to give a succession of bloom over a long period. The most effective is the new *A. Wilsonii*, which grows 6 feet high, with pale blue flowers. Spark variety, dark blue, is also good, and *A. rostratum*, which grows four feet tall, is a pleasing shade of pale blue, deeper on the hood. *A. hemsleyanum*, a new climbing variety, is also interesting and desirable. *Achillea Cerise Queen* is the most recent and desirable addition to this family, and is devoid of the weediness which usually characterizes these plants. The flowers, cerise pink in color, are produced abundantly all through the summer and fall.

It is much to be regretted that *Anemone Japonica* and its many excellent varieties are not sufficiently hardy to withstand the severity of our New England winters in all localities, but if favored positions are selected for them there is no reason why they should not succeed. Two or three years' growth are necessary to get them well established, and as they make long roots which penetrate deeply, the soil should be well prepared, which enables them to obtain the maximum amount of moisture and food. Under such conditions the typical variety will grow six feet high, and if they are planted in groups, the luxuriant foliage and great quantities of flowers are unsurpassed in the autumn. There are now numerous varieties, all of much merit, but the old *Anemone Japonica* with its single pink flowers and the white form are very hard to beat, but one should also include *A. J. Autumn Queen*, which is dark rose in color and semi-double. *Mont Rose* is very double and pale pink; *Whirlwind* is a fine double white; *Prince Heinrich* double, dark red, and *Purpurine* is a very large flower, purplish-rose in color.

Among the many low growing plants suitable for clothing the edge of the border there is nothing of greater merit than the double form of *Arabis alpina*, which is a very old plant, but was lost for many years to cultivation. It grows and blooms very freely from spring until fall, and the pure white flowers are produced on spikes similar to a stock.

*Bocconias* or Plume Poppies make extremely effective

masses of glaucous coloring in the garden if ample space can be afforded them, but unless this is possible I do not advise planting them where they are likely to interfere with their weaker neighbors. *B. microcarpa* will grow eight feet high and produce ample foliage, which is uninjured by strong sunlight.

We do not usually associate *Calceolarias* with hardy plants, but the introduction of a new variety has enabled us to have at least one representative which will thrive in the open ground. This is a hybrid named *Golden Queen*, with large golden-yellow flowers, and is valuable, among other reasons, for its persistent flowering.

Everyone admires the *Campanula's*, whether it be the miniature gems from the Alps, the beautiful *Hairbell* of Scotland or the *Giant pyramidalis*, but I think the most desirable for the border are the *pesicicaefolia* section. These flower early in the summer, but if the stems are removed as soon as the blossoms have faded they continue to produce new growths for some time. *Moerheimi* and *Newry Giant* are two extremely fine double white varieties, and *marginata*, which has a band of pale blue on the edge of the petals, is very attractive. *Alba fl. fl.* and *grandiflora* should also be included. Many new varieties of *Chrysanthemum maximum* have recently been produced, and though mere size is not always a desiderata, I think in this case it has improved this useful plant. They are capable of making good masses of white and the long, stiff flower stems render them very serviceable for cut purposes.

For midsummer flowering the herbaceous *Clematis* are a useful and beautiful family worthy of inclusion in all gardens. *C. erecta* makes a fine bush, four feet high, covered with a multitude of white blossoms, but the variety *mandschurica*, which is larger in all its parts, is even superior, and *erecta flore pleno*, with very double flowers, is of great merit. *C. integrifolia Durandi* has large blue flowers on robust stems, and *C. coccinia*, which is seen to the best advantage if grown on sticks in the same way as sweet peas, has scarlet and yellow flowers. Everyone is probably familiar with the American Snake-root, *Cimicifega racemosa*, and a beautiful plant it is, but those who need a more graceful species should plant *C. simplex*, which is, as yet, rare in gardens. It is smaller generally than its American congener, but the flowers are much whiter and the foliage more elegant. Delphiniums in their multitudinous variety do not need any recommendation from me, but there are some varieties which may not have come under your notice. *D-Belladonna* is one of the very few plants with sky blue flowers, and though it will not withstand a severe winter, it should always be grown, even if one has to pot it up. It has the desirable quality of sending up new flower stems for a long period, and the beautiful coloring is appreciated by all. Several varieties are now obtainable, the best of them being *Belladonna grandiflora*, which is larger generally than the type; *B. semi-plena*, sky-blue flushed lavender, and *Moerheimi*, a very excellent white form. For many years nurserymen have been endeavoring to evolve a pure white, tall-growing Delphinium, and they have at last succeeded in producing a variety appropriately named *Nulli Secundus*, which is certainly second to none, being very robust and of the finest white.

Two excellent plants, specially for dry positions, are *Ephorbia polychroma* and *E. corollata*, the latter a North American species seldom seen in cultivation. *E. polychroma* forms a symmetrical bush, completely covered with conspicuous yellow bracts, and *E. corollata* bears white flowers in the greatest profusion. Few hardy plants are more popular than the charming *Eypsophila*

paniculata, with its fleecy cloud of blossoms, but equally beautiful is the new double form, which is one instance where the doubling process has improved a plant's beauty.

Heuchera's are among the most useful of small growing herbaceous plants, and many are familiar with the beautiful scarlet, *H. sanguinea*. Quite a few good hybrids have been raised recently, the finest of which is undoubtedly *H. Shirley*, which grows three feet high and has very large scarlet flowers. Pageant is also fine, a strong grower, rich, bright crimson in color. *Rosamunde*, *Margaret*, *Firefly*, *Coralie*, *Flambeau* and *Lucifer* should all be included.

*Heleniums* are among the most useful of tall flowering plants too well known to need any reference, and I will only mention one, a new variety raised in this country. This is *Riverton Gem*, which has golden yellow flowers largely suffused with crimson.

Everyone is acquainted with the old Day Lily, *Hemerocallis fulva*, which is a decidedly ornamental plant for many positions, but for the select flower border the newer hybrids are superior. The most noteworthy of them are: *Dr. Regel*, with large flowers; rich orange in color; *Sir Michael*, a beautiful soft yellow; *Queen of May*, a wonderful plant, three and a half feet high, deep orange colored flowers, often carrying eighteen on a single stem, and *Baroni*, with sweetly scented orange-yellow flowers.

*Incarvillea Delavayi* and *grandiflora* are two remarkable new species from China, the former having deep rose flowers about the size of a gloxinia, and the latter is rich carmine in color with a yellow throat. These succeed best in a position shaded from the hottest sunlight. Two desirable new *Lupines* of the *polyphyllus* section, both with rose colored flowers, are *Lupinus polyphyllus roseus* and *L. Moerheimi*, and an excellent variety of the double *Lychuis chalconica* is *Cripps var.*, which is not affected by the sun.

No plants, and certainly none of a bulbous character, have more devoted adherents than the Lilies, and though many new ones have been introduced during recent years, I do not suppose there are any so deserving of general cultivation as Mr. Wilson's Chinese introductions. As these have been fully described in the press, I need not deal at length with them, but they cannot be too strongly recommended to those who desire good, hardy, vigorous-growing varieties. *Henryi*, *leucanthemum*, *chloraster*, *Bakertanum* and *myriophyllum* are additions to any flower border and succeed best in a good loamy soil with ample drainage.

Another beautiful class of bulbs, second only to the Lilies of importance, are *Montbretias*, and these, by hybridizing, have been greatly improved of late. They will probably not prove so hardy in New England as the older varieties such as *crocosmiaeflora* and *Pottsii*, but it is a very simple matter to lift them and store in a cool cellar for the winter. Such varieties as *Hereward*, *Prometheus*, *King Edmund*, *Norvic*, *Westwick*, *Lady Hamilton*, *St. Botolph*, *George Davidson* and *Lord Nelson* all have flat, open flowers, measuring from three to four inches in diameter and are produced very freely on strong branching stems. I do not know of any plants, unless it is the *Florists' Pentstemons*, which produce such a beautiful display through the summer and autumn months.

*Monarda didyma* is an old favorite in gardens, but it must give place now to a new variety with bright scarlet flowers named *Cambridge Scarlet*, which is dwarfier in habit but much more floriferous. *Oriental Poppies* are among the most gorgeous of May flowers, and who does not admire the gigantic blooms of *Papaver Parkmanni*?

A host of new sorts are now offered to us embracing a wide range of color, but I think the most desirable are *Lady Roscoe*, *Marie Studholme*, *Mephistopheles*, *Mrs. Perry*, *Jennie Mawson* and *Margaret*. These should not be planted near the front of the border, as their flowers, though gorgeous, are rather fleeting.

A remarkable plant from Central Asia, very closely allied to the *Campanula's*, which one seldom sees grown successfully, is *Strowskya magnifica*, but it well repays any care bestowed upon it. This plant should be given a sheltered position under a warm wall in a well drained loamy soil, and on no account disturb the roots after it has once become established. The flowers are of great size and vary in color from blue to rose and pure white, and under favorable conditions the stems will grow six feet high.

*Thalictrum depterocarpum* is the most desirable of the family and is one of Mr. Wilson's Chinese children. It has a profusion of rich rose flowers on slender stems five feet high and very elegant foliage.

*Tritomas*, or *Kniphofia*, are not hardy enough to withstand our New England winters unless amply protected, and I believe the best results are obtained by lifting and potting, unless one has a sheltered position in which to plant them. On the other side they are largely used and make most effective beds in well drained loam. They are so distinct and gorgeous in coloring that any extra trouble is well bestowed on them. A considerable variety of species and hybrids are now obtainable and I can strongly recommend *Nelsonii* and *Macawani*, two very dwarf free flowering plants. *Triumph*, the largest variety yet raised; *multiflora*, *Meteor*, *Chloris*, *Ideal* and *Corallina*. The colors vary from the palest yellow to the richest scarlet and they present an imposing and beautiful appearance in the fall garden.

The most useful of all herbaceous plants for producing fine autumnal effects are undoubtedly *Asters* or *Michaelmas Daisies*, and to some who are acquainted with the many wild species which beautify our New England woodlands it may seem unnecessary to draw attention to them, but during the last ten years a great deal has been done by cross fertilization and selection to produce varieties better suited for garden cultivation. The species to which the most notable additions have been added are *Novi Belgi*, *Novae Angliae*, *Amellus*, *Cordifolius* and *Vimineus*, but the best results have been obtained by crossing *Novi Belgi* and *Vimineus*. These produce small flowers in great abundance on long pendulous branches right from the ground and for border decoration or using in a cut state there is nothing to surpass them. Nearly all the varieties to which I shall refer have been imported into this country and may be seen growing by anyone interested. Their light and graceful habit makes them exclusively valuable as pot plants, and anyone who has a conservatory to embellish cannot do better than utilize the small flowered varieties for this purpose. The *Novi Belgi* varieties are now very numerous, but I shall only mention two which are in advance of all others, and these are *Climax* and *Duchess of Albany*. Both grow five feet high and the former has bright blue flowers with a conspicuously yellow center, and the latter is pale mauve, flowering from half way up the stem and not just at the end of the shoots, as is the case with many varieties. The best form of *Novae Angliae* is *Mrs. J. F. Raynor*, which is only four feet high and has bright reddish crimson flowers two inches across.

*Aster Amellus* is a species with large, rich, blue flowers and grows about two feet high. It is very useful for

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## A BOTANICAL PARADOX.

CHINA is supposed to be the home of many strange things, among which those of the vegetable kingdom are not the least. There are giant persimmons, to four inches in diameter, and better to eat than Americans can imagine, for all the "pucker" is gone before they are ripe; and there are full-grown pine trees not over two feet high. Lilliputian lemon trees grow in one's parlor and bear fruit ready to be picked for the fish when it is



Reproduced from *Journal of Heredity*.

*On This Chinese Pine Are Growing Two Deciduous Trees Which Are About as Little Related to the Pine as Any Trees Could Be. One Is an Elm; the Other Is a Paper-Mulberry. The Chinese Are Past Masters in Horticulture, but It Is Impossible to Believe That They Could Graft Such Diverse Species as These.*

served in the dining-room. The Chinese farmer is a past-master, in an empirical way, of the arts of budding and grafting. The "English" walnut is indigenous to China.

One day I made a visit to the Great Bell Temple, a few miles northwest of the city of Peking, and there I found a botanical wonder which outdid all that I have ever seen or heard about. In grafting, it is generally thought that the species must not be far removed from each other; but here I found a specific gap of a botanical phylum, and an evolutionary gap of geologic periods of time, covered, I was assured, not by human means, but by nature's accidents.

In the court of this temple is a pine tree (*Pinus sinensis*) from the side of the trunk of which, at about 8 feet above the ground, is growing a healthy elm tree (*Ulmus pumila*) about 1 foot in diameter. The junction is shown in detail in the accompanying photograph. Around the junction there is no sign of any break in the bark of the pine tree.

Here is a problem for plant cheaus.s. Can the food solutions of the gymnosperms be utilized by an angiosperm? And I would ask the students of genetics: Can the "sport" form of variation, so often credited with the origin of new species, extend to such a violent disruption of nature's continuity as this? Or, did one elm seed of the millions which have doubtless lodged in the crevices of pine tree bark, so sprout and take root that, through inherited or environmental advantages, it was able to assimilate the nutritive substances of the pine? Or has Chinese arboriculture surpassed itself, and performed this union which almost staggers reason?—*Journal of Heredity*.

## HOW JAPS GROW MINIATURE TREES

FOR many centuries the Japanese have closely guarded the secret of growing miniature trees. Indeed, until recently they did not allow the trees to be taken out of



*In the Crotch of the Pine, Above the Elm, May Be Seen the Small Black Trunk of a Paper-Mulberry, the Foliage of Which Occupies Much of the Upper Right-Hand Part of the Photograph. The Elm and Paper-Mulberry Are so Different from the Pine That It Is Hardly Believable That They Could Live on Its Sap, but It May Be That the Trunk of the Pine Is Partly Hollow and Contains Earth and Decaying Matter Which Furnish Nourishment for the Strangers Lodging on It.*

the country; wealthy people kept them as art treasures. Now, in America, miniature trees bring a good price, and are used as house plants and table decorations. By following the plan here described almost anyone can raise diminutive trees with little trouble, according to the *Youth's Companion*.

Get a few large, thick-skinned oranges and halve them. Remove the pulp and cover the outside of the skins with



thick shellac. That will keep the skins from shrinking. Fill the skins with fine, rich soil and plant therein a seed of whatever tree you wish to raise—or rather two or three seeds, to insure at least one good specimen.

Make a stand of some kind so that the growing tree can be kept in an upright position, and set the plants where they will get plenty of sun, but do not keep them in a room that is likely to become overheated. Water them regularly, but not too profusely. After a time the roots will begin to come through the orange peel. When that happens, cut the roots off flush with the outer surface of the orange peel, but be careful not to injure the film of the shellac.

It is the cutting of the roots that stunts the tree. When the tree has reached maturity, you can transfer it to a more attractive holder. Conifers, such as cedars, pines and cryptomerias, can be readily stunted; so also can other evergreen, as *Ilex* and *Citrus trifoliata*. Some miniature cedars have been known to last more than 500 years. Fruit trees, such as the orange and the plum, blossom and bear perfect fruit.—*Australasian International Nurseryman*.

### GROWING IVY.

THE ivy as a genus is both useful and ornamental. The pruning or clipping of the ivy is an essential thing to its well-being as well as to its beauty. There is a sort that will do without much of this, viz., the small leaved *Helix*, or common English ivy, a beautiful, close growing, cut-leaved variety, but the Irish ivy, a kind commonly met with, requires an annual clipping if grown on houses or walls. Knife pruning is necessary in cases where the ivy is grown as an ornament on arbors, old trees, fences, vases, etc., but where on walls or buildings it should be clipped annually, the month of June being the proper time to do it, when there will be time for it to make new foliage before winter. If not pruned annually, they are apt to run into growth at the extremities, and get barren below if not clipped.

During October or November take good sized cuttings, at least six inches in length, regardless of the number of joints, and insert five or six cuttings into each pot, using a mixture of soil and sand in equal proportions. The best method of performing the above operation is to fill the pots half full of soil, then insert the cuttings to the depth of one inch, just deep enough to make them stand upright, and when root action has taken place, more soil may be added until the pot is filled with soil. It is best to have the soil of a rather dry texture, so that it will settle firmly between the cuttings by tapping the pot on the bench two or three times. As fast as the pots are filled with cuttings, they should be put into the propagating house and receive a good watering. The cuttings must not be allowed to wilt during any part of their propagation, as this is an important item in their well-being. While in the propagation house they must be kept sprayed and not subjected to strong draughts until root action has taken place. As soon as the cuttings have rooted they will begin to grow very freely, and if they are not neglected and are supplied with water when they require it, they will make fine, bushy plants by the following spring and in proper condition for using in boxes, etc. When large plants are wanted, such as pyramids, baskets, etc., it is only necessary to take these same plants in the spring, cut them back pretty well and plant them out in the open ground where by the following autumn they will have grown into extra long clumps with six or more runners to each clump. They should then be taken up and crowded into six or seven-inch pots and tied up to strong stakes and as soon as the plants have established

themselves in this size pot, they are ready to be worked into any shape desired. Should the plants not grow large enough the first year for any particular purpose, they should be given another season's growth in the open ground, which will result in extra heavy growth. Particular stress should be paid to watering the plants with liquid manure so as to encourage quick growth. Ivy will stand any amount of frost, provided it is not given a southern exposure. Too much praise cannot be given this beautiful creeper as an object of beauty and utility. It can be used in every conceivable manner in any landscape, proving itself perfectly hardy.—*Exchange*.

### MUSHROOM CULTURE.

EXPERIENCED cultivators know well enough the great value of mushrooms and how to produce them, even in adverse circumstances, but others may be glad of a few helpful hints. There is no time more favorable to success than the present and following few months, so it is the time to make up beds.

Many years ago it was considered only right and proper that a specially constructed mushroom house should be erected in every large garden. Such houses simplified the raising of fine crops of mushrooms. In these days anyone who possesses a shed or cellar-like place may grow good crops. The material used is always valuable in the garden, so that it can be made to serve a purpose.

Heat and moisture are necessary; stable manure, from which most of the straw has been removed, forms the bulk, but I always like to add good leaves of the oak and beech, if they are procurable. Only the leaves of last autumn are available now, but some of them will do if they have been in a shallow heap, and not overheated! I prefer, however, the freshly fallen leaves, one part of these to three of the manure, as their effect is to steady and prolong the heat in the bed.

Firmness is advisable, but not absolutely necessary. I once tried the experiment of growing mushrooms in tree leaves, with a thin crust of soil on them. It was not possible to get those leaves very firm. However, I did my best in this direction, put in the lumps of spawn, as soon as the heat had reached its maximum—about 85 deg.—and at once put on the lining of soil two inches thick. Then dry litter was added one foot thick, and, finally, a straw thatch. The resultant mushrooms grew in very large clusters, and there were scarcely any single specimens. The bed became exhausted about three weeks sooner than beds of stable manure and leaves.

The great point is to well prepare the manure by keeping it in a shallow heap, and turning it daily, until all the rank gas has been got rid of. When sufficient manure has been collected, make up flat-topped or ridge-shaped beds; the former should be four feet wide, eight feet long and fifteen inches deep; the latter should be three feet wide at the base, tapering to a ridge two feet six inches high. In both cases the length may be eight feet, more or less. Insert lumps of spawn (about two inches square) nine inches apart and one foot deep all over the surface of the bed, then cover with maiden loam one inch deep, and beat all firm with the back of a clean spade. Do not give water, but put on a layer of litter, but this should be removed when the bed is in full bearing, and sheets of brown paper substituted, as the mushrooms grow very clean under the paper.

Do not make up a bed while there is a frost, as, usually afterwards, the material heats violently and burns. Insert the spawn when the temperature of the bed stands at 85 deg., and is on the decline. Syringe the walls and floor occasionally, darken the shed, and exclude cold draughts.—*The Gardeners' Magazine* (English).

# The Floriculture of New Orleans

LONG before New Orleans gained the reputation of being the second largest port in the United States, the fame of her flowers and fair women had spread afar. Here in the balmy climate of the sub-tropical zone—Flora reigns perennially, permeating the air with the sweet and exotic perfume of the garden's choicest inhabitants. A fertile soil, plenty sunshine and sufficient rain, combined with an almost even year-round temperature, are essentials conducive to successful horticulture. New Orleans has all these.

A walk or a drive through the principal residential streets of New Orleans will convince the most skeptical that this is the flower city of the United States. And nature is responsible for almost everything. Comparatively slight attention has been paid certain forms of gardening in New Orleans, but nature has been so bountiful in her gifts that this is almost lost sight of. The bloom of the flower in midwinter is nearly as great as in July or August. Snow or extreme tem-

covered aisles of the building. To the south of this splendid hall are rows of sturdy oaks, some of them over two centuries old, standing near the river. The largest of the lot, known as the Martha Washington oak, is noted throughout the country for its age and dimensions.

Especial attention has been paid certain species of flowers in Audubon Park. The pansy beds are extremely beautiful at certain seasons of the year, and never fail to attract and charm the visitor. Several specimens of roses and lilies also flourish. The ferns and palms that grow in warm climates are to be seen here in great profusion. It is only within recent years that the larger varieties of palms have been introduced in Louisville to any extent. Palms that grow plentifully in the Island of Cuba and parts of the West Indies, have been brought to Louisiana and thrive here as well as they do in the islands. Many of the residential streets are now lined with them.



*A Midwinter Scene in City Park, New Orleans.*

peratures are practically unknown in the metropolis of the South.

Audubon Park, situated at the upper end of St. Charles avenue, the fashionable thoroughfare of the city, is the largest park in New Orleans. It extends from the avenue to the levees fronting the Mississippi river, a distance of approximately one mile. The grounds embrace 247 acres, and landscape gardening has recently been gone into extensively. A golf and tennis club are included within the grounds.

This park was named after John Audubon, famous ornithologist, and one of Louisiana's most noted sons. It was the scene of the Cotton Centennial Exposition in 1882. The Horticultural Hall built as one of the principal structures on the exposition grounds, still stands in part. Many of the plants and flowers imported especially for the exposition, are in the glass-

A city beautiful wave that swept over New Orleans two years ago, has had a wholesome effect upon the city from an artistic standpoint. Old vacant lots have been planted with the more common sort of flowers, and in many instances they have replaced the unsightly sign boards most pleasingly. More attention is being paid trees than heretofore. A commission composed of influential business men has the question of planting trees in hand, and they also prevent the indiscriminate destruction of shade trees in public localities.

Owing to its being much smaller in size than Audubon Park, the other large New Orleans breathing place, City Park, has received somewhat more attention in some respects. Much of the early history of New Orleans was written in and around the spot taken up by the park, and the massive oak trees shad-

ing the driveways have witnessed many stirring events. In Ante-Bellum days when the code of honor compelled personal combat more frequently than nowadays, the oaks in City Park furnished the requisite amount of cover and privacy for the combatants. The land was then used as a plantation, and was situated several miles from the present city limits.

City Park was acquired by the municipality in 1894, and the work of converting the grounds into a public park was undertaken at once. A series of artificial lakes and lagoons were dug, adding much beauty to the natural attractiveness of the place. A peristyle fronting one of the lakes was modelled along the lines of a Grecian temple, and presents an imposing appearance. The Delgado Art Museum adjoins the park grounds, and the eastern limits are marked by Bayou St. John, an extremely picturesque waterway of the past century.

Plans are now being considered by the people of New Orleans for the construction of a sea wall and driveway along the East Shore of Lake Pontchartrain, an arm of the Gulf of Mexico, near the city. It is proposed to reclaim several hundred thousand acres

of land, and to resort to landscape gardening in beautifying the driveway. This work will open up a large residential section along the lakeshore to accommodate the constantly increasing population of the city.

Louisiana boasts of many specimens of water flowers, and the rivers, lakes, bayous and lagoons of the State are covered with a kaleidoscopic mass of color during the summer months. The growth of the water flowers is so rapid in the smaller bayous, that the boats are used especially for the purpose of clearing passageways for vessels. The Louisiana magnolia is though by some to rival the pristine beauty of the lily, as it emerges from its covering late in the afternoon to contribute its delightful perfume to the dew of the evening.

It would take the keen perception of a trained horticulturist to dilate upon the variety and beauty of the flowers of Louisiana. They grow in such profusion as to elicit the praise of the residents and the wonder of the stranger. The lover of nature can find unlimited joy in viewing their beauty and inhaling the scent of their delicately tinted petals.



*A Typical Court Yard Scene in New Orleans.*

#### THE MEANING OF HARDINESS.

THE word hardiness is perhaps the most misleading word the nurseryman has to contend with, says *The National Nurseryman*. He describes a plant as being hardy in the proper meaning of the term, but is very often interpreted by the customer in a very different way to that he intended. The average person seems to think that if a plant is described as hardy it will stand all sorts of conditions and abuse and if it fails in the winter they immediately think the nurseryman has misrepresented it. Every plant grower knows that the term when applied to a plant means, that given the proper conditions it is hardy enough to stand the cold in a given locality, but the term may be equally well applied to heat, drought, fungus, or any other condition that may have a bearing on the welfare of a plant. It is a well known fact that as many garden plants succumb to summer conditions as

to winter conditions or winter conditions or severe cold and very often a plant will fail in the winter in the latitude of Philadelphia, while it will come through uninjured in the latitude of Boston.

Every plant has its own particular isothermal line which more or less governs its geographical limit when growing wild. This can very often be extended when brought under artificial conditions and properly cared for.

The word adaptability is really a much better term to use in connection with plants. The trailing arbutus is hardy enough as far as cold is concerned but how many succeed with it under cultivation? The same is true of the American Holly. Even in localities where it grows wild it is not an easy plant to bring under cultivation.

These two are extreme cases but the same is true to a greater or less degree in all plants.

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INTERNATIONAL FLOWER SHOW.

THE date of the next International Flower Show, to be held at the Grand Central Palace, New York, was mentioned in the first preliminary schedule as March 16 to 23.

This is an error. The correct dates of the coming exhibition are March 15 to 22.

JOHN YOUNG, Secretary...

A PHOTOGRAPHIC CONTEST

A PRIZE of ten dollars is offered for the best photograph of the largest and best colored Blue Spruce (Kosteri). The only rules of the contest are that all photographs submitted must be accompanied by authentic data as to the height, circumference of branches, etc.

Contestants may send as many photographs as they desire but all will become the property of the GARDENERS' CHRONICLE. A competent judge will decide the contest, which will close on December 31, 1916. Photographs and all particulars should be forwarded to Editor, GARDENERS' CHRONICLE, Madison, N. J.

GEORGE W. HESS HONORED.

AT the recent convention of the Society of American Florists and Ornamental Horticulturists George W. Hess, superintendent of the United States Botanic Garden, was elected a member of the Board of Directors. In placing Mr. Hess' name in nomination, Benjamin Hammond said in part: "In making up our board we should remember William R. Smith who was for so many years the honored superintendent of the Botanic Gardens of the United States at Washington, D. C. No man, I think I am safe in saying, ever had the power to do more for the Society of American Florists, or as



GEORGE W. HESS.

much, as William R. Smith did. He is dead and gone, but so eminent were his services and so generally were they recognized that there has been started a movement for a permanent monument in memorial of him at the Nation's capital. It is fitting that the man who took his place should also hold office in this society even as William R. Smith did for so many years, where he can reflect honor on this organization; and I therefore take pleasure in placing in nomination for director the man who is now at the head of the United States Botanic Garden, Mr. George W. Hess."

In seconding the nomination Mr. Adolph Gude said in part: "George W. Hess, as the head of the United States Botanic Garden in Washington comes in contact with more eminent lawmakers, more Congressmen and Senators and other Government functionaries, than any other member of our society, whether he hails from the east or from the west."

Mr. Hess is also a director of the National Association of Gardeners.

# Malnutrition in Trees

By Arthur Smith, New Jersey.

RECENTLY upon an estate in the Berkshires, I had the opportunity of examining some White Pines of 12 to 18 inches caliper upon which all the needles had become brown at the tips and in some cases the green color had been entirely lost. Although, as the owner stated, this browning of the needles had come about in practically a sudden manner, it was quite apparent from the fact that the needles of this and of the previous year's growth were little more than half the length of those upon unaffected trees close by, that the cause had been working for some time, probably several years.

No trace of any disease could be found above ground and the condition of the needles, together with past experience with smaller pines of the same species showing similar effects but in a minor degree, that is, the actual browning stage had not been reached, led me to the conclusion that the cause was malnutrition.

The trees in question are probably forty or fifty years old and are part of the natural forest upon which a cleaning up and clearing out process had taken place about twelve years ago when the estate was created, which left the trees growing under conditions quite different from those in which they had passed the previous portion of their lives.

The most natural conditions for tree growth are found in the virgin forest. A soil continuously shaded, practically free from grass and weeds, covered with a mulch of decaying foliage and of humus, which prevent evaporation and keep the soil granular, easily penetrable to water and air, and well supplied with food materials.

Street trees and lawn trees are not growing under natural conditions. In the case of those upon lawns, grass competes severely with the trees for food and water and the natural mulch of foliage is kept raked off, thus removing food materials and soil protection, and much moisture is allowed to escape. Such trees are therefore more or less upon starvations rations; they show almost always that they are underfed and if any other contributing cause for unhealthy condition, atmospheric or otherwise, is added, they readily succumb, especially as the trees grow older and the difficulties of securing their water supply increase with age.

Coniferous trees are more susceptible than hardwoods because they have less power of recuperation. In the case of young conifers planted on a lawn from a nursery, they are branched close to the ground, and if the lawn mowers are kept from destroying the tips of the lower branches, these will continue to grow outward, keeping the grass from growing close to the tree and if the annual fall of needles is allowed to remain, more or less natural conditions will prevail and the trees will make good specimens. But in the case of trees growing under natural conditions and in such relationship to others that the lower branches have disappeared and then if man comes in and suddenly clears things up, exposing the ground around, harm is sure to result sooner or later and the life of trees thus exposed is invariably shortened. The greater the age to which trees thus exposed have reached the greater will be the reverse effect.

Sometimes the effect of this is to cause trees to become stagheaded, such as I recently observed in con-

nection with some large Hemlocks that had been growing under natural conditions for seventy or eighty years. Some six years ago everything was cleaned under these Hemlocks, from which nature had pruned the branches up to a height of twenty-five feet, and a lawn formed under them. That this change in environment has been the cause of the trees affected by it dying back at the top and at the ends of some of the branches, appears to be proved by the fact that Hemlocks of the same size growing in the immediate vicinity under natural conditions are perfectly healthy.

Sudden changes in environment affect coniferous trees to a greater extent than the same changes do to hardwoods, doubtless by reason of the above mentioned fact that the former have smaller powers of recuperation.

To get the best growth from conifers that the conditions permit, it is very essential that their fallen needles may be allowed to remain. We can supply in other ways the loss to hardwoods caused by the removal of their fallen leaves, but we cannot do this to the same extent with conifers. The layer of decomposing needles appears to be the home of another plant growth whose presence is essential to the welfare of the tree, a relationship known as symbiosis. Examples of this symbiosis occur under different conditions in connection with other things, such as the taming of the wild Blueberry and the growth of Alfalfa and other legumes.

When for any reason, or for no reason, we ask a tree to grow under unnatural conditions we should see that the loss is as far as possible made up to it in other ways.

Trees deprived of the benefit of their natural annual mulching of leaves will suffer more from the effect of drought than others and the necessity for artificial watering is therefore indicated. Under natural conditions trees do not require mineral matter in large quantity and a large proportion of that taken from the soil with the water remains in the leaves after the water has transpired and is returned to the soil when the leaves fall.

The application of fertilizer to any tree showing signs of malnutrition is always in order. Dr. Spaulding, of the Federal Forest Service, told me some years ago that he considered pure bone meal the best thing to use for trees. Lightly breaking up the soil to at least the outer spread of the branches and mulching with good stable manure will always do good. In the case of conifers a mulch consisting of some surface soil and needles from the forest taken from under trees of the same species or at least the same genus would undoubtedly prove an excellent and lasting stimulant to trees showing signs of malnutrition if used before it is too late, although this process may be looked upon as robbing Peter to pay Paul. Sheep manure, cotton-seed meal and woodashes are all valuable tree foods, the latter especially upon sandy soil and where the use of potash is indicated.

Referring again to the White Pines in question, it is worthy of note that the affected trees are growing here and there about the outside of a natural forest and quite close to others apparently in perfect vigor that are living under exactly the same conditions. It must be remembered that some trees are from their birth constitutionally weaker than others and one fre-

quently gets a nursery grown one that requires constant feeding, etc., to make it grow at all. In the case of trees starting under natural conditions a seedling with a normal constitution will always have root action superior to a weak one growing near and the

more rapid spread of the roots of the former will soon place it in a position where it can command the lion's share of food, and even if the weaker tree can continue to live, it will be the first to succumb to the effect of any adverse conditions that may arise.

## Park Drainage, Driveways and Walks

**I**N the planting of any area the question of drainage must be carefully considered, perhaps more so in that of formal parkings, for we find that on natural surfaces which are rolling or undulating, and which lend themselves to informal parkings, nature has provided a more or less perfect system of drainage. Wherever it is necessary, however, to resort to artificial drains, under-drainage is the logical method to pursue, writes H. J. Moore in *Canadian Florist*. Surface drains or ditches are not only unsightly, but oftentimes dangerous. If drains are essential on undulating land they should be laid in depressions, which have considerable fall and may empty into a small lake, from which the water may pass as a surface stream. Should any natural stream exist, by all means drain into it. This should not in any way mar its beauty, but rather enhance it in increased volume of water which would be afforded.

When parking along natural lines do not reduce the elevations or fill the depressions, unless for a special reason. This, alas, is too often done in order to create a level surface and invariably seriously interferes with the natural drainage. Under certain conditions this practice may have a very unfortunate result, as, for instance, in the case of areas parked with large native trees, especially oaks. The slightest unnatural flooding of, or drainage from, the area in which these trees grow may result in their death. Three years ago the writer observed that a ditch had been cut about twenty-five feet away from two very beautiful white oaks. This was done to divert a small stream so that a roadbed could be constructed. The natural bed of the stream was at this time also filled. In two years these trees (each measuring eight feet in circumference three feet from the ground, died as a result of the change in the level of the water table in the soil.

Do not disturb an undulating surface except to make walks or driveways through a swampy depression, which, if large and deep enough, had better be spanned by a bridge of artistic design, especially if a running stream exists. To make a fill and to place a small culvert in a stream of fairly large proportions may preclude the opportunity to render attractive what otherwise under judicious treatment might be made a spot of surpassing beauty.

When roadbeds or walks are being constructed through a perfectly natural park, they should follow the contours, over the hills, and through the hollows, where the grades will permit. Cuts and fills should be avoided, and only be made when circumstances will not allow of other procedure. Nature cannot be preserved in its entirety when ruthless and indiscriminate means are adopted in this particular work of construction.

A perfectly level or straight driveway may seem to some more economical to construct. When, however, we take cognizance of the cost of cutting and filling, and of the fact that level roads often require unsightly parallel side ditches which are hard to maintain and to keep free from weeds, there is no apparent advantage. When driveways follow the contours, the side depressions usually suffice to carry off the water, therefore few, if any, longitudinal underdrains, such as must be laid in a first-class level road, are necessary. Think of the saving in drainage alone. From an engineer's point of view the level driveway, or one graded to a particular degree

through an undulating park area, may seem a perfect accomplishment. From a landscape architect's viewpoint, never.

In the foregoing text it should be understood that reference is not made to level city streets or boulevards where drainage of necessity must be made artificially perfect. The remarks apply solely to those areas of which, alas, near our cities are too few, where any extensive grading would in great measure mar the natural beauty, and where the construction of level driveways would tend to create a discordant note rather than one of unity.

If the area is extensively rolling, the driveways and walks should not be constructed in a straight line between two points, rather make them to deviate from this. Always, however, allow the curves to run generally in the direction of the object for which they are constructed. Where necessary to employ compound curves, do not, where possible to prevent, design them to double back on each other. This does not serve any logical purpose. If necessary, for the sake of sentiment, to make a detour, for scenic or other purposes, and to the casual observer there may appear no reason for such detour, create one by grouping trees or shrubs on the inside of the curve. Do not, however, obscure the view and so render the driveway dangerous.

It will probably be unnecessary to utter a warning against the ridiculous and unnecessary practice of removing numbers of large trees for the construction of driveways. Especially where straight driveways have been constructed has this been done. Usually, however, the difficulty may be overcome by making them curve to avoid at least the largest and best of the trees, or by running the driveway along the side of the wooded area, if small. To the writer the wisdom of removing trees from the center of a wooded area to accommodate a driveway is not apparent, if other locations can possibly be found. Just as the dignity of a lawn depends upon its size, so does that of a woodland. To run a concrete walk through the center of the former divides it into two and so impairs its dignity in that the large lawn no longer exists, the walk having created a boundary to each division. To so divide a small natural woodland by a straight and definite driveway will in like manner impair its dignity and may show that precedence has been given to that which is artificial over that which is natural and logically to be the most desired.

In the laying out of formal park areas the straight driveway or walk to a direct point is not only permissible but proper. The straight driveway or walk in natural park areas is decidedly improper as are all lines that are artificially straight and definite.

This article would not be complete without mention of the practice of lining the edges of walks through woodlands with logs of wood or pieces of rock, which in their arrangement suggest the artificial. The beaten path, cleared to a desirable width of that which would obstruct pedestrians is the most natural. Here and there an overhanging shrub, here a recess, there a protruding rock, covered maybe with trailing vines or other verdure. Above, the lofty trees and the overhanging sky. These alone should constitute the lines of definition, for they are natural.

# Work for the Month of October

By Henry Gibson, Pennsylvania

WITH the coming of October the garden year is almost over; where but yesterday, as it were, was a proud riot of midsummer beauty, there is today but a small resemblance of it and this carries with it a faint whisper of approaching winter.

Looking over the garden it speaks to us of the past rather than the present, and of the future than the past, for already we are planning the blooms of tomorrow.

As active growth ceases, the planting of both trees and shrubs should be proceeded with apace. Then there are the bulbs to get out for next spring's flowers. Added to this are the closing routine of the outdoor garden and the beginning in real earnest in the greenhouse department.

Any alterations and replanting that requires to be done in the herbaceous border should be completed as soon as possible now, so that the plants may become re-established before severe weather sets in. Shady places may be planted with *Doronicums*, *Aconitums*, old-fashioned peonies and native ferns.

In the case of pyrethrums, replanting should be done at once or left until next spring.

## THE LAWN

Lawn-making cannot be described as a pleasant task, especially where a lot of it has to be done and it is to be feared that this unpleasantness of the work is an excuse for many for discontinuing cutting the grass early. Keep on with the cutting right up to frost, or at any rate as long as there is active growth going on. Neglect in mowing and clipping will soon produce an untidy appearance. When cutting is discontinued early the late fall growth is likely to prove troublesome in the spring and at that time of the year there are usually plenty of other troubles without inviting them by inattention in the fall.

## THE FLOWER GARDEN

Just as soon as the frost blackens the tops of the Dahlias, lift and store them. The same treatment may be given to the cannas. We find that the Dahlias winter well when wrapped in sheets of newspaper and placed in barrels and stored in a frost proof shed. Cannas may be stored, without covering, under the bench of a cool greenhouse.

For extra fine Sweet Peas, sow now. Of course, the ground will need to be well prepared by trenching two feet or more deep and plenty of well decayed manure incorporated in the soil. The object of fall sowing is to get early blooms and sowing should be done so that the seed is just nicely germinated before hard weather comes on. Proper protection must of course be provided. This is done by placing boards edgewise, on each side of the rows and covering with glass, which in turn should be covered with mats, or salt hay, during severe weather and opened up during mild periods.

## THE VEGETABLE DEPARTMENT

To get the full benefit of the vegetable garden a system of storage must be resorted to. Many of the products will keep until the spring; others only a few weeks. There are two chief limiting factors in successful storage; first, the condition of the articles

stored; and, second, the kind of place in which they are to be stored—for moisture, temperature, and ventilation must be taken into consideration.

Storage begins with harvesting. Some vegetables and fruits possess better keeping qualities if placed in storage before being fully ripened. Apples and pears, for instance, should be stored before reaching full maturity. Many losses are sustained by the storage of products infested with disease, and again bruising and other damage may be the cause of the trouble. Hence the necessity of seeing that all products going into storage are sound and unbruised. Some products do well with a cool, moist atmosphere to preserve their plumpness, although an excessive amount of moisture would cause decay; others, like sweet potatoes and squash require a comparatively warm, dry atmosphere to prevent their rotting. A free circulation of air is essential in all cases and the temperature must be steady. It would take too much space here to go into the matter of storage in more detail, but it is a matter of more than passing importance to the gardener of today and worthy of some study.

## THE GREENHOUSE

Amaryllis that have been plunged in frames making their growth are still quite green and in active growth. The water supply should be reduced so that by the middle or end of next week most of the foliage will have died down; then the pots may be laid on their sides in a dry shed or under a greenhouse bench that is free from drip. It is important that the temperature of the storage place should not fall below 45 degrees in cold weather. They can remain stored until the flower spikes begin to show early in the new year, when re-potting or top-dressing will be necessary. Young plants that have not flowered must not be given any rest or it will probably retard the flowering period for another year. Keep them growing through the winter in a temperature of 55 degrees at night.

## LILIES

Lilies intended for spring and summer flowering should be potted up as soon as possible now. Put each bulb singly into either a five or six-inch pot, according to the size of the bulb. When potting is completed, set the pots in a cold frame where they can be watered when necessary, and cover with ashes, soil or excelsior to a depth of six inches or more. We like the excelsior because it is easy to remove when one needs to examine the condition of the plants. As soon as they are well rooted and the shoots are three or four inches through the covering material, they may be taken indoors for forcing into bloom. Staking as the stems develop should be attended to and a sharp lookout ought to be kept for green aphid, which are particularly partial to lilies. Fumigating or spraying with some approved insecticide will keep them under control. When the buds show, feeding with liquid manure will increase the size and quality of the bloom, but this should be discontinued as soon as the buds begin to turn from green to white. As the blooms develop the anthers should be picked out so that the pollen from them will not soil the blooms.

# Planting Time and Care of Trees

THE time to plant is either late fall or early spring. Usually the amateur gets better results with spring planting. Fall planted evergreens should be transplanted about the middle of September. Broad-leaved trees should be transplanted only when the buds are dormant. Trees transplanted from the woods should be seedlings. Forest grown trees are more successfully transplanted by cutting off the roots several feet from the trunk a year or more before the tree is moved. This enables the tree to develop an auxiliary root system; it is also well to prune back the top at the time the roots are pruned.

Nursery grown trees are best for shade tree planting on account of their better root development. A tree 1½ to 2 inches in diameter one foot above ground is large enough for street planting, and smaller trees are cheaper and may be used to advantage for lawn or roadside planting. Because of the better proportion between roots and top, small trees usually outgrow larger trees planted at the same time. The trees should have a compact root system, a straight trunk and a well-balanced top.

Tree pedlars should be held in suspicion.—Trees should be purchased from nurserymen of good reputation.

Trim off all torn or broken roots and branches with a sharp pruner before planting. Street trees should have the lower branches trimmed to a height of 7 to 9 feet from the ground. When a tree is transplanted, a large part of the root system is cut off, and it must start new feeding roots before it can establish itself. Unless the top is severely pruned, proportionately to the root system, excessive transpiration from the leaves is very apt to kill it. The trees should be free from scars and bruises due to carelessness in handling.

Several weeks before planting, the hole for planting should be dug. A few days before planting, the hole should be partly filled with the best soil available, and well packed. A cubic yard of rich loam, well pulverized, should be placed close at hand for use when the tree is set. If the top soil is good, it may not be necessary to bring in other soil, but in every case it will pay to use the very best soil and plenty of it. Fresh manure should not be used, as it is liable to burn the roots.

The tree should be planted slightly deeper than it stood in the nursery, and the roots spread out naturally, without twisting or crowding them. Fine soil is sifted between the roots and worked under and between them, filling every space. The tree should be held upright during planting. Working the tree up and down and side-wise aids in packing the dirt firmly about the roots. The soil is packed in layers by trampling, care being taken not to break or tear the fine feeding roots. The top 3 or 4 inches of soil is thrown on loosely, to act as a mulch. The tree may be thoroughly watered before the top soil is applied.

Cultivation of the soil for three feet around the tree is beneficial during the first years of growth. Loosen the top soil with a spade or hoe a sufficient number of times during the season to keep down weeds and grass. A mulch of leaves or manure in the fall retains moisture and acts as a fertilizer when spaded under. During the hot, dry periods of the summer months, watering should be done once or twice each week, not oftener. The feeding roots which take up the moisture are located at a distance from the trunk equal to the length of the branches, and the water should be applied liberally, but not too frequently, to these feeding roots.

Low branching will cause more rapid growth in trunk

diameter. Lawn trees require little attention, since low branching and unsymmetrical form give them character. If possible, trees should be left with single leaders, since crotches are likely to split in later years. If two or more main stems develop, leave the central stem and severely trim or entirely remove the others. When it is necessary to restrict the spread of trees within certain bounds on narrow roadways, the ends of the branches should be shortened so as to develop a compact symmetrical crown. Any time after midsummer is suitable for pruning. Shaping can best be done while the foliage is on the tree. Heavy pruning is better done in fall or winter.

Old, neglected trees should first have all dead and imperfect limbs removed. Thin out dense tops by leaving main limbs and the branches immediately radiating from them and limit cutting to the third and fourth divisions in branching. As far as possible preserve the character and natural shape of the tree, making the finished tree look as if no limbs had been removed. Start pruning at the top of the tree and work downward. All cuts should be made smooth, close to the base of a limb, and parallel to the axis of the stem. At all times avoid unnecessary wounds by cutting or tearing the bark in making the necessary cuts and in climbing the trees. The surface of scars should be smoothed and painted with a mixture of two parts coal tar to one of creosote. It is safer to follow this with a heavy coat of coal tar (the kind used for roofing is best). Large scars should be recoated every few years.

Tree surgery consists in cutting out the diseased parts of trees and filling the cavities with cement so that they are water-proof. All decaying, discolored, water-soaked wood should be removed, with gouge, chisel and mallet, until only sound, uninfected wood is exposed. The bottom of the cavity should be shaped so that if water were thrown in the cavity it would promptly run out. The top and bottom of the cavity should be V-shaped rather than square or rounded, as this aids proper healing. The interior of the cavity should be sterilized by thorough painting with coal-tar creosote, followed by a heavy coating of coal tar. Fill the cavity with mortar made of one part cement to three (or less) parts sharp sand, and bring the filling to a smooth, water-tight finish, exactly even with the cambium (growing layer of the tree). Before filling large cavities, flat-headed wire nails 2½ to 3 inches long are driven about half their length into the interior, to hold the cement. The cement is reinforced with iron rods and cross bolts. The filling is then built up in blocks of 8 to 12 inches, each block being separated by sheets of heavy tar paper. Large solid fillings of cement are apt to be cracked when the tree sways in the wind. When it is not advisable to go to the expense of filling, much good is done by treating the cavity as recommended above, following with an extra coating of tar. Split crotches should have all decayed wood removed from the split, and creosote and tar applied. Bring the limbs back to their proper position, using rope and tackle if necessary, and hold them in place by means of bolts through each limb, connected by chains. Countersink the head of the bolt. Thoroughly coat with tar the cuts made for the bolt, and the edges of the crack. Cavity filling is advisable only when the tree is a highly valued specimen. Old, unsightly cripples and trees of poor species are much better taken down and replaced with new trees of desirable kinds. The need of tree surgery at a future time will be very largely removed by promptly attending to the fresh injuries of today.



There are reliable tree surgeons and many who are not. The owner should investigate before employing outsiders to repair his trees. If it is desirable to employ an expert to do the work, the owner should investigate his standing before employing him.

Co-ordination of effort is necessary in any community, large or small, to obtain the greatest beauty and benefit from shade trees. In this way it is possible to secure uniformity in the use of species, proper pruning, and efficient control of insect and fungus invasions. A number of States have laws governing the planting of street and roadside trees. If there is no Shade Tree Commission or City Forester systematically developing the tree welfare of your community, interest yourself in forming a local forestry improvement association. If such an organization exists, do all you can to make this work successful by fully co-operating with it.—*From American Forestry.*

### HINTS ON TRANSPLANTING.

THE most unorthodox things (according to the books on gardening) have been done in my garden with the most extraordinarily successful results, but the one point I would impress on all amateur gardeners and experimenters in gardening processes, writes F. P. Smart in *Canadian Florist*, is the imperative need of carefulness in planting and transplanting. The finest roots or bulbs carelessly or hurriedly planted will never give the best results. With care and some knowledge of the requirements and nature of roots one can transplant successfully at any time during the growing season. Even rose bushes, carefully lifted and transplanted after flowering, may be made to thrive in an astonishing way—but only as the result of care. In the case of roses, this is seldom advisable or necessary, but I mention it as an example of what can be done and what has been done when the need arose.

My invariable method of transplanting roots, whether of annuals or perennials, is first of all to have the ground well dug and mellow. I then make in the soft earth a hole deep enough to allow the tips of the roots to be placed in their natural position. This is next partly filled with earth and watered liberally, even lavishly. When the water is quite absorbed I fill up with earth above the level of the ground and press the earth firmly down around the stem of the plant with the trowel or hand. This latter is of great importance. In the case of large roots, tramping with the foot is the best method. This makes the plant firm and upright and prevents the air penetrating the earth and drying up the tender roots before they have got established. No watering on the surface is needed for a week or more, perhaps never.

Peonies have been transplanted in this way from one part of my garden to another, and have flowered profusely the following spring, much to my surprise, as they are among that class of plants which deeply resent being disturbed. As to bulbs, lilies and other kinds, a long experience has shown that after the period of bloom is over and while the plant is in a decadent state, and later on in its dormant condition, nothing must be allowed to grow over the ground or even to shade it from the sunlight, else the bulbs deteriorate and the blossoms of the next year will be inferior, both in size and number, and if such conditions continue, the bulbs eventually die. This is often the reason why amateur gardeners fail with lilies of various kinds. While speaking of bulbs, emphasis must be laid on the importance of deeper planting than usually prevails. Bulbs have a tendency to come towards the surface of the ground, consequently deep planting is necessary.

The autumn season is par excellence the time of all others for the transplanting of perennials and the smaller shrubs and vines, but the mistake of delaying the work of transplanting till so late in the season that growth, even underground, has practically ceased, is the cause of a good deal of trouble and disappointment. As early as possible in September is the best time to plant, as growth is still going on with great vigor, both above and below ground.

While spring planting of roses is certainly most favored, I have found that bushes transplanted in late August or early September do excellently the following year; but in doing this, as in all else connected with the work of planting, I would reiterate and emphasize what I have said before: Carefulness, great carefulness, in planting is the road to successful gardening.

### TO THE GROWERS OF ROSES.

THIS is to inform you that members of the American Rose Society have been raising money to co-operate in employing a trained plant pathologist to investigate diseases of roses. Sufficient money has now been obtained to assure this work, which is already under way. Doctor L. M. Massey, of the New York State College of Agriculture, Cornell University, Ithaca, is conducting the investigations. It is hoped that all growers of roses will now take advantage of this arrangement, not only to obtain what little information there is already at hand, but to co-operate in ways which will be suggested from time to time. Through co-operation with Doctor Massey, the growers will greatly increase the efficiency of the investigation and obtain the greatest returns from their investment.

First of all it seems desirable to make a rose disease survey such as will acquaint us with the various diseases, together with their range and the extent of injury caused by them in this country. In order that this survey may reach its maximum efficiency, it will be necessary for the growers to co-operate by sending specimens of diseased plants. Franked tags will be supplied on request. It is hoped that each grower will interest himself in this work sufficiently to collect and send diseased material together with a brief statement regarding varieties affected, nature and extent of injury, time of appearance of the disease, and other points of interest which may have been noticed. Acknowledgment of receipt of material will be made, and such information as is available in the line of control will be given. Many growers will be visited, but it is hardly necessary to say that it will be impossible to visit all.

The material sent should be freshly collected and should show various stages in the development of the disease. Where roots are sent it will usually be undesirable to enclose any soil. Where convenient, specimens should be mailed so as to reach Ithaca the latter part of the week. Doctor Massey may be away from the city during the early part of the week and the material should receive immediate attention upon its arrival.

Place leaves, buds, etc., between the leaves of an old newspaper, a few between each two sheets. Then roll into a tight bundle, wrap in stout paper. Tie well, attach one of the franked tags on which you have written your name, address, and mail. It will go postage free.

H. H. Whetzel,

Head of the Department of Plant Pathology,  
New York State College of Agriculture.

# In the Glass House Month to Month

By W. R. Fowkes, New York.

MANY persons who love all that Nature give us in the floral world are sometimes saddened and disgusted with their own small greenhouse after a visit to one or more of our great floral exhibitions. They imagine that to produce such wonderful flowers, fruits and foliage plants as are exhibited, it is necessary to have expensive houses built. While this is true in a general way, where the owner pays a large staff of experts to do the work necessary that he may gain first honors at exhibitions, there is no need to despair, however, because many amateurs with a house fifty feet long and twenty feet wide derive more pleasure out of them than their more fortunate wealthy brethren, for doing the work one's self is a healthful occupation.

On numerous establishments there are houses erected with two or three compartments, very suitable for growing a variety of plants. The one nearest the boiler is usually a combination of palm, fern and propagating house. Palms and decorative plants can be grown and used for house decorations all summer and during the winter can accommodate the same together with being a good forcing house for the many varieties of bulbous flowers and roots, so valuable in winter time. The medium temperature house may be used for roses in the center benches and the sides may contain gardenias or any favorite flower the owner cares to grow and enjoy. The cool department may be filled with carnations, snapdragons and mignonette. If sweet peas are wanted, they can also be accommodated. A few chrysanthemums (the Queen of the Autumn) have a valuable place and are so useful when Jack Frost has got in his work out doors, and before the carnations and roses are in full crop. The chrysanthemum space can be utilized after the blooms are cut for the growing of primulas and cyclamen as well as numerous bulbs.

## A FEW CULTURAL SUGGESTIONS.

The carnations will now all be planted and should be kept cool and airy—never close doors or ventilators unless the temperature falls below fifty degrees. Water when necessary and keep weeds picked out and gently stir the surface of the beds. Do not feed at this date. A weekly spraying is essential to keep down the red spider. I always use Aphine for any kind of insect and this is the best remedy I know of to counteract the red spider. Spray every ten days with Fungine as a preventative for fungus diseases.

Fresias should be potted now in a light soil, one-third leaf soil and two-thirds loam and a four-inch pot of bone dust to a wheel barrow load of the soil. Place about eight bulbs in a five-inch pot, then place under the carnation bench. Fresias do not want starting in the dark like hyacinths.

Paper white narcissus are a very useful flower of easy culture. Bulbs should be procured and can be planted in equal parts of loam and rotted manure in flats three inches deep. They should be well watered, placed out of doors, and covered with soil or ashes or even sawdust—anything to keep the light from them for three weeks. Then they will start and can be brought inside on the walks of the carnation house. Never try heat. They succeed better in a night temperature of fifty-five degrees.

Roman Hyacinths can be grown in the same man-

ner. When they have been out of doors for three or four weeks and the pots or boxes show on examination the white roots around the sides, they are ready for work.

Lily of the Valley can be had in bloom every day if wanted. Big cold storage crowns, in bundles of twenty-five each, can be soaked in water five or six hours and then potted in sand, leaves or any plain soil. Place near the pipes, cover each pot with one of equal size and this will exclude light, the dark being necessary for the development of long stems.

Ferns for decorating purposes are required by the ladies of the household, and there is nothing better than Asparagus of several varieties. Sprengeri can be grown in baskets hung from the roof. Hatcheri and plumosus can be grown, a few in pots. Their culture is of the simplest. Maidenhair fern is useful. The variety Adiantum Croweanum grows freely, if a few nice young plants from three-inch pots are planted in one corner of a bench. All they require is sweet soil, careful watering, and a moist atmosphere. A. cuneatum can be grown in a ten-inch pot or on a small hill of sod and a little manure and trained on wires eighteen inches from the glass. Sow the seed in moist soil in three-inch pots and, when about nine inches high, plant and allow to reach the top of the wire trellis—about four feet six inches. Then pinch the point out. The laterals will grow freely and, when the small shoots have made two eyes, pinch the end out and the fruit will grow freely. When the fruits have attained a fair size, give a slight feed with Clay's fertilizer once every ten days.

For table decoration in winter, nothing is more elegant or useful than Adiantum Farleyense. It is an aristocrat in its class and very beautiful. But the new variety is not only as beautiful but grows freer and with less coddling. It is more suitable for the small green house. It does not require great heat. In fact, it is much better grown in an intermediate temperature. Its name is Glory of Moordrecht, commonly known as the Glory Fern, a name it richly deserves but, unlike the ordinary maidenhairsts, it will thrive better in heavy soil.

Now is the time to attend to the cool subjects. Azaleas must be brought indoors by the end of the month. A slight freeze will not hurt, but better without any check. They need to be kept quiet and, if a cold frame is at hand and every place should have a cold frame, they can be stood in it, and the sash placed on at night, taking off during the day. If wanted in bloom for any special time, they can easily be had by keeping a few at intervals in the warm house, but they are better if kept cool and quiet until they are meant to flower. If placed in heat too soon, new growths will push forth at the expense of the flower, but they are ever one of the most beautiful plants and can be kept in corners when pushed for room, as the small house often is during 'mum time.

Chrysanthemums will now be getting interesting. Those with forward buds will be greatly benefited by feeding once a week with weak soot water and occasionally a slight dressing of bone meal.

Now is the time to procure a few pot grown peaches, also nectarines, the smooth fleshed peach. They can

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## DYNAMITE FOR SOILS

A QUARTER of a century ago, a fruit grower in California, in digging holes for some fruit trees, came upon hardpan which was nearly as tenacious as cement. He used some dynamite with which to break up the hardpan in order to get the holes deep enough to plant the trees at a right depth. It was discovered that the trees planted in the dynamited holes made a much larger growth, and better withstood the dry weather that followed. From this discovery a general interest has grown in this method of preparing the soil for trees.

While there are many instances where soil conditions have been improved by the use of dynamite, this does not follow with all soils, and it thus becomes important to know and to understand the distinctions. In a soil that contains 65 per cent. clay, with a yellow



*Dynamiting Increases the Productiveness of Most Soils. This Splendid Crop of Potatoes Was Grown Where Dynamite Was Used in Subsoiling.*

clay loam subsoil, one-half a stick of 20 per cent. dynamite put down two and a half feet will loosen the top soil for six feet around and five feet deep. The 20 per cent. strength is better than 40 per cent., as the slower explosive leaves the soil in better condition.

Dynamite, however, should not be regarded as a digger of holes for planting trees, as a properly placed tree planting charge should be tamped in to insure the maximum breaking effect of the subsoil, and this tamping prevents the excavation of a hole for planting the tree, but the shock of the blast makes excavating with a shovel easy.

It is important to follow this plan in setting out trees. After the blast, shovel out the top soil and set

it to one side, then shovel out the subsoil until the point where the dynamite cartridge was exploded is reached. As a rule a cavity will be found one to two feet in diameter; it is important that this be filled with subsoil. If the tree is planted without doing this, the subsoil will gradually drop down into the hole, leaving the tree roots suspended in the air, when the tree will die. Having filled the cavity, subsoil should be shoveled in to a point just below where it is desired to place the roots of the tree. Then put in half of the top soil. Lay the roots on this top soil in their natural position and cover them with the remaining top soil and pack it in firmly by treading it with the feet. Then fill the remainder of the hole with subsoil.

Several effects are produced that benefit the trees planted in soil so treated. Excellent and quick drainage is provided for the roots, which is essential to their health and vigorous growth. A heavy, soggy or overwet subsoil will retard the growth and bearing of trees by several years, as many of the fine feeding roots will perish when confined for several weeks in such soil. The breaking up and loosening of a heavy subsoil may be done much more effectively through the use of dynamite than is possible by digging holes three feet in diameter and fifteen inches deep with a pick and spade, as is usually done.

The subsoil should be dry at the time of the blasting, otherwise the effect is detrimental rather than beneficial, as a blast in wet subsoil throws the dirt high in the air and plasters it against the sides of the hole, failing to crack the subsoil as it should, several feet around the hole.

If the planting is done in the spring, it is necessary to wait until the subsoil is reasonably dry. Trees properly planted with dynamite will not die, but will grow rapidly right through the dry summer, and will bear fruit one to two years earlier than trees planted with a spade.

The next important benefit that follows from the use of dynamite is the more thorough aeration of the soil that is produced. An abundance of air in the soil is highly essential to plants.

The roots of trees perform the necessary function of taking up plant food that must first be made soluble, when through the circulation of sap it is utilized in making new layers of wood, foliage, fruit buds and fruit. The oxygen in the air performs an important part in the processes going on, and in the changes which take place in the chemical constituents that are present in every grain or atom of soil, and which are necessary for the growth of all vegetation.

Where the soil is heavy, and in poor physical condition, trees are more subject to diseases that not only retard their growth, but to a certain degree make them unfruitful. Therefore, the better the soil is prepared by making it more open or porous, and capable of taking in the air freely and abundantly, the greater will be the degree of health, vigor, growth and productiveness.

Where the subsoil is of an open or porous character, with a sandy loam top soil, the use of dynamite is not advisable, for such subsoil should not be broken. The foundation will become too loose or soft. The drainage will be made too excessive; the subsoil moisture will not be so usable or effective in its upward movement, because its medium has been broken up and changed, in consequence of which the trees will suffer severely in times of prolonged drought, and during heavy windstorms they will be blown over, for their roots will not be held by a sufficiently firm soil.

The use of dynamite is practical and economical.

but careful surveys of the soil and subsoil should first be made, to ascertain whether they are suitable for the advantages to be gained by this method.

These are some of the conditions that need to be understood in the preparation of the soil for tree planting.

The method of blasting for and setting trees is about as follows, depending somewhat upon the character of the soil, depth of hardpan, etc.:

The holes are easily made by driving a pointed steel bar, 1½ to 4 feet, as the depth of the hardpan calls for. The bar should not be driven entirely through the hardpan, but within from 6 to 12 inches. A one-half pound stick of 20 or 25 per cent. dynamite is primed with cap and fuse and carefully lowered and tamped. The first six inches of earth should be tamped very lightly and the balance should be tamped as tightly as can be done with a wooden tamping stick. The charge is now ready to explode, which is done by lighting the fuse. After the explosion, a barrel-shaped chamber is usually found 12 or 18 inches below the surface. This should be filled to a proper depth for the tree with rich humus-bearing earth and the hole is ready. Set the tree and fill the balance of the hole with rich earth and it has every chance to live as far as its root bed is concerned.—*American Cultivator*.

## IN THE GLASS HOUSE, MONTH TO MONTH.

(Continued from page 404.)

be obtained from any of the first-class nurserymen who advertise in the GARDENER'S CHRONICLE and who will gladly give advice as to the most suitable varieties for forcing. When they arrive, usually out of pots, shake most of the old soil from the roots and re-pot into about the same size pot they were in before, as overpotting is disastrous, compost to consist of good sod, no manure but a six-inch pot of bone to every wheelbarrow load of soil, also the same quantity of lime. For further particulars, read each month's articles and full instructions will follow in due course.

The name orchid sends a thrill of horror through many people who ought to know now that they are the easiest plants in the world to grow. They certainly withstand a lot more abuse than a rose or carnation will. They can be grown in the rose house on a side bench very easily in winter without causing mildew on the roses. I know it because I have grown both and am doing so today with success. My *Cattleyas* are thrifty and my roses have not a speck of fungus disease on them. Try a few *Cattleya Trianae*. Buy imported pieces from any reliable orchid man, cut the dead pieces out and leave under the rose bench for a week or ten days. Don't worry about their suffering from want of water. They will take all moisture necessary for their maintenance and will send out a few nice white roots. When they are seen doing this, get a few clean shallow pots with holes at sides for orchids, for in the spring you will need the bench room, and when the *Trianae*s have finished their blooming you can suspend them from the roof. Place a few clean broken pieces of pot in the receptacle and place the base of the plant therein. Then pack around a little *Osmund's* fibre mixed with a few bits of charcoal. Make all firm enough so you can take hold of the plant itself without loosening it and will then thrive. Give a little shade with paper or cheese cloth for a few days and they will not be much trouble afterwards. Other necessary notes will follow.

## SENECIO CLIVORUM.

AS a result of various explorations in China we have at the present time a greater wealth of plants available for outdoor decoration than ever before known, and it is more than likely that our gardens will be still further enriched by the acquisition of floral treasures from that region. While perhaps the most notable additions have been made to the trees and shrubs, quite a number of valuable herbaceous plants have been introduced also. *Senecio clivorum* is one of these and is a plant which should become widely known. One naturally associates the name of E. H. Wilson with Chinese plants and this is one of his introductions of a few years ago.

While it succeeds fairly well in the herbaceous border under certain conditions, its rightful place is by the waterside or in a moist spot in the wild garden. Here it appears to striking advantage, especially when planted in bold groups.

The growth is most luxuriant, the individual leaves being a foot or more in diameter borne on long, stout stems, whilst the flower stems, which rise well above the foliage, will attain a height of four to five feet. The inflorescence is flattened and much branched, the individual *Cinerario*, like flowers, being three inches or more across and of a striking orange-yellow shade. The flowering season is in August. Its robust appearance denotes that it is a gross feeder, and the positions for it should be thoroughly prepared. Break up the soil to a depth of two feet, incorporate a liberal dressing of well decayed manure and the results will amply repay.

Seeds germinate readily and the seedlings grow rapidly. Sown early in the year they will make good flowering plants for the following season.

H. E. DOWNER.

## THE BUDDING OF LILACS.

SUMMER is the season when the propagation of lilacs by budding may be undertaken to advantage. As is well known, the close relationship between the lilac and the privet permits of the use of the latter as a stock. As the privet roots so readily from cuttings, all the stocks that are required may be had by looking ahead of the budding season a little. It is possible to set out privet cuttings in spring and have them rooted and growing in time to bud them the same season, though one year rooted cuttings are such as are generally used.

As the rule for budding is to do it when the sap is subsiding somewhat in its flow, and the privet is a late grower, it is often well toward September when the work is done, and this is particularly the case with young plants.

It is best to place the bud as close to the ground as possible to lessen the chance of a privet growth below it at any time. The lilac bud rarely fails when the work is properly done, and where spring opens the privet stock above the bud should be cut away, where a strong shoot of the lilac bud may be expected. The following year should see a strong plant of lilac. It should then be transplanted. This is the time to see that no buds are visible on the privet stock, below where the bud of the lilac was placed. Should any appear, cut them out, and when planting, set the plants so that the lilac itself is an inch or two beneath the surface of the ground. With this care but little chance of a privet growth from the root need be expected.—*Florists' Exchange*.

# American Association of Park Superintendents

## OFFICIAL COMMUNICATIONS.

EMIL T. MISCHE, President, Portland, Ore. R. W. COTTERILL, Sec.-Treas., Seattle, Washington.

### CONVENTION NOTES.

The secretary had planned to have a revised and complete convention program, with full details of New Orleans arrangements, but this is impossible, because at the date this is written (Sept. 7) the information to be supplied by the local New Orleans committee has not been received.

A complete preliminary program, with full details as to hotels, routes, etc., will be printed and mailed to every member.

The business sessions of the convention will be as outlined in the August number, to wit: a morning and evening session on each of the three days, with recreation features on each afternoon. Papers to be read will be largely by eminent men not members of the association, discussion of same to be led by designated members, who will be supplied in advance with copies of the papers. This is an original idea of President Mische and will be an innovation.

The following new applications are already on file with the secretary: Jas. E. Fitzpatrick, Terre Haute, Ind.; L. H. Weir, Cincinnati, Ohio; Julius Koenig, St. Louis, Mo.; Fred Mussbaumer, St. Paul; Harry B. Frase, Des Moines, Ia.; Robert R. Moss, Long Island, N. Y.; Virginia (Minn.) Park Commission.

Sleeper reservations should not be made beyond St. Louis as special car or cars will be arranged for from St. Louis south. Write L. P. Jenson, Sup't of Grounds, Busch Place, St. Louis, Mo., and he will take care of your reservations on the special. The special cars will be held at Memphis during stop-over so that baggage, etc., may be left on cars.

Delegates and visitors who do not come via Chicago or the schedule as outlined above, should plan to arrive at St. Louis not later than the early morning trains of Sunday, Oct. 8, as a special program of entertainment, covering the entire day and evening, is being arranged by Mr. Jenson and Mr. Ernst Strehle, the St. Louis superintendent.

### PROPOSED ITINERARY OF EASTERN PARTY.

- October 4: Leave New York via Southern Pacific steamer noon.
- October 9: Due New Orleans..... 10:30 A.M.
- October 13: Lv. New Orleans N. O. & N. E. R..... 8:15 A.M.  
Ar. Birmingham A. G. S. R. R..... 6:35 P.M.  
Ar. Chattanooga A. G. S. R. R..... 10:30 P.M.  
Or
- October 13: Lv. New Orleans N. O. & N. E. R..... 7:30 P.M.

- October 14: Ar. Chattanooga Alabama Gt. Sou. R.R...10:35 A.M.  
Breakfast in dining car, luncheon at Mountain Inn, dinner at Hotel Patten, sightseeing meantime. Retiring to sleeper at night.
- October 15: Lv. Chattanooga Southern Railway..... 5:15 A.M.  
Ar. Roanoke Norfolk & Western..... 5:40 P.M.  
Breakfast and luncheon on diner. Dinner at Hotel Roanoke or on diner en route Roanoke to Natural Bridge.
- October 15: Lv. Roanoke Norfolk & Western..... 6:35 P.M.  
Ar. Natural Bridge Norfolk & Western... 8:01 P.M.  
Transfer by carriage to Hotel. At hotel all night. Visit Bridge Park and Bridge.
- October 16: Lv. Natural Bridge Norfolk & Western... 1:31 P.M.  
Ar. Luray ..... 5:34 P.M.  
Visit Caverns and have dinner at the Mansion Inn.
- October 16: Lv. Luray Norfolk & Western..... 11:30 P.M.
- October 17: Ar. Hagerstown Norfolk & Western... 2:10 A.M.  
Lv. Hagerstown Western Maryland..... 4:32 A.M.  
Ar. Gettysburg Western Maryland..... 5:30 A.M.
- October 17: Lv. Gettysburg Western Maryland..... 6:07 P.M.  
Ar. Baltimore Western Maryland..... 8:57 P.M.
- October 18: Lv. Baltimore Pennsylvania R. R..... 1:18 A.M.  
Ar. New York Pennsylvania R. R..... 5:50 A.M.

### PROPOSED ITINERARY OF MIDDLE WEST PARTY.

- Leave Minneapolis, C. & N. W. Limited, 8:00 P. M. Friday, Oct. 6
- Arrive Chicago, C. & N. W. Limited, 9:00 A. M. Saturday, Oct. 7. Stop-over at Chicago.
- Leave Chicago, Illinois Central No. 17, 10:30 P. M. Saturday, Oct. 7.
- Arrive St. Louis, Illinois Central No. 17, 7:48 A. M., Sunday, Oct. 8. Stop-over at St. Louis.
- Leave St. Louis, Illinois Central No. 203, 11:20 P. M. Sunday, Oct. 8.
- Arrive Memphis, Illinois Central No. 203, 9:10 A. M. Monday, Oct. 9. Stop-over at Memphis.
- Leave Memphis, Illinois Central No. 15, 4:30 P. M., Monday, Oct. 9.
- Arrive New Orleans, Illinois Central No. 15, 7:35 A. M., Tuesday, Oct. 10.
- Executive Committee 9:00 A. M. Opening Session 10:00 A. M., Tuesday, Oct. 10.

### PARK STATISTICS—CITIES OF THE SOUTH.

Compiled by Geo. A. Parker, Hartford, Conn.

Rank in Pop.	Name of City.	Population.	Park Area Acres.	Valuation Park System.	Annual Expenditure.	Per Cent		Pop. Per Park Acre.	
						Per Capita Expenditure.	City Area Per Capita Park Values.		
1.	New Orleans.....	355,958	1,217	\$5,547,950	\$ 88,591.00	.25c.	1.0	\$15.58	292
2.	Louisville.....	233,216	1,320	3,097,000	102,488.00	.44c.	5.5	13.28	176
3.	Atlanta.....	173,713	339	1,396,071	60,123.00	.35c.	4.3	8.03	572
4.	Birmingham.....	158,200	229	1,025,361	10,735.00	.07c.	0.7	6.41	670
5.	Memphis.....	140,351	973	6,110,396	134,944.00	.96c.	2.6	43.46	144
6.	Richmond.....	133,185	377	1,445,052	55,065.00	.41c.	6.4	10.84	353
7.	Nashville.....	113,822	120	914,900	60,975.00	.54c.	1.1	8.03	948
8.	San Antonio.....	110,679	351	2,082,540	20,645.00	.19c.	1.5	18.81	312
9.	Dallas.....	107,369	144	2,162,150	45,841.00	.43c.	1.4	20.13	745
10.	Wilmington.....	90,953	294	660,000	32,143.00	.35c.	7.3	7.24	312
11.	Houston.....	89,721	104	362,488	40,216.00	.45c.	0.5	4.07	862
12.	Fort Worth.....	89,460	55	534,718	32,000.00	.36c.	1.3	5.97	1,626
13.	Norfolk.....	85,005	100	1,249,841	24,140.00	.28c.	2.7	14.70	850
14.	Savannah.....	67,473	164	5,978,609	17,192.00	.25c.	4.1	75.26	411
15.	Jacksonville.....	67,209	160	1,519,837	39,064.00	.58c.	3.3	22.61	420
16.	Charleston.....	59,815	349	494,954	24,225.00	.40c.	1.3	8.27	170
17.	Chattanooga.....	55,878	65	911,387	16,948.00	.30c.	1.7	16.39	855
18.	Covington.....	55,272	2	434,000	11,664.00	.21c.	1.0	7.85	27,636
19.	Mobile.....	54,610	5	870,500	8,404.00	.15c.	0.2	15.94	10,922
20.	Little Rock.....	52,464	48	362,865	3,413.00	.07c.	0.8	6.94	1,093

# NATIONAL ASSOCIATION OF GARDENERS

WILLIAM N. CRAIG, President,  
Brookline, Mass.

OFFICIAL COMMUNICATIONS

M. C. EBEL, Secretary,  
Madison, N. J.

## EXECUTIVE MEETING.

An executive meeting of the board of trustees and directors was held at the Murray Hill Hotel, New York City, on Thursday, September 7, with President William N. Craig, presiding. It was a well-attended meeting, with general enthusiasm manifested by those present over the bright outlook for the future of the association.

Several communications were received conveying regrets from members of the board who were prevented from attending owing to quarantine regulations or other causes beyond their control.

A letter, received from Vice-President Theodore Wirth, Minneapolis, advised that he has noticed a constantly increasing interest among the gardeners in the middle west and west towards the national organization, and that he is looking forward to a considerable increase in membership from that territory in the near future. Director Thomas W. Head, Lake Forest, Ill., submitted similar good news, and the recommendation of both members referred to was that the annual convention be held in some western city in the not distant future.

The appointment of John Canning, Ardsley, N. Y., was announced to fill the unexpired term of James MacMachan, deceased, whose term expired January 1, 1919. Mr. Canning is well known in horticultural circles, especially in the east, where he has been quite active as an exhibitor, and in flower-show affairs generally. He is regarded as a valuable addition to the organization's directorate.

The plan of the National Co-operative Committee, to provide essays for the monthly meetings of local horticultural societies and gardeners clubs, which it has been carrying out during the past year, was approved by the board, and the committee was empowered to continue to supply these essays to some fifty-odd societies throughout the country that have applied for them, and also to any other societies that may desire to receive them.

It was also decided to offer the association's silver medal for competition in the year 1917 to horticultural societies or gardeners' clubs. The terms of competition are to be left to the local society accepting the medal as to whether it should be offered at one of its shows or for monthly competition at the meetings, the only restriction being that the competitor must be a member of the National Association of Gardeners. Societies desiring to accept the offer will so advise William Kleinheinz, Chairman, Committee on Awards for Meritorious Exhibits, Ogontz, Pa.

The action of the Board of Standards, of the Board of Estimate of the City of New York, recommending a higher scale of salaries for the gardeners employed in the New York City Park Department, was officially brought to the attention of the meeting. A resolution was adopted endorsing the Board of Estimate's action and calling on the Mayor and Park Commissioner of the City of New York for their support to secure the adoption of the measure.

The recent discussion in the New York daily papers on the poor compensation gardeners receive from some of the public institutions was also brought to the attention of the meeting. While the existing conditions were discussed and severely condemned, as the matter was not officially before the meeting, however, no recommendations were made.

After some discussion the next meeting place for the annual convention, which is to be held the first week in December, was unanimously decided to be Washington, D. C. It was also voted as the choice of the meeting to hold the 1917 convention in Chicago. Pittsburgh was favorably discussed as the 1918 meeting place.

Following adjournment, some of the members coming from a distance accepted the invitation of John Canning, superintendent of the Adolph Lewisohn Estate, "Heatherdell," Ardsley, N. Y., to visit that place. The party later proceeded to "Greystone," Yonkers, N. Y., the estate of Samuel Untermyer, where over a million dollars is being expended in improvement work, and where over four hundred men are reported to be at present employed in development work.

## A MESSAGE FROM THE PRESIDENT.

Fellow Members:

I had the pleasure of addressing you in the January issue of the GARDENER'S CHRONICLE following my election to your presidency and now that summer is rapidly waning and climatic conditions are likely to be more comfortable, I hope your interest in the National Association of Gardeners will increase. I am well aware that during the hottest months of the year all work for

the various organizations in which we are interested naturally ebbs, but let us now start earnest work once more for the advancement of our association and our profession.

In January I asked for five hundred new members in 1916. We have added considerably over half that number to date and it will not take any very great effort to secure the balance. We are getting a fine influx of new members from the west, thanks to the energetic work of our respected vice-president, Mr. Theodore Wirth, and from one of our directors, Thomas Head, and from all quarters come words of encouragement. In the east we have a good membership but a great many gardeners are still outside our ranks. May I ask for a little more personal work to secure these outsiders? Application blanks for membership will be gladly forwarded by our secretary or myself and it would give me genuine pleasure to be able to announce at our next convention in Washington, D. C., that the five hundred new members asked for had been secured. Surely the sum of \$2.00 per annum is not excessive for a membership in the association and including the GARDENER'S CHRONICLE OF AMERICA.

I am well aware that captious critics may assert that the association should do more for its members. The officers and directors always welcome any suggestions and criticisms, and let me say to those who may criticize us that the work of the critic is ever a mighty easy one, that all connected with the management of the association pay all their own traveling expenses and render all services gratuitously, therefore the talk occasionally heard about "rings" and "cliques" managing this organization or some other to suit their own ends may be dismissed as the "chatter of irresponsible frivolity."

To advance our organization we need the earnest help of every member, and if we are to advance, and I feel we are making some headway, it will be not by blustering labor union aggressiveness, but by careful conscientious efforts on the part of gardeners themselves. The fact that applications to our Service Bureau are steadily growing goes to show that we have gained the confidence of many estate owners. It is utterly impossible to conduct such a bureau and please everyone, but we are doing our best, and hope that members benefited by us will not only make some small contribution to the Service Bureau fund, but will also aid us in the securing of additional members.

I need hardly say that gardeners have their limitations. Time does not permit of the officers attending social and other gathering far removed from home, except on rare occasions. I would gladly attend meetings at a distance were it possible, and I want to say on behalf of our earnest and hard working secretary, Mr. Ebel, that the condition of his health for the past two years has been such that he could not attend any meetings except at very great personal discomfort, and I am sure that members will appreciate the work he has done and accept his will for his deed.

The convention of 1916, to be held in Washington, D. C., will, we hope, be the largest and most successful yet held by our association. I sincerely hope we may have a large gathering at the Capital city, and that members will, wherever possible, plan to attend the same. There will be interesting papers and some real live topics to discuss. Notify us early if you think you can attend, and don't fail to send us any suggestions you may have.

With sincere thanks for the many members who have worked faithfully for the upbuilding of the association, and hoping that the coming fall will see a very material additional increase in our membership, believe me,

Yours very faithfully,  
WILLIAM N. CRAIG, President.

## ESSAY CONTEST.

The closing date for the assistant gardeners essay contest is drawing near. Essays must be in by November 1. The prizes are offered by President Craig—\$25 as first prize, \$15 as second prize and \$10 as third prize, in gold—for the three best essays on any subject pertaining to any branch of horticulture. The essays are limited to twenty-five hundred words and must be signed with a *nom de plume*, must bear no evidence of the author's identification, and be mailed in a plain envelope, carefully addressed to the chairman of the committee, William H. Waite, P. O. Box 290, Madison, N. J.

The contestant will place his name and full address, stating the position he holds, in a separate envelope, writing the *nom de plume* he signed to his essay on the outside of this envelope, and mail same in separate envelope to M. C. Ebel, Secretary, Na-

tional Association of Gardeners, Madison, N. J. This envelope is not to be opened until the judges have rendered their decision on the contest. Write your essay distinctly and use one side of paper only. These rules must be strictly followed to avoid disqualification. The successful contestants will be announced at the annual convention in December.

## AMONG THE GARDENERS

T. J. Morris, recently gardener on the D. G. Reid Estate, Irvington-on-Hudson, N. Y., has resigned and accepted the position of superintendent on the G. M. Sidenburg Estate, "Woodheath Farm," Mount Kisco, N. Y.

Philip Bovington, formerly with John Morgan Wing, Millbrook, N. Y., has secured the position of superintendent on the estate of Fred M. Sackett, "Edgecombe," Cherokee Park, Louisville, Ky.

William S. Rennie has recently been appointed superintendent of "Oakvale Park," the estate of I. W. Hellman, Jr., San Leandro, Cal.

Wm. Turner has resigned his position as superintendent of Ellis Court Farm, Mendham, N. J., to again accept the superintendency of the Borden estate, Oceanic, N. J.

John Johnson, late of the G. Warrington Curtis Estate, Southampton, N. Y., has secured the position of head gardener on the estate of J. A. Spoor, "Blythewood," Pittsfield, Mass.

Adolph Jaenicke recently resigned his position as gardener to Clarence Howard, St. Louis, Mo., to accept a position with the Penrose Estate, Colorado Springs, Colo. Mr. Jaenicke will be engaged in laying out a 1,200-acre park and a 4,000-acre ranch as pleasure grounds.

Frederick Cox, a greenhouse assistant on the Bayard Thayer Estate, South Lancaster, Mass., met with an accident on September 6, when an automobile in which he was riding was wrecked, from which he died twenty-four hours after. The deceased was a bright young man, only twenty-three years of age, and had worked at North Easton and other large estates in Massachusetts.

Henry Gibson recently resigned his position as superintendent of the S. G. Rosenbaum Estate, Roslyn Heights, Long Island, to accept a position as head gardener on the estate of William L. Austin, Rosemont, Pa.

Arthur Smith, for many years superintendent on the George D. Horst Estate, Reading, Pa., and more recently of the Drury Estate, Willoughby, Ohio, has accepted the position of superintendent with Leopold Stern, West End, N. J.

## IN THE FRUIT HOUSE.

VINES and peaches that have finished require plenty of ventilation. It is very important that the young wood should be hard and firm, and this can only be brought about by plenty of ventilation. The top and side ventilators can be left wide open both day and night. This does not mean that, should a sudden drop in the temperature occur, frost should be allowed to reach the vines or peaches. Not by any means. Let them down to 35 degrees for a few nights and then let them have all that is coming to them.

Not infrequently at this time of the year the fruit houses are made a storing place for many outdoor plants which fortunately will endure the cool treatment necessary for the fruit trees for a time, but in allowing plants to be put into these houses one should be careful that no insect pests are introduced with them. It would dampen the ardor of any man in charge of fruit houses who has been painstaking enough to have them free from all pests to have mealy bug, red spider and similar pests brought to him to fight against. It is hard enough to fight those that come through natural causes without introducing them from other plants. Moreover, the water necessary for plants stored in the fruit houses is not conducive to the welfare of the ripening and resting plants.

## THE GARDENER'S WAGE.

His Important Calling Should Be Better Rewarded Than It Is.

From the New York Sun, Sept. 14.

To the Editor of *The Sun*—Sir: The several communications which have recently appeared in your columns on the miserable compensation that the gardener receives at the hands of institutions such as the New York Botanical Garden may bear fruit if this publicity will come to the attention of their governing boards, for it seems incredible that the professional men constituting these boards would knowingly permit the practice of paying less for skill, which requires years of learning and practice to acquire, than today is paid for ordinary labor.

That the practice has been in force at all is owing, of course, to the fact that there are men to be found in the gardening profession who will accept such positions. This, however, is due in nearly every instance to circumstances which necessitate keeping employed and consequent failure to extricate one's self from unfortunate surroundings to rise to better opportunities.

It cannot be questioned that if the managements of many of our botanical gardens were more liberal in the treatment of their general operating forces greater animation would pervade these places, which would tend to draw more public interest to them and result in increasing financial support. It would elevate our botanical gardens nearer to the useful institutions of like character found abroad; whereas, today public interest in some of our botanical gardens is practically nil, so far as botany and horticulture are concerned.

Gardening, as a whole, should not be classed as the worst profession from a remunerative standpoint, and from the æsthetic what profession can vie with it where the highly efficient are considered? Statistics show that the struggling followers of theology, medicine and the law are not as well off as the average gardener, who is, strictly speaking, engaged in his vocation.

Nevertheless, we do not concede that the gardener is amply compensated for what he produces. Here we must distinguish between the real gardener and the so-called gardener, more properly termed garden laborer, and who is best known to the general public. The ability of the capable gardener, who is efficient in all the various phases of horticulture, is not yet recognized in this country as it is abroad, and many of our country estate owners themselves do not realize all that is demanded of the gardener fitted to manage a large country place. He must possess executive ability, know how to manage men, and besides knowing his own profession, horticulture, thoroughly, must invariably have a general knowledge of agriculture, of engineering and of general construction.

Unfortunately the gardener generally lacks what those of other professions exceed in, independence. If the gardener showed a less dependent and a more independent spirit it would serve him better in all his ways and his efforts would be far more appreciated. Experience is demonstrating for him, however, among those who require him, that the gardener is no different than other men, and that he who tenders himself for small pay renders small service. The real producers among gardeners demand accordingly.

M. C. EBEL,

Secretary, National Association of Gardeners.

# DIRECTORY

NATIONAL ASSOCIATIONS, LOCAL SOCIETIES AND GARDEN CLUBS WILL BE FOUND IN JANUARY, APRIL, JULY, OCTOBER, NUMBERS.

## HORTICULTURAL EVENTS

American Dahlia Society's Annual Show, Engineering Building, 25 West 39th st., New York, N. Y., September 26-28.

Horticultural Society of New York, Fall Exhibition, American Museum of Natural History, November 9-12.

Annual Chrysanthemum Show of the American Institute, Engineering Building, 25 West 39th st., New York, N. Y., November 8-10.

International Flower Show, Grand Central Palace, New York, March 16-23, 1917.

Morris County Gardeners and Florists' Society, Annual Show, Madison, N. J., October 26-27.

National Association of Gardeners, Annual Convention, Washington, D. C., first week of December.

New London (Conn.) Horticultural Society, Chrysanthemum Show, November 8-9.

North Shore Horticultural Society, Fall Show, Lake Forest, Ill., November —.

Pittsburgh Flower Show, auspices of the Garden Club of Allegheny County, Pa., June 13-16, 1917.

Rhode Island Horticultural Society's Flower Show, November 14-15, Providence, R. I.

St. Louis Spring Show, 1917, St. Louis, Mo., March 15-18, 1917.

Tarrytown (N. Y.) Horticultural Society, Chrysanthemum Show in Music Hall, Tarrytown, November 1-3.

Westchester and Fairfield Horticultural Society, Fall Show, Greenwich, Conn., October 31 and November 1.

### NEWPORT (R. I.) MIDSUMMER SHOW

The third Midsummer show by the Newport Horticultural Society and the Newport Garden Club was held at Hill Top Inn, on Thursday, Friday and Saturday, Aug. 17, 18 and 19. The exhibits were shown in tents under large trees. The arrangements were very good, making an excellent general effect.

The John Scheepers' cup for display of bulbous flowering cup was won by James Watt, the group being one of the leading attractions. In it were Lilies Montbretias, Amaryllis, Gesnerias, Gloxinias and Pansies.

Mr. Bond had the distinction of winning the largest number of first premiums, also scoring the highest number of points, thus winning the Alfred Rickards sweepstake prize of \$10 in gold, and the Joseph Manda silver cup respectively.

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START with the largest stock that can be secured! It takes over twenty years to grow many of the Trees and Shrubs we offer.

We do the long waiting—thus enabling you to secure trees and shrubs that give immediate results. Price List now ready.



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and are supplied every year direct to more American planters than are the seeds of any other growers.

### Burpee's Annual for 1916

The Leading American Seed Catalog, is a bright book of 182 pages, beautifully illustrated, and a safe guide to success in the garden. It is mailed free. Write today. A postcard will do.



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## Remember—If It's a Hardy Perennial

or so-called Old-fashioned Flower worth growing, we have it in one shape and another in quantity the year round. We have the largest stock in this country, all Made in America, and our prices will average

**10c. each                      \$1.00 per dozen                      \$7.50 per 100**

### FALL PLANTING

To Grow Hardy Perennials and Old-fashioned Flowers Successfully:

They should be planted in September, October and November like Spring flowering bulbs. They make roots during Fall and Winter, establishing themselves for Spring and Summer blooming.

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A perfect picture in your garden to last for years will be the result if you allow us now to plan a scheme, whether of contrasts or of harmonies, to be carried out this Fall.

Our "Artistic" Border, 100 ft. by 3 ft., costs \$25.00 only. Consider what is "saved" by this system, and what is gained in true beauty.

Descriptive and illustrated catalogue free if you mention The Gardeners' Chronicle.

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Class 19, bed or group of foliage plants the ordinary in its style of grouping, which on 100 square feet, Crotons predominating, was low, with several large finely colored brought out a meritorious display staged by solitary specimens of Crotons throughout Victor May. This was somewhat out of the group, these being surrounded around

## Scheepers' Prize Winning May Flowering Tulips

Awarded Gold Medal by the  
New York Horticultural Society

JOHN SCHEEPERS & CO., INC., Flowerbulb Specialists  
2 STONE STREET, NEW YORK  
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the base by a grand lot of *Dracena Godseffiana*. *Caladium argyrites* made an effective margin. Besides the \$25 prize, this group won the Garden Club's sweepstake prize, a silver cup, as the best exhibit in the show; also the Mrs. French Vanderbilt silver cup offered for the best exhibit by private gardeners.

C. M. Bugholt showed what was considered the best novelty in the show, a white seedling *Gladiolus* of great purity and of first class form, to which the society's silver medal was awarded.

Donald Hay won the Stump & Walter cup with a collection of vegetables, first with six specimen *Geraniums*, also first with an elegant bed of *Lilium speciosum rubrum*.

James Robertson was first for a specimen palm and first with hardy flowers in all four classes.

John B. Urquhart carried all before him with ferns, also led in many of the vegetable classes.

Andrew Dorward was among the winners with fruit and vegetables. James Boyd was also a winner in many of the classes.

F. P. Webber won first with collection of common *Dahlia*s and vase of *Gladiolus primulinus* hybrids.

The only table decoration was by William Cray—five floral pieces of *Rose Mrs. Aaron Ward*.

The judge's dinner at the close of the opening day of the flower show was a most enjoyable occasion, about 50 being present. Governor R. Livingston Beekman, as host, joined the party for a short time and related some of his gardening experiences. He also spoke of the good work being done by the Newport Horticultural Society. It was pleasing to note the good feeling between the Governor of the State and his gardener, our president, John B. Urquhart, whom he addressed as his friend.—*Echange*.

#### SEWICKLEY HORTICULTURAL SOCIETY

The monthly meeting of this society was held at Wessenauer's flower store, Monday Aug. 14, with a good attendance. A hall at

504 Broad St. has been engaged and in future the society will meet there on the second Tuesday of each month. The constitution and by-laws were drawn up and passed on. The members unanimously agreed to stage an exhibition of flowers, fruit and vegetables on Friday and Saturday, Sept. 22 and 23. The president, Mr. Wessenauer, has placed his show and greenhouse at the disposal of the society for this event and it is to be hoped the members will seize this opportunity to show the people of Sewickley samples of their skill. It was also agreed to hold a picnic on Wednesday, August 30. Excellent progress is being made by this new society and a large number of new members is looked for at the next meeting.

M. C.

#### THE HORTICULTURAL SOCIETY OF NEW YORK.

The Horticultural Society of New York, in co-operation with the New York Botanical Garden, will hold a dahlia exhibition on Saturday and Sunday, September 23 and 24, in the museum building, New York Botanical Garden. The prizes for this exhibit are offered by the New York Botanical Garden from the income of the William R. Sands Fund. The exhibition will be open from 2 to 5 P. M. on Saturday, and from 10 A. M. to 5 P. M. on Sunday. It is hoped that all interested in this popular flower will make entries and help to make the exhibition large and attractive. Schedules are now ready for distribution and will be sent upon application to the secretary, George V. Nash, The Mansion, New York Botanical Garden, Bronx Park, New York City.

GEORGE V. NASH, Secretary.

#### HOLYOKE AND NORTHAMPTON FLORISTS' AND GARDENERS' CLUB.

Members of the club, with their wives, families and friends, turned out in good number for the annual picnic which was held at the Gallman Bros. Farm, Smith's

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**G**ORGEOUS  
in coloring,  
of excellent  
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growth, adding  
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spring landscape will  
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Or, send a \$1 bill with your request for our catalog and we shall send you a splendid assortment of our choicest bulbs. Write *to-day*.

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NEW YORK CITY

Ferry, on August 30. Both the day and the location were ideal and every one had a jolly time.

The regular monthly meeting was held September 5 at the Massachusetts Agricultural College, Amherst.

Professor Nehrling, of the Department of Floriculture, invited members to spend the afternoon, and as many as could do so availed themselves of the opportunity to inspect the many interesting features to be found at the college. A hardy perennial garden has recently been established and is receiving much attention from visitors.

The business meeting was called to order by President Butler and plans for the coming show were discussed. Professor Nehrling read two papers received from the National Association of Gardeners, one on the "Doalroticæ," by R. A. Sell, of Texas, the other on the "Iris Worm," by P. S. Snow, of Pennsylvania. A general discussion on insect pests followed. Several vases of perennials were on the table from the college garden and H. E. Downer showed *Senecio Chlororum*. H. E. D.

#### TUXEDO HORTICULTURAL SOCIETY.

The usual monthly meeting of the Tuxedo Horticultural Society was held in the Parish House on September 6. President C. Davidson in the chair. Mr. Edward Wilson read a very interesting paper on "Perennials and Alpine Plants." Mr. Wilson is head gardener to Mrs. Lewis Chandler, where they have one of the finest collection of Alpine plants to be seen anywhere; the most of the place being laid out in rock gardens which is a very appropriate place for the surroundings of Tuxedo Park. The final schedule is now ready for our Fall Show, which will be held in Tuxedo Club House on November 3, 4 and 5. There are some very interesting classes; one of the special features in this year's schedule is the Table Decoration of Mums seated for eight persons. There are special prizes offered by Scott Brothers, A. N. Pierson, C. H. Totty, Knight & Struck Company, Adolph Lewisohn, Esq., Weeber & Don, Metropolitan Material Company, Arthur T. Boddington, Carter Tested Seeds Company, John Scheepers Company, Bon Arber Chemical Company, Julius Rochrs, Burnett Bros., Hitching Company, Winter & Son, Vaughans Seed Store, Peter Henderson, Lager & Hurrell, Henry A. Dreer. At this writing we expect as usual keen competition in most of the classes as all the boys report their crops looking prosperous.

THOS. WILSON, Secy.

#### SEWICKLEY HORTICULTURAL SOCIETY.

The first annual picnic of the Sewickley Horticultural Society was held Wednesday, August 30, on Mrs. Wm. Thaw's estate, "As You Like It," Sewickley Heights.

It is not often that such an ideal picnic ground, including the swimming pool and the boating lake, situated in the middle of the wonderful rock garden, is placed at the disposal of any society and everyone present felt grateful to Mrs. Thaw in granting such a privilege and also to her gardener, John Jones, who was untiring in his efforts to make everyone feel at home. About 150 were present and the weather being perfect all had a glorious time. The Soccer game was the first big event and was very fast for about two minutes when lack of training began to tell on some of the boys, so much so that in the second half they thought the referee's watch had stopped. The swimming pool and the lake were fully patronized for the next hour after which a halt was called for lunch. The boys here



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packed in some extra weight for the tug-of-war which followed, and a very strenuous affair it was. A fine programme of sports for old and young was then gone through, when all adjourned to the distribution of prizes and a wee deoch-an-doris which in this case happened to be ice cream and coffee.

No one seemed to want to go home so an impromptu concert was next in order, but it had to be and at the finish all were tired and happy.

The committees did their work well, other members also doing their share, all working in harmony making the outing, as it was, a splendid success. M. C.

#### HORTICULTURAL SOCIETY OF NEW YORK.

An exhibition of plants and flowers was held by the society in co-operation with the New York Botanical Garden, in the museum building, Bronx Park, Aug. 19 and 20. The exhibition was mainly for Gladioli, and there was a superb display of these popular flowers. The large collection exhibited by Mr. T. A. Havemeyer was the feature of the exhibition. Many unusual forms were contained in this, and the range of colors was marvelous. The following prizes were awarded in the open-to-all classes:

Largest and best collection, T. A. Havemeyer (A. Lalandroy, gardener), first; John Lewis Childs, Inc., second.

For the best 12 varieties, three spikes of each, T. A. Havemeyer, first; John Lewis Childs, Inc., second.

The best vase of white, 25 spikes, T. A. Havemeyer, first; John Lewis Childs, Inc., second.

The best vase of red, 25 spikes, John Lewis Childs, Inc., first.

The best centerpiece for a table, Mrs. H. Darlington (P. W. Popp, gardener), first.

In the classes for non-commercial growers, the following prizes were awarded:

Largest and best collection, Mrs. H. Darlington, first. Best six varieties, three spikes of each, Mrs. F. A. Constable (James Stuart, gardener), first; Mrs. H. Darlington, second. Best vase of white, six spikes, William Shillaber (J. P. Sorenson, gardener), first. Best vase of pink, six spikes, Mrs. H. Darlington, first. Best vase of red, six spikes, Mrs. F. A. Constable, first; Mrs. H. Darlington, second.

Collection of annuals, 12 varieties, Ralph Pulitzer (Frederick Hitchman, gardener), first; William Shillaber, second.

Special prizes were awarded to Bobbink & Atkins for a collection of herbaceous perennials, and also to Mrs. F. A. Constable for a collection of herbaceous perennials.

GEORGE V. NASH, Secretary

DESIRABLE HERBACEOUS PLANTS.

(Continued from page 393.)

many purposes, especially where masses of color are desired, and it is only within recent years that any new colors have been evolved. Pale lavender, deep rose and almost white forms will be found among such varieties as Aldenham, Herbert, J. Culbush, Lilacea, Distinction and Reverslea. Too much cannot be said in favor of the beautiful varieties which have resulted from crossing Vimineus and Novi Belgi, the best of which are Enchantress, Hon. Edith Gibbs, Golden Spray, Delight, Star Shower, Maidenhood, King Edward VII, Chastity and Ringdove. The habit of these is so beautiful that they are unsurpassed for growing on single stems and planting on the front of the border where they make perfect pyramids of bloom. Among the cordepolius group there are a number distinguished by their delightful habit and delicacy of coloring, and Ideal and Edwin Beckett are general favorites with all who have grown them.

A wonderful class of plants which should be represented in all gardens are the Eremuri, and if single specimens are planted at various intervals along the border where their stately spikes can rise above the dwarfier subjects they present an imposing appearance unequalled by any spring flowering plants. Unlike the other plants I have mentioned, they should be planted early in the fall and the young growths will need slight protection from cold winds and frosts in early April. E. Elwesianus, which has pink flowers, and its pure white variety albus will, when established, grow from eight to nine feet high with fully four feet of blossom. E. robustus is equally tall with rosy pink flowers, but E. Bungei does not exceed five feet and is very attractive, having golden yellow flowers.

To retain the majority of herbaceous plants in a vigorous and healthy condition, it is necessary to occasionally divide and replant them and this applies especially to those which rely upon a mass of fibrous roots for support, such as Asters, Campanulas and Phlox, but such strong rooting plants as Anemone Japonica and those with long roots and few fibrous ones will succeed for many years undisturbed if the soil is well prepared.

I would strongly advise giving the border a covering of some material in the fall as soon as the stems have been removed, and for this purpose I prefer soil to anything else as it not only protects the crowns, but affords the roots new food for next season.—An address before *Gardeners' and Florists' Club of Boston.*

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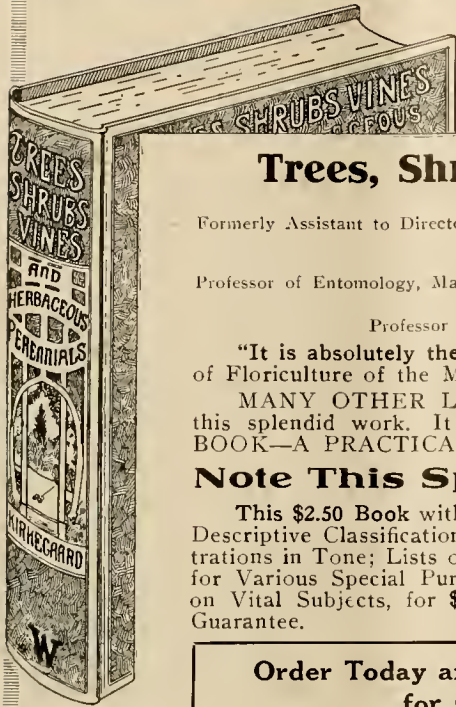
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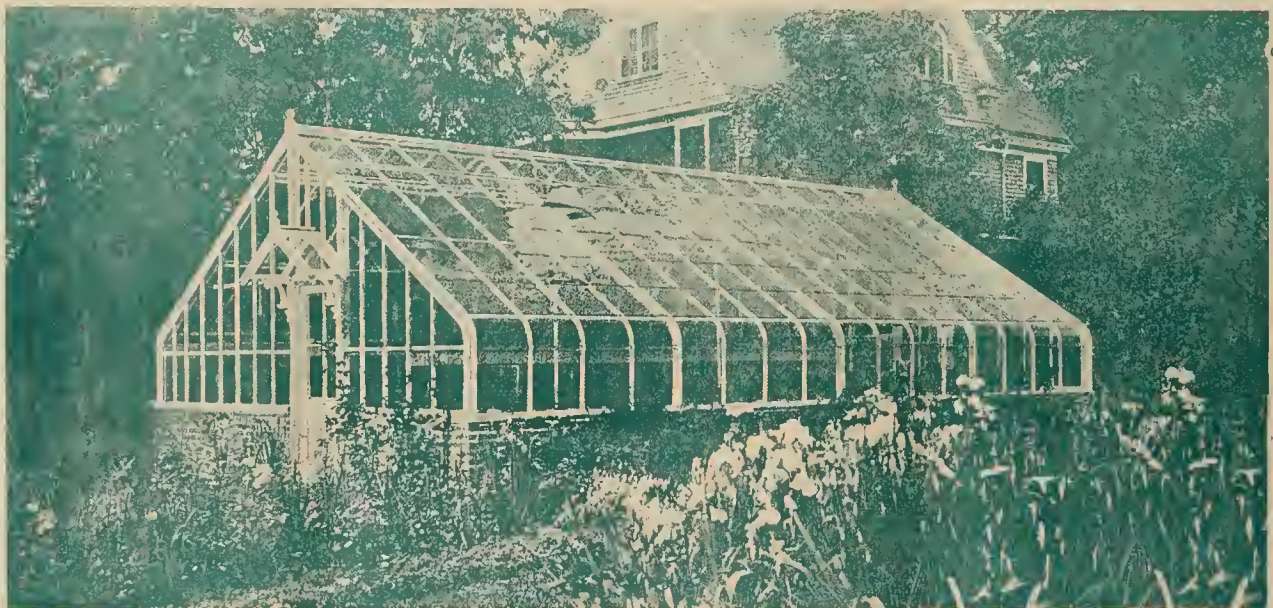
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# GARDENERS' CHRONICLE OF AMERICA

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## *Things and Thoughts of the Garden*

By The Onlooker

THE time is at hand to think of winter protection for tender shrubs or those that are doubtfully hardy. For large Hydrangeas or choice dwarf evergreens, a wooden case, ever so slender, or a barrel with both ends knocked out, affords a ready means of gathering up the shoots and surrounding them. Dry leaves fern fronds, straw or like material can be packed in lightly as an additional means of warding off cutting winds and sun and of preventing alternate thawing and freezing. It is this that does the damage, not the severity of the frost. Where Lavender edgings or dwarf hedges of Lavender exist, or Box, Southernwood, Santoline, etc., etc., exist, a light double railing can be nailed along each side and another over them which will keep the protective material together and save the plants. Rambler Roses may have their leaves stripped off, the shoots taken down and buried a foot deep in soil.

\* \* \*

Standard Geraniums are not common. They are developed from young plants that are grown on and are kept to a single, upright main stem. When they attain the height desired they are allowed to branch out and form an umbrella shaped head. It takes two years growth to get a well developed plant. For prominent positions in borders or beds they are admirable and can have the bush type or dwarf plants bedded beneath them. *Clorinda*, the comparatively new hybrid scented leaved Geranium is well suited for growing as a standard. Its rich pink or cerise flowers, in long trusses, are welcome in the early spring months; as are the fragrant leaves of this plant. Other similar subjects that make good standards are *Streptosolen*, *Jamesoni*, *Heliotropes* and *Marguerites*.

\* \* \*

At this season of the year the amateur should make preparations for having a stock of hardy plants for the alpine house so that he or she may have blooms next February, March and April. Mostly the little bulbous plants are employed, these being potted up and kept over in cold frames or even cellars. *Funkias*, *Bleeding Heart*, *Geraniums*, *Saxifragas*, *Violets*, *Yellow Alyssum*, *Aubrietias* and such kinds as these are what are most suitable. The "alpine house" is any little greenhouse that will afford protection from the weather and allow our floral pets to bloom and grow. It need only be heated to 50 degrees so that much piping is not called for. Bedding plants and other crops may follow when the spring harbingers are out of the way.

\* \* \*

Oriental Poppies can be propagated now or until December. Strong clumps may be dug up and their thick

roots cut into pieces of three inches in length. These are potted in light soil and placed in a cold frame over Winter. By next May nice young plants will have developed. Perennial Phloxes may be treated similarly. Cut the roots into short lengths and place them in a cold frame in soil. Young plants are ready by next May and if set out in an open position, and well attended, will flower the next October. Other plants than can be increased in a similar manner include *Sea Holly* (*Eryngium*), *Anchusa Italica*, *Stokesia cyanea*, *Senecio pulcher*, *Gaillardia*, *Anemone japonica*, *Verbesina hybrids* and the *Chimney Bellflower* (*Campanula pyramidalis*).

\* \* \*

We have had such indifferent success with spring sown Sweet Peas the last two years that I think it would be well worth while trying an Autumn sowing. The seeds could be sown at about the end of this month or the first few days of November. These fall sown peas flower earlier, better and longer than those put out in spring, even if the latter have been raised in pots and planted out.

\* \* \*

As the early flowering *Cosmos* show signs of waning the late flowering ones are just coming into bloom. The latter are the larger as well as the later. They last away into the time of sharp frosts and supply their graceful flowers when hardly anything else, except *chrysanthemums* and a stray rose or two, are obtainable.

\* \* \*

In a letter from an acquaintance in Ohio he speaks of the pink flowered perennial *Aster Mrs. A. J. Raynor* as a novelty. The plant is now many years old and passed the novelty stage long ago. But this only serves to show that certain plants of real charm and merit may remain an unknown subject to the great majority for a decade or fifteen years and to them, it is, of course, a novelty when they see it. How curious it is after all that our native perennial asters (*Michaelmas Daisies*) had to go to Europe to be improved by the hand of the cross-breeder and selector! Over there they have some highly developed large flowered varieties that are seldom to be found in our American gardens.

\* \* \*

Great interest has been taken in *Dahlias* this year, although it has not been a good growing season. Latterly the plants have bedecked themselves with bloom, but those that got hardened owing to the drought have come to nothing. When the stems become in any way woody or "set" no power on earth will make the *Dahlia* blossom. Yes, there is a way; it is to cut down the plant and let new wood start from the base. But this had to be done

by the beginning of August at the latest. Everybody seems to be raising seedling Dalilias, and a fine habit it is.

\* \* \*

Recently I made a fine batch of cuttings of Golden Privet from young growth, taken five inches long. These were inserted in sandy soil in the shade or semi-shade of some currant bushes out-of-doors and kept watered. They are now looking sturdy and well. This is a favorite shrub of mine, as it is so bright and cheerful, keeps its color and is as hardy as the common oval-leaved Privet. In northern states it gets killed back, but if protected with dry straw it comes through and breaks out afresh in the spring. In the spring I stuck in, yes, simply stuck in, a large number of cuttings (prunings) of California Privet along the side of a fence. Some of the pieces were a quarter of an inch thick and were branching. About 20 per cent. of the large ones rooted and fully 40 per cent. of the ordinary single shoots. So it is easy to raise a stock of Privet.

\* \* \*

Do you want to know how to cut down the cost of living and to increase your health? John Willy, editor *The Hotel Monthly*, told the delegates to the vegetable growers' convention how the hotels and restaurants throughout the country are succeeding in their campaign to popularize the humbler and cheaper vegetables by the preparation of more appetizing and tasty dishes, and asserted that the housewife who would try could succeed equally well. Caterers and chefs no longer entrust the preparation of vegetables to inexperienced help, and employ their skilled cooks to devote their attention to the meats. Vegetables are being prepared separately so that the peculiar flavor of each is maintained. In Chicago nearly every public dining room now lists on its bill of fare "vegetable dinner." The popularity of the baked potato has been due to proper preparation. There is an equal opportunity with squashes of different kinds, carrots, parsnips, peas, beans, lettuce, onions and the other vegetables. The greater popularity of vegetables does not mean that more persons are becoming vegetarians, but that the travelling public is finding that an excess of meat is unhealthy, and that vegetables properly prepared increase the health and decrease the cost of living.

\* \* \*

There is one vegetable that all small gardeners, or owners of small gardens to be more correct, would do well to have. This is Swiss Chard, which also goes by the name of Silver Beet or Spinach Beet. The tender young leaves are used, although the fleshy stems are also cooked and served like Asparagus, with a dressing. At its largest the plant is the same size as the ordinary beet, but when large like this it loses its mild flavor. Its great recommendation is that it lasts right through the summer, always remaining fresh, giving and producing leaves that can be gathered all the time, and one row of eight or ten feet will suffice for a family of three or four. It is of the easiest possible culture. Sow the seeds an inch deep in the open air in good rich soil in a sunny position. The row should be eighteen inches apart and the young plants may be thinned to nine inches in the row. Keep the soil clean and cultivated between and all is well. Chard seems to come through heat, cold, rain, drought and all insect and other ills without harm or hindrance. The root is of no use in cookery, but as a vegetable for the smallest of small gardens this can be very favorably commended.

\* \* \*

Another vegetable not much used with us is the Vegetable Marrow. It is a great favorite in English gardens where our Squashes and Pumpkins are seldom seen except occasionally as ornaments on a pergola or trellis. The Vegetable Marrow is treated just as the Pumpkins are. Sow the seeds in a mild hot bed in March or April

and plant out the young plants when they are half a foot high. A light rich soil in a sunny position is the place for them. The fruit differs according to the variety. Moore's Cream, Pen-y-byd, and the Long White are chiefly grown. The first is a dainty fruit, six inches or eight inches long, smooth, oval and cream colored. These are pared and put in boiling salted water for half an hour or less and served with a white sauce. A borer attacks the vines as it does Squash vines and may cause the plants to collapse and die. There is no way of getting rid of it. Some growers try to open the stems with a pen knife and so get the grub out, but this is not always a satisfactory proceeding. The life of the vines may be saved if they have begun to root, as they often do, at a point a few feet away from their base, by placing leafmold or rotted manure over the joints where these roots are being emitted.

#### FALL PLANTING OF EVERGREENS.

EVERGREENS, like all other plants, begin to grow in the spring, make their growth during the summer, and take a rest or become dormant during the winter. The main difference is that they do not lose their leaves before going to rest, but retain them until the new ones come, dropping them unostentatiously in late spring. Some retain them the one year, but others two, three or even more, according to the species.

Experience has taught us that the best time to move any kind of a plant is at a time when the top will not suffer and when it will most quickly make new roots to anchor it down and secure the needed supply of nourishment from the ground.

With evergreens this is after they have made the growth in summer, and they have hardened up nicely, so as not to wilt; and when the ground is still warm and moist to encourage the plant to make root hairs or feeders to supply those lost by transplanting.

It is not wise to say this should be done in August, September or any other given time, unless the plants, conditions of soil, locality and weather be taken into consideration.

The essentials to success are:

The plants should be moved with a ball of earth attached to the roots.

The ground should be moist from recent rains (not wet, so that it will puddle when it is tramped on), so it is wrong to plant at any time during dry, hot weather.

The plants should be of those kinds that are not naturally tender or subject to winter killing in the winter, as the planting will surely weaken them and add to the risk. The location should not be wind-swept or draughty.

If these points are covered there is no better time in all the year for moving evergreens than early fall, say from August to October. Of course, in the South planting may be carried on much later than in the North, where the winters begin earlier and are more severe.

The kinds of evergreens that should not be planted in the fall north of Washington, D. C., unless the position be very sheltered and favorable are: *Retinispora squarrosa*, Box, Lawson's Cypress, Deodar Cedar, Nordmann's Fir, English and Irish Yews, Rhododendrons, English and American Holly, Japanese Privet, Evergreen Azaleas and Andromedas. It will be noticed that these are nearly all what are known as the broad-leaved evergreens, and they are always liable to suffer from cutting, frosty winds and the winter sun.

The ideal plant is one which has been regularly transplanted so as to form a good root system, and the top properly pruned and trained to form a good foundation for future development.—*The National Nurseryman*.

# October Glories in Hardy Flowers\*

By Wm. Saville, Pennsylvania.

SEPTEMBER and October are suitable months for planting if the soil is light and friable, but in heavier land it is safer to prepare the ground now and plant in Spring, as Winter mellow the surface and enables the soil to be more closely and firmly pressed around the roots and collars of the plants. In planting it is important that the roots should be put down to full length and not be curled to fit the hole prepared for them, as it is upon these main roots that the plants rely to stand the Summer drought.

The large family of *Phlox decussata* one might describe as opening the season of Autumn-flowering plants; and there is no other family that gives such a tone to the border. A few of the best varieties are: Europa, W. C. Egan, Elizabeth Campbell, Gefion, Rynstrom, Rhinelander, Tragedie, Wanandis, Baron von Dedem, Frau Anton Buchner and Rosamundi, and these would make a good dozen.

In yellow-flowering plants we have *Anthemis Kelwayi*, with *Helenium pumilum magnificum*, *cupreum*, Riverton Gem and Riverton Beauty; and the large family of *Helianthus*, taking *Multiflorus fl. pl.*, Wooley Dod and the stately *orgyalis* with its medium sized golden flowers.

The red Cardinal flower and *Tritomas*; the deep blue of *Echinops ritro*; the light blue of *Salvia azurea*; the graceful white flowers of *Anemone japonica*, and the various colored Giant Marsh Mallows (showing wonderful improvement in the size of the flowers and intensified coloring over the native Rose Mallow) all help to give the border that charming effect we desire.

The blooming period of the border is carried on with the help of such plants as *Sedum spectabile*, S. s. Brilliant and *atropurpureum*. *Penstemon Sensation*, a beautiful plant bearing spikes of large *Gloxinea*-like flowers in a great variety of bright colors, including rose, cherry, crimson, purple, lilac, bloom until frost; also *Penstemon barbatus Torreyi*. The newer varieties of *Anemones*, such as Alice, Geant des Blanches, Whirlwind, *Rosea Superba* and *Lorely* (a neat semi-double flower, 3in. in diameter, of a bright silvery pink) should not be forgotten.

The plants best suited for the front row are many of the silvery *Artemesias*; the silvery foliage of *Santolina incana*; the grey foliage of *Stachys lanata*; the glaucous leaves of *Elymus glaucus* (Lyme grass).

The most precious, perhaps, of the hardy Autumn flowers are the *Asters* of our American pastures, and the improved European varieties. The best of these give a delightful mass of bloom, impressive in September and October. Include the light and deep purple and pink of the *amellus* varieties; the white, lilac and lavender of the graceful, feathery-flowered *cordifolius* family; the small many-colored flowers of the Heath-like *ericoides* section; the tall varieties of *Aster Novæ Angiæ*; the numerous varieties of *Nova Belgii* (included in which are the semi-double *Beauty of Cornwall*, the perfect form of *Feltham Blue* and the soft pink of *St. Egwin*). If the border is properly planted and staked, a sea of bloom is visible when viewed from either end; enabling us, in the dull Winter months to come, to look back with satisfaction on the closing scene of Autumn flowers.

During the past few weeks, I have noted the following hardy plants, in addition to those already mentioned, and most of them are suitable for cut flowers or decorations.

*Aconitum Wilsoni*, a strong, stately plant, growing five feet high, with large violet blue flowers and the latest flowering *Aconite*. The new *Anemone Hupehensis*, a re-

cent introduction of merit from China, grows one foot high and produces flowers of a pleasing pale mauve rose, one and one-half inches in diameter, from August until late Autumn. The beautiful *Artemesia lactiflora*, four feet high, clothed with elegantly cut dark green foliage and terminated by panicles of hawthorn-scented, creamy-white, *Spiræa*-like, light and graceful flowers, is unlike any other plant in bloom at this time. The native *Boltonias*, with single *Aster*-like flowers, give a showy effect in the Fall and produce literally thousands of flowers. The *Buddleia* (or Butterfly Bush, as it is called) are deservedly popular. This shrub, from a young plant set out in May, will mature to full size the first season. It produces long, graceful stems which terminate in tapering panicles of beautiful lilac colored flowers that are of miniature size and borne on a flower which is frequently 10 in. long. The second year it generally commences to flower in June and continues until nipped by severe frosts. I venture to predict that *Buddleias* will become one of the most popular plants ever introduced.

The shrubby *Caryopteris Mastacanthus* (or Blue *Spiræa*) is a handsome plant, about three feet high, carrying its rich lavender-colored flowers the whole length of its branches. *Chelone Lyoni*, with heads of purplish flowers, and the white variety, *glabra alba*, are both useful. The free flowering *Shasta Daisies*, and the varieties *Arcticum*, *Alaska* and *Vermorensis* are among the freest flowering plants of September and October. The dense white spike of *Cimicifuga simplex* is appreciated, and when cut lasts in perfection a long time.

*Coreopsis lanceolata*, with its rich golden-yellow flowers, is invaluable for cutting and succeeds everywhere. The globular deep metallic blue heads of *Echinops ritro* remain attractive a long time in a dry condition; and the finely-cut spiny foliage and beautiful amethystine blue heads of the Sea Holly are most ornamental. *Eupatorium ageratoides*, a strong, free-growing plant, with minute white flowers in dense heads, is splendid for cutting; and the pretty *Eupatorium coelestinum*, with light blue flowers, similar to *Ageratum* is in flower from August until frost. The common native *purpureum malculatum* (or Joe Pye weed) is useful in low ground.

The gorgeous colored *Gaillardia grandiflora* succeeds in any soil, in a sunny position, and is in flower all the time from June on.

The ornamental grasses can be used with telling effect in Autumn borders.

*Erianthus Ravennæ* grows 10 to 12 feet high, and throws up numerous plumes, resembling *Pampas* grass, and does not need the same Winter protection. *Eulalias*, planted singly where the soil is rich and deep, take care of themselves, and grow rapidly into large specimens. All the grasses do best in a heavy soil, enriched with manure and an abundant supply of water. Among the small growing kinds, *Festuca glauca* has no equal and *Giant Reed*, *Arundo Donax* will grow 12 to 20 feet high.

Similar in general habit to the *Helianthus*, but commencing to flower earlier, are the *Heliopsis*. They rarely exceed three feet in height and are very valuable for cutting. *Pitcheriana*, *scabra*, *zinniaflora* and the new variety *excelsa* are some of the best varieties.

The golden yellow *Hypericum Moserianum* is a most desirable border plant of graceful habit, with stems drooping apparently from the weight of the flowers and buds. The new variety *Hypericum patulum* var. *Henryi* promises to be a very desirable addition to our yellow flowered shrubs.



*Lobelia cardinalis* and *syphilitica hybrida* (a selection of our native *Lobelia*) if planted in a moist, deep loam, are effective in September.

*Lythrum alatum*, a compact plant, with crimson purple flowers, has just finished blooming. *Montbretias* are among the brightest of the late Summer flowering bulbs, and deserve to be planted extensively in Winter.

*Platyodons* (blue and white) with cupped, star shaped flowers, are closely allied to the *Campanulas*, and when they are established each plant will have 10 or 12 stalks of lovely flowers and remain in flower a month.

*Pyrethrum uliginosum*, the Giant Daisy, has flowers of glistening white on stems four to five feet high, and is most useful for cutting. The Golden Glow are about gone; but *Rudbeckia purpurea*, Morganote, and the new variety, *tubiflora*, with their peculiar reddish purple flowers with remarkably large cone shaped centers of brown are still in their Autumn glory.

The Rocky Mountain *Salvia azurea*, with sky blue flowers, and the much admired variety *Pitcheri*, which has larger flowers of a rich gentian blue color, also the new *Salvia uliginosa*, a stronger grower than the previous ones (growing five to six feet high and producing freely flowers of a Cornflower blue, with a white throat) are all splendid acquisitions in the Autumn border. The carmine colored flowers of *Salvia Gregii* (a native of the mountains of Texas) are particularly bright from August on.

*Senecio pulcher* forms a neat tuft of foliage, from which spring up—from July to October—stems carrying clusters of rosy purple flowers. To those of you who have grown the large round-leaved *Senecios* of heavy stem and have, after a trial, consigned them to the bog, or the border of a lake, I would recommend this variety. *Silphium perfoliatum*, with its large single yellow flowers, is a good subject for the shrub border. *Solidago* (or Goldenrod) has finished blooming. I also hope the Rag weed and Hay Fever have gone.

The graceful pretty flowered *Thalictrums*, with finely cut foliage, are great favorites, and the new variety *dip-terocarpum*, growing about four feet high and carrying flowers of lilac mauve, brightened by the yellow stamens and anthers in September, is a novelty that merits its increasing popularity.

There are few flowers that are more suitable than the *Tritomas* (call them "Red Hot Pokers," "Flame Flowers," "Torch Lilies" or what you will). The ever blooming *Tritoma Pfitzeri*, in bloom from August to October, produces a grand effect in rich orange scarlet, planted either singly or in masses.

\*Extracts from an essay by Wm. Saville, before Philadelphia Florists' Club.

#### DOGWOODS FOR SHADY PLACES.

THOSE who have observed the situation in which the several *Dogwoods* (*Cornus*) are found in their wild state, know that they are not averse to shade, and this character renders them of great value in plantings. The lovely *Cornus florida* is to be found thriving in woods where large Oaks and other trees so overtop it as to completely shade out the sun's rays from it. The only times when the sun reaches it are in its flowering days, in Spring, and in Winter, yet it flourishes, becoming a small tree in the course of years. *Cornus alternifolia* and *Cornus sericea* are also found in our woods, not always in the denser portions where *Cornus florida* may be found, but on the outskirts of them, often where no sun reaches them of any account, but more light does. *Cornus paniculata* is still another species—a lovely one too—which grows in thickets on the margin of woods, and it makes a pleasing display of both flowers and fruit.

The most valued of all our native sorts is *Cornus florida*, without doubt, as not only will it thrive in the shade, but plant it in the full sunlight and it flourishes equally well. Notice it thriving in open places on lawns and how well it appears in both flower and foliage. And now, with the three varieties added, the pink, the weeping and the double flowered white, there are four of them, all as well suited for planting in the shade as on a lawn.

Any one at a loss to think of a suitable shrub or small tree to plant in a shady place would often find what to plant by observing the *Dogwoods* and other kinds flourishing in a wood.

All *Dogwoods* have hard seeds, so the best way to treat them is to place them in boxes of sand in Autumn, keeping them moist until a year has passed, then sowing them.

*Cornus florida* varieties can be increased by budding them on the common stock in July, or by grafting them in Spring. Other kinds are increased by cuttings, layers.—*Exchange*.

#### CLINGING VINES.

THE one vine that can always be depended on is the *Ampelopsis Veitchii*, popularly known as the Boston Ivy. The *Ampelopsis Virginica*, or Virginia Creeper, does not adhere so closely to the wall, and unless the stonework is rough, or it can drape over a cornice, it is liable to become detached and is not nearly so good.

The English Ivy is the best evergreen vine and is to be seen covering walls of a large area in the latitude of Philadelphia and south, but it is rather difficult to get it to climb on a wall with a southern exposure. The walls get too hot and the small tendrils will not adhere to it. In startling the English Ivy, and in fact any of the clinging vines, it is better to either cut the tops back and let them make a fresh start right from the ground up or else peg the tops along the base of the wall so that the new shoots can adhere to the wall surface from the ground up, as however carefully they are nailed or artificially fastened to the walls, there is always some movement and it is not an easy matter to get the vines started, and even when they do start there is always a loose portion of the old stem not properly attached.

*Euonymus radicans* is sometimes suggested as a good clinging vine. It is to be recommended for low walls, bases and copings, but is hardly to be recommended where height is expected, as it is very unusual to see it get more than eight or ten feet high, and being somewhat subject to *Euonymus* scale, it is objectionable on that account, as when once an old plant is infested it is rather difficult to treat.

A somewhat rare clinging vine is the *Hydrangea scandens* or Climbing *Hydrangea*. This, however, is very uncertain in its growth, but when it does get a position that suits it, it is remarkably free, making as much as eight and ten feet in a year. There are several plants in the vicinity of Philadelphia, covering the sides of two and three-story houses, and it is remarkably pretty, especially in the spring when the tender green of the foliage is unusually attractive.

It does not flower while it is growing freely, but has somewhat the habit of the English Ivy when the growth becomes bunched and it cannot climb any more, it will flower very freely. The flowers are white and flat, but it is the color of the foliage and pleasing habit that is its greatest attraction.

It can be grown either from layers or from cuttings made from half ripened wood put in gentle bottom heat during August.—*Exchange*.

## POT CULTURE OF CANTERBURY BELLS.

By John S. Doig, Massachusetts

FOR Conservatory and Greenhouse Decoration during the latter part of April and throughout the months of May and June, Canterbury Bells are hard to beat. Seeds should be sown the first or second week of March, using shallow pans that contain a good light open compost. Before sowing the seed see that the pans are thoroughly watered. After sowing cover the seed lightly and press down medium firm with a smooth-surfaced board, then cover the pans with a sheet of glass and a sheet of paper to exclude the light, and place them in a temperature of 55° to 60°.

As soon as the seedlings appear remove the covering and place the pans on a shelf as near to the roof-glass as possible, shading from strong sunshine. When they require water never attempt to give it to them overhead, as that will mean failure, but obtain a saucer that is four inches in depth and fill with water in accordance to size of seed pan and set the seed pan into it and let the water soak up through from the bottom, but at the same time



*Canterbury Bells in Pots.*

don't let the pan or pans soak for an hour or two, but remove them from the saucer as soon as the surface of the soil gets moist-looking. When the second rough leaf shows, the seedlings are ready for transferring into other receptacles. I find that boxes 3 inches in depth, 18 inches wide and 30 inches long are very suitable when filled with a fairly rich compost. When pricking off allow 3 inches between plants each way. Keep them growing along in a nice moist, steady temperature of 55°-60°. By the first week of May move them out of the greenhouse to a hot-bed frame in which the heat is nearly all gone, admitting air on all favorable weather conditions. The second week of June is the most suitable time for placing the plants in their summer quarters, the ground being previously well manured and spaded over. Afford them lots of room when planting out; 18 inches from plant to plant in the rows and two and a half feet between the rows. Keep the ground well cultivated and free of weeds during the summer months. By the 12th or 15th of October lift the plants, selecting the medium-sized and well-shaped, and pot into 10-inch pots. After potting water well and place them in a cold frame, letting them stay there until the

first week of December, protecting only from severe frosts, as a slight freezing will do them good, if thawed out thoroughly before letting the sun's rays reach them. A cool, airy house is the best place to winter the plants in. A peach house will answer the purpose A1.

They require careful watering throughout the winter months, keeping them rather on the dry side. When they start into active growth the latter part of February afford them a weekly application of liquid manure water until they reach a height of 12 inches, then give them the liquid manure water twice weekly until the flower buds are half developed, at which stage feeding should be discontinued.

Stake and tie up the shoots, as they require it. If desired, a few plants may be wintered in the nursery beds and lifted and potted in May, which will give satisfactory results if they have been properly protected during winter with good strawy stable litter, free of decayed manure. The accompanying photo of Canterbury Bells was taken the latter part of May, 1916. They were lifted and potted into 10-inch pots on October 14, 1915. They measured from 4 to 5 ft. in height and 2½ to 3 ft. through.

## HARDINESS OF ENGLISH LAUREL

BY English Laurel we mean the common evergreen known in that country as the Bay or common Laurel, and botanically as *Cerasus Laurocerasus*. To find it in modern lists one has to look under *Prunus Laurocerasus*.

The large, handsome, green leaves make it so valuable that the shrub is planted in states south of Pennsylvania to some extent, and the well doing of it about the Capitol Building at Washington gave evidence to many of its being more hardy than was then supposed. It is unmindful of freezings even as far north as Philadelphia, where it has passed safely through many Winters, but always when it has had protection in some way from the sun and high winds. Planted near some building where this protection is afforded, it will endure all the cold that locality experiences. We have seen small plants well protected by having a barrel with both ends knocked out, placed over it, then a little straw or forest leaves placed lightly over the top of the barrel. This gives the shade and the protection necessary. There is free access of air, such as the plant demands and when Winter ends and the barrel is taken away there is a plant with foliage as green as it was before it was covered.

One can well take a hint from this how to protect all plants that require it. Keep the sun off, keep high winds off, but do not make the protection air tight. The plant must have air or it will die.

There are varieties of this Laurel more hardy than others. English nurserymen say the variety *rotundifolia* is one of them. Then there is another, very distinct in foliage, and far more hardy than any other, namely, *Schipkensis*. This will endure the cold of Pennsylvania fairly well, but in all respects it should have some protection to preserve its foliage, just as *Rhododendrons*, *Kalmias* and evergreen *Andromedas* do. No matter if natives or not, all such broad leaved evergreens demand shelter if we are to expect pleasing foliage in the Spring.—*Florists' Exchange*.

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One of the Many Entrances to the Detmer Estate, Planted With Evergreens



Three Magnificent Specimens, Koster's Blue Spruce, Nordmann's Fir and Retinispora Plumosa

## Ornamental Planting

By Geo. H. Chisholm, New York.

**A** PLANTING is often a matter of utility as well as of ornament, when formed for the purpose of shutting out unsightly objects from view of the residence, or connecting the mansion and lawn to the flower garden, etc., the planting becomes useful and interesting. Sometimes a planting is formed merely for the purpose of growing rare plants and for obtaining agreeable walks. In this case, it is necessary to be at more pains, and to display a greater degree of taste in

laying it out, than in the formation of the useful planting. In the former case, a tasteful arrangement of the plants is a matter of less importance than the choice and disposition of kinds that will soonest afford shelter, and ultimately become screens. In planting for screens to hide disagreeable objects, evergreens should form the principal mass, as affording a permanent screen, and giving a cheerful appearance even in Winter. A few deciduous trees of the most showy sorts may, however,



A Choice Collection of Evergreens on the Julian F. Detmer's Estate, Tarrytown, N. Y.



*A Screen Planting, Eliminating the Greenhouses from View and Subduing the Boldness of the Garage.*

be with propriety added, which will give relief to the more sombre appearance of the evergreens, but from their nature of annually shedding their leaves and consequently becoming thin in Winter, they are not so well calculated for a permanent screen. Attention should be paid to the planting of the evergreens, to give them a somewhat natural appearance, so that they may naturally set off the beauties and conceal the blemishes of each other. For the Winter aspect evergreen trees have a value that is unassailable. The question of transplanting is important, but prevailing weather conditions are more to be considered than the time of the year. Planters regard the months of August, September and October as the ideal time for this work. In Spring an apparently



*An Evergreen Scene in Winter. Draped with Snow They Make as Charming a Landscape as in Summer.*

favorable time is apt to be followed by one of prolonged drouth and drying winds. In the work of planting out, perhaps, the greatest injury is done when the roots are exposed to the air, drying quickly and shriveling; many subsequent failures are directly traceable to neglect at this time. The different species of evergreens vary in shade-enduring qualities, and this fact should be given some thought when selections are made for grouping purposes. The Yews and Hemlocks are most tolerant of shade followed by Junipers and Arborvitae. The Norway Spruce (*Abies excelsa*) has in the past been the most popular of all evergreens, but of late years its growth has become ragged and unsightly, due to the ravages of the Gall-mite. The thinning out or clearing



*A View from the Highest Point on the Detmer Estate, Tarrytown, N. Y., with the Hudson River in the Background.*

of plantations in Central Park, New York, by the removal of dead or failing specimens has been more largely in the cutting of Norway Spruce than any other species. The growing dissatisfaction with Norway Spruce for landscape planting has resulted in a greatly increased use of Hemlocks for evergreen effects, and the change has been a satisfactory one where the Winter sunshine has not been too warm; it is not so much the actual depth of the thermometer's descent into the lower regions which does the damage as its unexpected rises and sudden heats in early Spring. Where a mass of evergreen foliage is required, the slender interlacing branches with their feathery foliage are sufficient protection to one another to withstand the most extreme changes of our Winter climate. The walks which lead through this department should not be to any great distance in a straight line if it can be avoided, neither should they be too much twisted. There is something in a fine, gentle sweep or easy curve so pleasing in a walk, that few are insensible of its beauty. The width of the walks should be regulated by the length and scale of the ground, as too narrow walks for principal ones have never a good effect. In disposing of walks, it is necessary to lead them to the principal buildings and other interesting parts of the grounds, that one may be conducted insensibly, as it were by accident, and without turning back, or seeming to go out of the way to every object deserving notice. Having Nature in view, walks should not turn without some apparent excuse. Taste must determine their general course from the range of the objects to be displayed. Apparent reasons for particular turns may be created by art, but this requires taste and judgment in maintaining connection in the parts. It is, therefore, the safest resource for the gardener to create his artificial reasons for these deviations by planting trees or placing some other artificial impediment in the way. The best walks are direct and convenient; straight walks are more appropriate to little gardens than curved walks. The ideal walk is pleasing to the eye, ear, and foot; not glaring, noisy, scratchy, hard or muddy. Grass comes nearest the ideal, but is expensive to maintain and cannot stand hard wear. Stepping stones make paths available after rain but increase expense.

#### THE YELLOW SWEET PEA.

IN the report of Mr. David Burpee's address to the eighth annual meeting of the American Sweet Pea Society, it is stated that if the Yellow Sweet Pea ever comes it will be as a result of crossing *Lathyrus odoratus* with some other species. In regard to the Leguminosae, the statement is made that "Species crosses are extremely rare in the family, and, in spite of the work of many hybridists, there is on record no well-established case of a cross between *Lathyrus odoratus* and any other species of *Lathyrus*." In 1910 I devoted the whole of the Summer to an attempt to cross varieties of *L. odoratus* with the pollen of *L. pratensis*. It was tedious work, requiring a considerable amount of patience, and I made hundreds of crosses from our little native species. The pollen of *L. pratensis*, I discovered, is rarely found in a suitable condition for the work of the hybridist, and out of thousands of flowers I only succeeded in obtaining a very small quantity that was of any use for my purpose. After a considerable expenditure of time and labor I managed to get one pod of seed. It was carefully kept, and six or seven seeds were sown in the early spring of 1911. One seed germinated, the others failed. In the  $F_1$  generation the plant was a poor grandiflora type, with an ordinary sized dirty blue flower. I knew that the seed parent was homozygous, and the appearance of the hybrid, even in the  $F_1$  generation,

convinced me that the cross was successful. I saved one or two pods of seed, and if I had any doubts previously, I had none when I saw the young seedlings in generation  $F_2$ . When the seedlings were only two inches in height it was evident from their appearance that a successful break was an accomplished fact. In due course those seedlings flowered, and blooms were shown to Mr. William Cuthbertson and one or two others. The summer of 1912 was disastrous to seed-sowing in my district, and I was unable to save a single seed from any of my Sweet Pea seedlings. I imagine, however, that the flowers of the cross between *L. odoratus* and *L. pratensis* were sterile.

I had some correspondence on the subject with Mr. Hooper Pearson, and he advised me to have specimens of the flowers, foliage and stems dried for reference, so that I could prove that I had made this cross. I followed Mr. Pearson's advice, and the dried specimens are now in existence. A year or two ago an Australian gentleman claimed to have made this cross, and a note from him was duly published in the columns of this journal. He took the credit of being the first to make the cross, but I dealt with that at the time, as reference to the indexes of his journal will prove.

I also succeeded in making the cross between *L. pratensis* and *L. odoratus*. The seedlings have never flowered, but in cases of certain crosses between species this is nothing unusual. Mr. W. R. Dykes has drawn attention, in these pages, to the difficulty of obtaining crosses between bearded and non-bearded Iris, and to the experience of Sir Michael Foster therein, so far as the non-flowering of the hybrid is concerned.

What has been done before can be done again, and I am prepared to do it if necessary. But, in the meantime, I see no prospect of obtaining any adequate return for the time and labor that is necessary if the hybrid is to be obtained.—GEORGE M. TAYLOR in *The Gardeners' Chronicle* (English).

#### BUDDLEIAS.

BUDDLEIAS have come into much notice of late years, though some of them are not at all new shrubs but have been long in collections. There are two divisions of them, one bearing panicles of flowers, the others having them in globular heads. One of the latter, *B. globoso*, was to be seen in English gardens half a century and more ago; but coming from Chili it is not hardy with us except in states where but little frost occurs.

The paniced ones are those seen in our gardens, represented by *Lindleyana*, *japonica*, *asiatica*, *intermedia* and the like. These are termed paniced, but as the panicles continue to lengthen a long time, they become racemes, almost pendulous in some cases.

The Buddleias are quite unlike most other shrubs. They flower from the shoots of the current season, the plants being well pruned back in Spring, as is best done to all Summer blooming shrubs. When so pruned we have seen them make shoots of four feet to six feet, these shoots bearing a panicle of flowers at their extremities. These panicles start flowering very soon, but continue to lengthen and flower until often some of them measure a foot in length. The flowers are small but numerous, varying in color from white to violet and yellow, according to the species or variety.

The best display of these shrubs is made in August and September, which encourages their planting in shrubberies, the greater number of shrubs being out of flower at that time. Florists have grown some of these Buddleias under glass for their flowers, with what profit we do not know.—*Exchange*.

### THE FEATHER HYACINTH.

IT is pretty safe to say that even among gardeners six seven out of every ten persons could not name the Feather Hyacinth if shown one of its feathery inflorescences in the spring time. It may be urged that if this is so, then, being so little known, the plant cannot be of much worth in the garden. This argument would hold good if beauty depended entirely upon brilliant colouring and popularity. But such is not the case.

Many crocus species, grown in little nooks in the Rock Garden, are fully as beautiful as the commoner forms used for spring bedding, and so *Muscari comosum monstrosum* has a quiet beauty and special grace of its own, and is a useful plant for the Rock Garden or for the narrow borders so often found beneath house windows or alongside greenhouses.



*The Feather Hyacinth.*

My first acquaintance with it, writes T. H. Ames in *The Gardener's Magazine* (English) was made nearly thirty years ago, in a Surrey garden, where a number of bulbs had been planted in a very narrow border below the bay window of the gardener's house. The youthful enthusiasm roused by the heads of soft bluish-violet flowers, and the "inflorescence transformed into a dense tuft of slender ramifications" has not wholly abated with the passing of the years and a wider knowledge of plants. I must confess that the old plant—introduced in 1596—does not occupy a very dignified place in my own garden, but a small group of bulbs produces spikes year after year near the margin of a herbaceous border and ungenerous treatment, which would have banished many another bulb, seems not to affect it at all. Half a dozen spikes in a small vase invariably draw interesting comments from visitors, and many non-horticultural friends have concluded that the spikes represent some rare orchid, and it is difficult to convince them otherwise until I show them the growing plants.

Many deserving species of *Muscari* have been neglected since *M. conicum* Heavenly Blue burst into popularity, but, perhaps, the shortage of Dutch bulbs may cause them to be cultivated, and then the Feather Hyacinth will certainly occupy a higher position than it does at the present time.

### THE FIG-LEAVED HOLLYHOCK (*Althæa Ficifolia*)

THE single yellow Fig-leaved Hollyhock is certainly one of the most beautiful of its race. Many prefer the single forms to the monstrously doubled florists' varieties now usually met with in gardens, which entirely lack the grace of contour exhibited by the blossoms still to be found in some cottage gardens, which have centres of curving petals not too closely doubled and clear guard petals. Of the singles, *Althæa ficifolia* is to be preferred to any, its flowers, of exquisite shape, being of a delightful clear pale-yellow color, and the plant is well worthy of inclusion in the best herbaceous border. The blossoms are from 3 inches to 4 inches across, of delicate texture and very refined in appearance. The leaves are large, palmate and divided into from five to seven lobes, and somewhat resemble those of a Fig tree. From shortly after midsummer until the late autumn this Hollyhock creates a charming picture in the garden, its towering stems, 8 feet and more in height, being studded with clear-colored blossoms. Many aver that the Hollyhock should be treated as an annual, and that it is useless to retain old plants; but this particular specimen has now occupied its position for over five years, and annually throws up flower-stems that show no sign of decreasing vigor. It is also, apparently, not so susceptible to the dreaded Hollyhock disease as most of its family; for the plant in question has never shown the slightest symptom of it, though it must be said that no other Hollyhocks



*The Fig-Leaved Hollyhock*

are grown in the same garden. Every year self-sown seedlings appear around the parent plant, numbers of which have been given away to those who did not possess the plant. *A. ficifolia* is a native of Siberia, whence it was introduced into this country more than three hundred years ago.—*The Garden* (English).

# Work for the Month of November

By Henry Gibson, Pennsylvania

WITH the approach of Winter the thoughts of the gardener naturally turn to the protection of the hardy border, which at the best is a controversial matter, since, no matter how great the care given in the way of Winter protection, many plants succumb to the elements each Winter. To fuss over plants is considered by some to be misdirected energy, the contention being that nature will take care of the plants through cold as well as through the dry season.

Rarely should we cover to exclude frost, but rather as a protection against alternate freezing and thawing. One has only to take lesson from Nature's way of doing things to learn that protection is a perfectly necessary operation. Not all of Nature's performances are apparent on the surface, but what appears to be, the blowing about of dead useless leaves is really very efficient mulching against the rigours of Winter.

Protection during the Winter is a perfectly legitimate and necessary operation, if the occupants of the perennial border are expected to survive with the smallest possible losses. As already suggested, it is not the cold that does the damage, but alternate heat and cold which tears, dries and kills the plant cells. Then water and ice get round the crowns of the plants, which by alternate freezing and thawing, rot stem and leaf. Then again, many plants are killed by breaking or lifting of the plants through the heaving action of frost and ice.

Plants when once frozen should stay so all Winter, to thaw but once, and then to start into growth in the Spring time. A bank of snow is Nature's own way of protecting her proteges, but all water should be made to run away as fast as the snow melts.

Manure as a means of protection is practically useless, since it retains considerable water, unless it is mostly all straw.

It is a common practice to protect plantations of Rhododendrons by filling up the space between the plants with leaves that fall from the trees about the place. While the leaves afford the necessary protection, it cannot be said to be a good practice. The leaves get wet from rains and snow, and become weighted down, and then they generate heat which is harmful to the plants. Moreover, air cannot pass freely through a compact mass of leaves, and this is one of the essentials of safe wintering of these plants. Exclude the sun by all means from drawing moisture from leaves, which, owing to the frozen condition of the ground, cannot be replaced by the roots, yet at all cost provide for a free circulation of air through and among the plants. Cold air circulating freely among the plants keeps them at a more even temperature than is possible otherwise, and they come through the coldest period in better shape.

Burlap fastened about the plants is about the best protection that we know of. It serves the purpose of excluding the sun and allows the air to reach the plants.

Windbreaks are the order of the day, being generally planted on the North side of gardens and orchards to protect them from cold winds. This is all very well in its way, but in the case of evergreens a shield of this kind would be of considerable benefit in breaking the sun's rays during the Winter months. One has only to make a casual observation of those plants that suffer during the Winter months to realize that most or all of the damage occurs on the South side, where the plants are exposed to full sun.

In the same way are some of the very earliest flowering shrubs affected by being planted in the wrong positions. Not infrequently we hear of someone who has a plantation of *Forthysias*, etc., from which they never have the pleasure of getting flowers.

The reason is usually because they are planted in position where the early morning sun strikes them. They are thus caused to swell up their flower buds early, and the next thing that happens to them is that a cold snap comes along and kills all the buds.

Planted in a northern aspect, where they are shaded from the sun during the greater part of the day, the buds would develop slowly, be more hardy, and consequently not be injured by frosts.

The planting of deciduous stock may be continued as long as the ground remains open. All plantings made during this month, however, should have a mulch of long straw litter put over them, before real extremes of weather set in. It is good practice to cut all flowering shrubs back two-thirds of their length at the time of planting. In the case of those that bloom on wood made the previous year, this means a sacrifice of bloom next season, but the loss will be amply compensated for the following year, by a display bloom that could never be expected from plants not cut back.

From the standpoint of production, the vegetable garden has played its part for another season, and now preparations should be got under way for another start in the Spring.

Celery will need protection from frosts. It is the custom in many places to lift and store it in trenches, but it has been our experience that this causes it to become stringy. When sufficient protection can be provided, we think, the best plan is to lift and store sufficient only for a limited period, and cover the balance where it is growing with salt, hay, straw, or any other material that may be available, lifting again during a mild period in the weather for current use.

Root vegetables may be lifted and stored if not already done. Late crops of lettuce may be kept for a long time if protected from frosts.

Potatoes, if picked over now, will give very little further trouble during the Winter. Green tomatoes should be picked before they are damaged by frosts and stored on shelves in a cool cellar. They can then be brought into the green house, or sunny window, to be ripened as desired for use.

Don't omit to clean up the asparagus bed. Cut off the old foliage as soon as it is blackened by frost and burn it. Cultivate between the rows, and when the ground freezes put on a mulch of litter.

Vacant ground that is at all heavy should be manured and ploughed, or spaded as deeply as possible, and left in a rough condition exposed to the Winter elements. Frosts and snows have a wonderful influence upon soils. They break up, purify and sweeten the soil as no other means can.

Any trenching that is contemplated should be carried out as long as the weather permits of the work being done. This is a time honored Winter job, and nothing so much accelerates the productiveness of the vegetable plot as trenching every second or third year. Plenty of barnyard manure should be incorporated as the work of turning over the subsoil proceeds.

# In the Green House Month to Month

By W. R. Fowkes, New York.

THE rose house will now be in full strength and every available amount of sunshine should be allowed the plants in order to enable them to withstand all fungus pests which are always with us waiting an opportunity to destroy the work of the gardener.

The plants should be syringed every sunny morning and not on dull days. The original growth known as the "mother growth" should be cut away from the base of the plant. It is readily discerned by its short, stubby blind wood. Many people imagine they have a wonderful bush when they leave all this growth on, but it will never be of any service, but will be a serious detriment to the plant during Winter. Cut it out clean and you will have less dead leaves to annoy you; also the red spider will not find the plant so congenial a home for his nursery. If the plants have been properly syringed, not sprayed, there should be very little red spider present, but the poor force of water on many private places is not sufficient to dislodge this pest, therefore spray with Aphine every two weeks, getting well under the foliage.

In cutting the blooms, study the strength of each plant and leave three eyes below the cut on a strong shoot and merely break off the buds on weak wood, and they will catch up later. They will stand feeding well now, but in spite of the daily assertion that cow manure is the best food, I firmly believe that its too frequent use is the cause of fungus diseases. Minerals produce firmer wood, and I find there is no better food for roses than Godfrey's Tankage; also a little soot sprinkled on the beds, when the buds are developing, will intensify the color of foliage and flower, and no rose is of much value without good foliage.

The chrysanthemums will be in full glory this month and in November and should have all air possible given them. A little warmth in the pipes will have to be given, and this will dispel all dampness so ruinous to the blossoms. Visit the chrysanthemum shows and note the best varieties of all kinds you may want to grow next year. It is pleasant and profitable and is an incentive to yourself to be more diligent to produce better flowers.

The palm house will not require much attention this month, but most of the shading had better be removed. The ferns also will have better fronds with additional light. The plants that have been outdoors all Summer will be infested with angleworms, and in order to keep the plants healthy these must be dispelled. Try a watering with Vermine, it will answer satisfactorily.

Carnations will still need all sunshine and air in the day time, and try and keep the night temperature as near the 50 mark as possible. Fluctuations in temperature are a prolific cause of trouble by the bursting of the calyx. They will stand feeding each week with a weak liquid made from sheep manure, which is a good food; also a light dressing of wood ashes.

The peaches and nectarines that have been repotted can be kept best in a cool, airy shed or cellar, but it must be cool in order not to excite the buds. Examine the roots occasionally, for they must never be allowed to get dust dry or failure will result.

Bring in a few more bulbs as needed. Keep them near to the glass and when the bloom stalks appear feed well with liquid manure. Gardenias should be watered

in the morning and not syringed in the afternoon at all. If the water is allowed to remain over night, the buds will drop and your good work will be useless.

Cattleyas should have full sunshine by the end of this month to ripen up their growth. It will be a good plan to produce a few plants of *Dendrobium Phalaenopsis* this month. They will soon be at their best and can be grown easily in the palm house and are invaluable for cutting. Freesias that were started early will require staking and water. Keep cool always, and when filled with roots give a weak feeding of liquid manure.

Hydrangeas that have done service outdoors all Summer can be stored away in a cool room and only require water three or four times during the Winter.

Sow a few pots of Mignonette. Use a good soil mixed with one-half rotted cow manure and sow a few seeds in three-inch pots, and they will come along nicely. Gladioli can also be potted and placed under carnation benches.

Cultivate lightly between the Snapdragons and the Sweet Peas. Do not be heavy with water on the peas or stem rot will develop. Be careful until they are about nine inches high, then when watering do so thoroughly, and the plants will show the benefits received.

Sow a flat of lettuce, the Mignonette forcing kind being the best I know of. It will come in very useful and can be grown in flats planted about five inches apart. Procure from the seedsmen some roots of Seakale. This delicious vegetable is not forced and used enough as it deserves to be. It is easily raised. Place a few roots in the bottom of ten-inch pots and place any kind of soil around them, placing another pot on top to exclude the light, and they can then be placed in the palm house. Chicory can be forced in a like manner with very little trouble.

*Gloriosa Rotheildiana* is a grand plant to grow and can be grown in a temperature of 58 degrees at night. Procure a few bulbs and place in nine-inch pots in a compost of half loam and the remainder cow manure and do not water until they commence to grow and then train to wires and grow in full sunlight, and you will be rewarded with many beautiful blooms for cutting.

*(Correction.—In the September Greenhouse Notes by W. R. Fowkes, through a printer's—!! in transposing type, several lines were omitted—thereby making notes on cucumber culture appear as the cultural notes on Adiantum cuneatum.)*

## OUR COVER ILLUSTRATION.

THE subject of our cover illustration is the chrysanthemum novelty, "Golden King." Its introducer, Charles H. Totty, says of it:

"We consider this the finest yellow chrysanthemum we have ever handled. Flowers from the early buds were fully open October 1. There is no other 'Mum at all approaching it in size that would be in flower for some weeks later. Later buds are producing wonderful flowers that will be in ideal shape for the early shows. It is an American raised seedling of the Golden Wedding color in yellow, and though the picture imperfectly illustrates it, the petals are whorled in the most graceful manner. The growth is dwarf and very robust, and the foliage is carried directly up to the flower, as will be noted in the photograph.



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INTERNATIONAL FLOWER SHOW.

THE date of the next International Flower Show, to be held at the Grand Central Palace, New York, was mentioned in the first preliminary schedule as March 16 to 23.

This is an error. The correct dates of the coming exhibition are March 15 to 22.

JOHN YOUNG, Secretary.

A PHOTOGRAPHIC CONTEST.

A PRIZE of ten dollars is offered for the best photograph of the largest and best colored Blue Spruce (Kosteri). The only rules of the contest are that all photographs submitted must be accompanied by authentic

data as to the height, circumference of branches, etc. Contestants may send as many photographs as they desire, but all will become the property of the GARDENERS' CHRONICLE. A competent judge will decide the contest, which will close on December 31, 1916. Photographs and all particulars should be forwarded to Editor, GARDENERS' CHRONICLE, Madison, N. J.

PLANT ASSIMILATION.

By C. M. Scherer, Ohio.

THE term "assimilation," as it is usually applied by scientists to plant activities, signifies all the processes involved in the transformation of the raw mineral products, as they are found in the soil and air, into the living tissues of the plant itself.

In order to carry on this great work, we must first have the healthy, vigorous plant, usually with its myriads of living cells, each of which has a definite work to perform. This living working organism can easily be compared to a factory with its many workmen busily engaged in the manufacture of some product. When we have the factory and the workmen, or in other words, the plant and its cells, we have to supply a motive force which sets the machinery running. In the present instance the power plant is the sun, whose rays of light and heat are collected by one set of workers and are applied to the plant machine. Various other sets of workers collect from the soil and air the raw materials, which, eventually, will be the finished plant products.

The raw materials absolutely necessary before a plant can begin its work are ten elementary substances, namely: iron, potassium, magnesium, calcium, hydrogen, oxygen, nitrogen, phosphorus, carbon, and sulphur. These elements are available to the plants occasionally in the pure form as oxygen from the air, but usually in the form of compounds, or, in other words, substances made up of two or more elements such as water, which is composed of hydrogen and oxygen.

Before the plant is able to use the various raw materials, it is necessary that the elements be broken up into exceedingly small particles known as atoms and the compounds broken up into exceedingly small particles known as molecules. This breaking up process is accomplished by dissolving the materials in water. In the case of carbon which is taken from the air in the form of carbon dioxide, a gas, the gas is dissolved in a thin film of water which surrounds the cells forming the air passages in the leaf. In the case of those elements which are taken from the soil, such as nitrogen, iron, magnesium, potassium, calcium, phosphorus, and sulphur, the solution is made by a very thin film of water which envelopes the tiny root hairs.

After the substances have been dissolved, they pass through the thin tender plant tissues by a process known as diffusion. The water itself passes through by a process known as osmosis and in so doing develops a pressure which takes it to the tops of our highest trees.

After the raw materials are inside the plant they are transferred to the leaves where, by a process known as photosynthesis (building up by means of light), they are combined into carbohydrates such as starch and sugar. To complete the transformation of the raw materials into the living products such elements as nitrogen, phosphorus and sulphur are added to the carbohydrates, thereby forming the proteins which are among the most complex substances known, defying analysis by the most expert chemists.

# The Migration Impulse of Our Avifauna

By Paul B. Riis

TWICE annually we witness the mysterious phenomenon of bird migration as they fly on to the North to their visiting grounds in the Spring and again in the Fall when they return to their Winter range. We have grown so used to these flights that we accept them as indifferently as the changing of the season. But back of this movement, a history is concealed reaching far down the ages and revealing itself to us in flashes only, permitting but a fleeting glimpse of the inception of the migrating impulse.

Migrations among certain mammals, such as the seal to its breeding grounds, the fishes to their spawning grounds and some species of insects and butterflies to warmer climes, have long been recognized and bear a strong resemblance to the movements of birds. Webster's definition of migration is: "To remove from one country to another; to pass periodically from one region or climate to another. Any bird, therefore, which leaves its feeding grounds to go to its breeding grounds, no matter how near or far away, is a migratory bird. We may well include the blue jays, chickadees, downy and hairy woodpeckers and white breasted nuthatches among these, since their movements North and South to nesting sites are fairly evident.

According to Frank M. Chapman in his "Handbook of Birds of Eastern North America": migration is the most distinctive phase of bird life. The yearly life-cycle in the vegetable world parallels in a sense with that which exists in the world of birds. In orderly succession the plant develops leaf, blossom and fruit, sheds its foliage and after a period of rest, the phenomena is repeated. With birds it is the return of the season of the season of physical fruition, which arouses not only the sexual, but also the homing, instinct under the guidance of which these mobile creatures repair to the place of their birth. Migration then, in its simplest form, is merely a journey to the nesting grounds, made without apparent relation to either food or temperature.

Migrations are taking place all the time though they are of a less marked character. Those birds termed "permanent residents" are so called because they are represented in a given locality the entire year, yet they also make short and gradual migratory excursions, those moving South from a given locality being supplanted by new arrivals from the North. The "summer residents" are distinguished as birds which come to us from the South, rear their young and depart again in the Fall. The "transient visitants" are the countless birds which pass through here in the Spring to nest at points further North, passing through here again in the Fall on their way South. The "winter residents" include those species which visit us in the Fall and spend the Winter with us, moving to points North in the Spring to nest. Here, in Rockford (Ill.), we have had cardinals, tufted titmouse and red billed woodpeckers as Winter residents the past Winter. All of these birds come from southern localities, so that the above statement cannot be applied to these birds. Their presence here merely denotes a spreading of the species to new ranges, and it has been observed that inexplicably this spreading of southern species has almost invariably taken place in the Winter with a possible retreat South in Spring.

The birds to arrive earliest in Spring are also usually the last to depart in Fall. During January here we generally find the birds stationary with occasional visits from snow buntings and red polls. During February a gradual movement among the Winter residents takes place, and

the number of our chickadees, downy and hairy woodpeckers decreases and new arrivals such as the bluebirds and robins towards the end of the month may be seen. From this date on, especially during March, the migration becomes more marked, although the dates of arrival and departure are dependent on weather conditions. The migrations continue all through April and reach their zenith during the first half of May. After this date, the birds decrease in numbers and are then either permanent residents or Summer residents.

The month of June is given over to family cares, building of nests and rearing of young. Towards the end of June, but more so during July, the one brooded birds may be seen flocking together and establishing roosts or wandering aimlessly over the country preparatory to the migration South. The post nuptial molt takes place in August and after the middle of this month bobolinks, swallows, martins and red winged blackbirds can be seen wending their way southward, followed in September by the majority of birds. The earliest Winter residents appear towards the end of this month. Migration at this season is the reverse of the Spring movement, the birds decrease gradually until the earliest Spring arrivals have also left us. A few stragglers may still be seen in December if the season is sufficiently open, but generally the permanent residents only and Winter visitants of the locality can be found then.

As one might expect, the insectivorous birds travel farther South than the granivorous birds. But here there are also exceptions, and the reason for this must be sought elsewhere from the mere question of food supply. It can be satisfactorily explained that such seed eaters as the bobolinks, wintering in Bolivia, are an American type of austral origin, while such insect eaters as the winter wren and the kinglet, which remain with us, are European types of boreal origin. The homing instinct here again shows very markedly. The adult birds usually migrate first, decreasing steadily, and the last flocks may be composed entirely of young birds. The migrants also are distinctly diurnal or nocturnal travelers, and the respective times chosen are intimately influenced by the feeding habits and dispositions of the birds. The height of flight varies from a few yards to a distance of four to five thousand yards, but usually an altitude of 1,600 yards (nearly a mile) is reached.

Temperature apparently is no factor in the movement nor are the birds prompted to seek new feeding grounds. Allen expresses his beliefs thus: The immediate cause of the journey is doubtless physiological and the prompting comes from within. With birds, the reason of reproduction is periodic, and with migratory species, whether the journey be to a nearby islet or to another zone, the return to the breeding ground is only one phenomenon in a cycle of events which includes, in regular order, migration, courtship, nest building, egg laying, incubation, the care of young, the molt, the retreat to Winter quarters, or as might better be said of these tropical and subtropical birds, the desertion of the nesting ground. Not only must one consider the existing climates, but we must take into account those profound climatic changes incident to the development and passing of the Glacial Period and which have apparently vested so great an influence on the distribution of life in the northern parts of the world, so that we believe to have here the origin of bird migrations.

Nothing is doubtless more thoroughly established than that a warm temperature or subtropical climate

prevailed down to the close of the Tertiary Epoch nearly to the Northern Pole, and that climate was previously everywhere so far equable that the necessity for migration can hardly be supposed to have existed. With the later refrigeration of the northern regions, bird life must have been crowded thence toward the tropics, and the struggle for life thereby greatly intensified. The less yielding forms may have become extinct, while those less sensitive to climatic changes would seek to extend the boundaries of their range by slight removal northward during the milder intervals of Summer, only, however, to be forced back again by the recurrence of Winter. Such migration must have been at first incipient and gradual, extending and strengthening as the cold wave Ice Age receded and opened up a wider area within which existence in Summer became possible. What was at first a forced migration would become habitual and through the heredity of habit give rise to the wonderful faculty which we call migration.

Chapman thus supplements Allen's solution of the migration briefly: "While it is by no means certain that the necessity of migration did not exist prior to the Glacial Period, it seems probable, that whether or not this period actually gave rise to bird migration it affected the movements of birds much as Allen suggested."

#### BULBS FOR WINTER FLOWERS.

**O**CTOBER is considered to be the best time for planting bulbs, although some classes of hyacinths and narcissus can be bedded as late as the middle of November. The bulbs which are the favorites for Fall planting are hyacinths and narcissus, which are great favorites. It is best for the bulbs, and looks, if they are set in earthen pans of correct depth rather than pots. They should be grouped, not planted singly. The best soil is a good garden soil, enriched with well rotted cow manure. In planting the hyacinth, be careful not to plant the bulbs too deep; leave about an inch of the neck of the bulb above the soil. Narcissus should be buried, covered with about an inch of soil.

Certain classes of hyacinths and narcissus are more tender than others and begin to put on a top growth much sooner than other classes of the same flower. It has been found that the Paper White narcissus and the Roman hyacinth will have to be taken into the house sooner than the other classes. The Paper White should be ready for the house in about six or seven weeks after potting, and the Roman hyacinth in six to eight weeks. Much care should be taken not to injure the tender shoots when transplanting.

When the plants are taken to the house, do not take them directly into the warm living room. Keep the plants in a cool room, where there is not a great deal of light. This may prevent fast top growth, but it is the means of securing a much finer bloom when the plant has reached its maturity. It gives a greater vitality to the plant.

Always be careful not to set the plants where the direct rays of the sun can reach them. This is very essential in the growth of these bulbs. Not too much light during the earlier period of growing. When the buds of the plants begin to open they may be moved to the living room. Even after the plants have reached the blossoming period, they need to be watched closely. During the growing period they should have a plentiful supply of water. Bulbs require a great amount of water, so keep the soil filled with it. Sometimes there are complaints about plants turning yellow or looking diseased after they have been moved to the living room. This is caused in most cases by the plants suffering from the effect produced by fumes arising from burning gas or coal.

#### THE EVERLASTING PEA.

**T**HE Sweet Pea, because of its beauty and fragrance, appears to fill all that could be desired in the way of flowering Peas, and may account for the absence from many gardens of the Everlasting Pea. There are, however, places where this hardy herbaceous Pea could be placed and which it could fill to great advantage. It is not only hardy and of perennial nature, but has, as well, the merit of flourishing in almost any soil, flowering profusely and in many colors the whole season through. It is not a vine to set with others in herbaceous collections unless it is to form a background and be provided with something to ramble over. It is a thrifty, strong grower, delighting to ramble over rocks, stumps of trees, or a trellis where free growth can be accorded it. When once planted it cares for itself ever after, giving flowers in abundance the whole Summer long.

The normal color of the Everlasting Pea appears to be pink, but there are white, dark purple and other varieties of it. Its perpetual flowering is much in its favor, and use is found for cut flowers of it; the white one is often planted by florists for the sake of its flowers, which prove so useful for their work in Summer when white flowers of this description are so scarce. It is unfortunate that this hardy Everlasting Pea has no odor. There are records of attempts being made to hybridize it with the Sweet Pea in order to obtain this, but without success. What a prize a hardy, sweet scented Everlasting Pea would be!

This hardy herbaceous Pea climbs by its leafy tendrils, the same as the Sweet Pea does, so it requires something to attach itself to, if height is required instead of its merely forming a bushy mass resting on the ground. A pile of rocks or brush is just what it likes to climb about. It is never suited when allowed to trail along the ground.

Though the Everlasting Pea is not sweet scented, it has the advantage of being perpetual, as well as having larger flower clusters than the common Sweet Pea. Where once planted it grows afresh from the ground every Spring, forming its flowers the season through. That the flowers are not sweet scented is to be regretted. —*Florists' Exchange.*

### Of Interest to Estate Owners

The National Association of Gardeners maintains a Service Bureau which is at the disposal of all who may require the services of efficient gardeners in their various capacities.

The association seeks the co-operation of estate owners in its efforts to secure opportunities for those engaged in the profession of gardening who are seeking to advance themselves. It makes no charge for services rendered. It endeavors to supply men qualified to assume the responsibilities the position may call for.

Make your requirements known to

M. C. EBEL, Sec'y, National Association of Gardeners, Madison, N. J.

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Experienced foreman at building tennis courts and roads on large private estates. Permanent position with exceptional possibilities for the right man. Lewis & Valentine Co., Roslyn, Long Island.

# *Efficiency and Accounting in Park Administration\**

By Frank S. Staley, Minnesota

THAT far sighted policy on the part of a park board which combines beauty in landscape with recreation features attractive enough to produce revenue to pay the major portion of operating expenses, is efficiency in park administration.

"Twenty thousand people attended the municipal band concert at Lake Harriet last night." A news item such as that which appeared in the *Minneapolis Tribune* last summer is a sure index of a successful park. You who know Lake Harriet know that that means that every seat on the roof garden was taken, that the lake was covered with canoes and rowboats, that the plaza was packed with automobiles and that hundreds of people strolled back and forth on the walks or sat on the grass along the lake shore. What brought the people out and how could the Board of Park Commissioners afford to provide free music so fine in quality as to draw the critical music lovers and so popular in its appeal that it attracts the large crowds who are merely seeking diversion? Lake Harriet is a fine example of the type of park which provides entertainment for all classes and at the same time affords a revenue that more than covers the cost of the special recreation features. The purpose of municipal parks is to create playgrounds and furnish entertainment for the whole citizenship. No matter how beautiful parks may be from the standpoint of landscape architecture and no matter how economically they may be maintained, they are a failure unless the people can be induced to make use of them.

An analysis of Lake Harriet as a successful park shows that the board has acquired and improved a naturally beautiful lake shore. The improvements include boulevards and walks encircling the lakes, picnic and playgrounds attractive to family groups, a pavilion with refectory and cafeteria on the first floor and above a spacious roof garden where the municipal band plays nightly. An extensive plaza adjoins the pavilion from which the occupants of hundreds of automobiles can hear the concerts. From the boat docks on the shore, a fleet of canoes and rowboats is sent out to surround the pavilion during the musical numbers and to explore the lake during the intermissions. The music attracts the crowds which patronize the refectory, cafeteria and canoes, all operated by the park board and the refectory, cafeteria and canoes provide the revenue which supports a band organized under the direction of the board. The large crowds are due to two causes, first, the attractions offered and second, the constant publicity through newspaper and street car advertising prepared by the board's publicity agent.

Parks as successful as Lake Harriet can undoubtedly be found in many other cities.

Underlying all park success is the question of administration. It takes a big man to administer a modern park system. He must be a dreamer and a practical executive. He must anticipate the recreation needs of the future and provide the facilities to meet those needs. When the facilities are ready he must induce the public to take possession and make the fullest possible use of its property.

There is not a city in the country where the majority of citizens want inefficiency and waste. There is not a

city in the country where the majority of officials are not working for efficiency and economy. There is no reason why a Commissioner of Parks cannot attain as high a percentage of efficiency in handling park business as a general manager can in the handling of a corporation. Each has similar problems. A Board of Park Commissioners is analogous to the board of directors of a corporation. The commissioner or general manager, to be successful, must be strong enough to insist upon administering his department. His personality must count. The duty of the board of park commissioners is to determine the policy to be followed, to apportion the funds to each activity, to delegate to the commissioner or superintendent sufficient authority to carry out the policies adopted and to hold the superintendent strictly responsible for results. The duty of the commissioner is to select and direct his corps of assistants, giving them definite instructions and authority, as needed, for the work to be done and holding them, in turn, strictly responsible for results in their separate fields. Responsibility and authority should be so definitely assigned that there will be no opportunity for one employee to hide his own laxness under the cover of another's inefficiency. It is possible for the executive to prevent this through a system of reporting.

The purpose of modern reporting is to keep the executive and his assistants in constant touch with the progress of all work under way. It is to locate responsibility for waste and infidelity, and to give credit for efficiency and faithful service. It is not only to provide data for the work at hand but also to provide a basis for future plans and policies. A properly devised system of reports daily on the administrator's desk is an index to the day's activities, showing the unusual conditions that call for his investigation and action, and may be a guide to the solution of future problems. For instance, the receipts from a certain refectory show a gradual decrease from the beginning of the season over the receipts of the last year. This would mean investigating conditions at the refectory to see to what particular cause the decrease was due and what steps were necessary to remedy the defects and make the refectory produce more revenue. Practical business men are scrapping obsolete machinery, equipment and inefficient employees daily. In any case daily reports should bring the matter to the attention of the executive early in the season, and instead of the refectory operating at a loss throughout the season, it can be made to pay a profit. The story told by the reports in the particular case might point the way to a profitable readjustment of the entire refectory system.

The keeping of records is more work, but it eliminates guessing which is decidedly hazardous in business. The business executive would not be overwhelmed by multitudinous detail. Proper reporting should bring all the essential operating details to a focus daily on the executive's desk. He would then have an opportunity to view the whole department in perspective, to plan, to systematize and organize, and to give his prompt and undivided attention to abnormal conditions. The value of modern reporting will not be underestimated when its purpose and its results are known.

Such reports must be based on the accounts. Accounts here is used in the broad sense to include not only financial transactions, but also the energy expended in accomplishing the project.

The board of park commissioners should have an accountant, who, under the superintendent, should have

charge of all the accounting and auditing for the board. He should audit all claims and audit and control all collections received by agents of the board. He should keep the revenue and expense, asset and liability accounts, budget allotment ledger, registers of purchase orders, vouchers and warrants, expenditure distribution record by parks, payroll rosters, registers of leases, rents, personal bonds, and building construction and paving contracts, a record of insurance placed on park property.

Too many park departments to-day are operating on the old receipt and disbursement basis which does not furnish reliable data on which to base administrative action. For example, under this system receipts are credited to the month when the cash came in and disbursements are charged against the period when the actual disbursement was made. Under such a procedure a statement on the cost of operation for a particular period does not reflect the true cost, as bills paid during the period may have included commodities delivered and used months before. The same holds true of revenues.

The only method of accounting which will force the executive to face his exact financial standing at all times is the system founded on a revenue and expenditure basis. In contrast to receipt and disbursement accounts, revenue expenditure accounting shows all income accrued or expense incurred irrespective of the time of cash collection or date of payment. Revenues earned in January are credited to January, though the actual cash may not be received until later. Oil bought and used in July is charged against July, although the bill is paid in September. Such a system of accounts permits the executive to compare June revenues and expenditures of one year with the same period a year ago. It is not necessary to wait until the end of the year when all revenue is in and all bills are paid to make comparisons with previous periods. Too costly operation reveals itself immediately.

Probably the most important function of the park board is making the annual budget. This involves careful consideration of each activity before setting aside its allotment for the coming year. The budget when passed serves as a guide to the executive in improving and maintaining the parks. The more intelligent study that is given the budget before passing, the fewer adjustments will be needed during the year. Such changes necessarily upset the executive's plans and are expensive to the board. A proper budget enables the executive to plan his work in detail and largely eliminates the shifting labor force. One hundred well trained men will accomplish more than one hundred and twenty-five untrained men who are uncertain of their jobs. It is good policy on the part of short time employees to make the job last as long as possible.

When such a budget has been adopted appropriation accounts must be set up to show currently, for each activity, the appropriation with the latest modifications, all outstanding liabilities and the available balance. In order to get the available balance it is necessary for the accountant to make a memorandum charge against each appropriation for every item contracted for, whether it is personal service or commodities. This will become an actual charge as soon as the bill is paid.

Take playgrounds for instance, the payroll of the supervisor and his assistants should be set up for the season and the total amount should be charged against the playground account as a contingent liability. This warns the supervisor that he has a limited available balance. He can now plan such additional expenditures as his funds will allow. As rapidly as equipment and supplies are ordered they become contingent liabilities and the available balance is reduced by the amount necessary to reserve for their payment.

One of the most valuable services which a modern accounting system performs is furnishing the executive with the cost of each job or project. This is especially valuable in construction work. The administrator needs to know, from the time the job begins, how costs are running. He can be kept informed by weekly summary reports showing (1) jobs ordered but not started; (2) jobs under way with the cost to date and the estimated cost to finish, and (3) jobs completed since the last report with the final cost figures. To do this an estimated cost should be established for each job at the start and this estimate should be charged against the appropriation for the activity concerned as a contingent liability. Adjustments may be made when the final costs are complete. Job cost statements enable the executive to check costs that are running too high, and to estimate more accurately the cost of future projects.

Underlying revenue and expense accounts and job costs is stores accounting. It is necessary to carry a stores account against which goods purchased are charged and which is credited when the goods are issued for use on a particular activity. The stores records should be kept as a perpetual inventory reflecting the quantity and value of the goods charged to the stores account. They should include maximum and minimum quantities of each article to be kept on hand to enable the storekeeper to replenish his stock before it runs out and to prevent overstocking. The storekeeper should also be held responsible for all equipment in the field. To control this he should make a memorandum charge against each foreman or employee for all tools and equipment issued to him. The foreman must account for all equipment in his charge before he can get a clearance to leave the service. Pay should be withheld until this is done.

Every park board should have one man responsible for its purchasing. Better yet would be a central purchasing system for the whole city. Many cities already have them. Standardization of supplies and equipment is the foremost result of central purchasing.

However purchasing is handled, schedules of articles to be used should be prepared and submitted periodically to dealers for bids. This will bring better prices and is more satisfactory than the old shop-by-telephone method. Don't forget that it is a temptation to dealers to furnish you with inferior goods if they know that articles delivered get by without inspection. It is up to you to know that deliveries meet specifications.

Another opportunity to save in purchasing is having a revolving fund which may be used for making prompt payments in order to secure cash discounts. The purchasing agent should, however, be sure that the vendor is not charging a price high enough to offset the discount for cash.

Of fundamental importance to the superintendent of parks is his classification of accounts. Such a classification must not only include the functions concerning which the particular board wishes information, but it must also be so drawn as to permit of comparison with other city departments and the park expenditures of other cities. Unfortunately there is not as yet a standard classification of functions for parks. That is one problem which your organization should seek to remedy. You all have the same problems—administration, operation, maintenance and outlay and you all should know what each function or activity is costing in other cities. If you can agree on a general classification it will be invaluable to all.

The greatest danger to the executive is burying himself in detail. As soon as this happens the department is forced to run itself. It is an unusual man who is big enough to wage a successful war with detail. This is the man who makes the opportunity to analyze the work of

his subordinates; to see that his chief assistants are doing the work for which they were employed and not work which could be more economically and perhaps better done by clerks. He also appreciates the value of centralization and does not allow the duplication of effort which is found in many park departments. To accomplish this, he insists on his chief subordinates reporting daily, weekly or monthly on all the phases of their work. These reports are submitted in summary form and include comparisons with previous periods. As examples of the reports which a park superintendent should require those of refectory managers to the refectory supervisor and the supervisor to the superintendent are described.

The manager's daily report should show the force at work, the sales by departments compared with the same day of the preceding week, supplies needed, and under comments any unusual happenings and reasons for increase or decrease in business. At stated periods he should rate the efficiency of his employees. The supervisor should consolidate the manager's reports as to force and sales and should give his own explanation of increase or decrease in business. He should include under his comments any information which might be of use to other operating divisions. His monthly reports should summarize the daily reports.

Other heads of divisions should make similar reports at such intervals as the activity of their divisions makes necessary. All these reports should be periodical. The superintendent's desk will serve as the clearing house. Reports requiring no action will be filed and matters needing attention the superintendent will take up during the daily conference with the head of the division affected.

On the basis of the efficiency ratings of the foremen or managers, efficiency records should be kept for all employees. Employees who claim unfair treatment should have the privilege of appeal to the superintendents. Efficiency records plus seniority should be the basis for promotions or reduction of force.

A new venture in park activities is the employment of a publicity man who stimulates interest in the parks and their activities. He continually forces on the public the fact that it is not making full use of its property. Catchy slogans, timely news items and attractive posters are the means of increasing patronage which in turn creates boosters for park activities who stand behind the board when appropriations for park activities are under consideration.

In so short a time you realize it is only possible to scratch the surface of the daily worries which confront every park superintendent.

The essential elements in the successful administration of parks are first, an organization with the lines of authority clearly drawn and responsibility definitely fixed, second, freedom for employees in executive positions to use their own judgment within the lines drawn, and third, a modern accounting system to enable the superintendent and the board to exercise constant control over all park activities. The board and park officials must not forget that they are the trustees of the public.

\*Address delivered before the convention of the American Association of Park Superintendents at New Orleans.

### PRUNING EVERGREENS

"DO not prune evergreens," is pretty safe advice to give but there are times and conditions which sometimes make it advisable, writes Ernest Hemming in *The National Nurseryman*. Most evergreens have a very symmetrical habit of growth, and, if allowed to grow unrestricted in any way, will usually form a tree that can-

not be improved upon, as far as symmetry and beauty are concerned.

Pruning is more likely to mar this beauty than enhance it. Very young plants in the nursery do require a little clipping to get them well forced and trained in the way they should go, but even this is better done with pruning knife rather than shears.

Evergreens of the *Retinispora* type often make three or four leaders; if left to themselves one will eventually become the main leader, but the secondary ones will make such a strong growth that it forms a cleavage in the branches of the tree that is a weakness in the trees in snows and storms. This should be corrected in the young tree by pruning.

In trees of Spruce and Fir type no pruning at all is necessary, unless it be to repair an accident, such as the breaking of the leader by a bird alighting on it while it is still very young, when they are very tender.

In such an event the tree will likely form two or more shoots to take the place of the broken one. In this event cut back all but the strongest and best-placed shoot, which will form the new leader or main stem of the tree.

Sometimes trees of this type are thin and not well furnished. If it be desired to thicken them up, it can be done by pinching back the new growth while it is young and tender. It should be done while the shoots are still so young that they can be pinched off by the thumb and finger.

The same remarks are equally applicable to the Pine trees, which are identical in growth to the Firs and Spruces.

When evergreens are planted for hedge purposes the situation is entirely altered, as the natural habit of the plant is entirely suppressed. Under such conditions it is well to thoroughly understand what might be termed their adaptability to pruning.

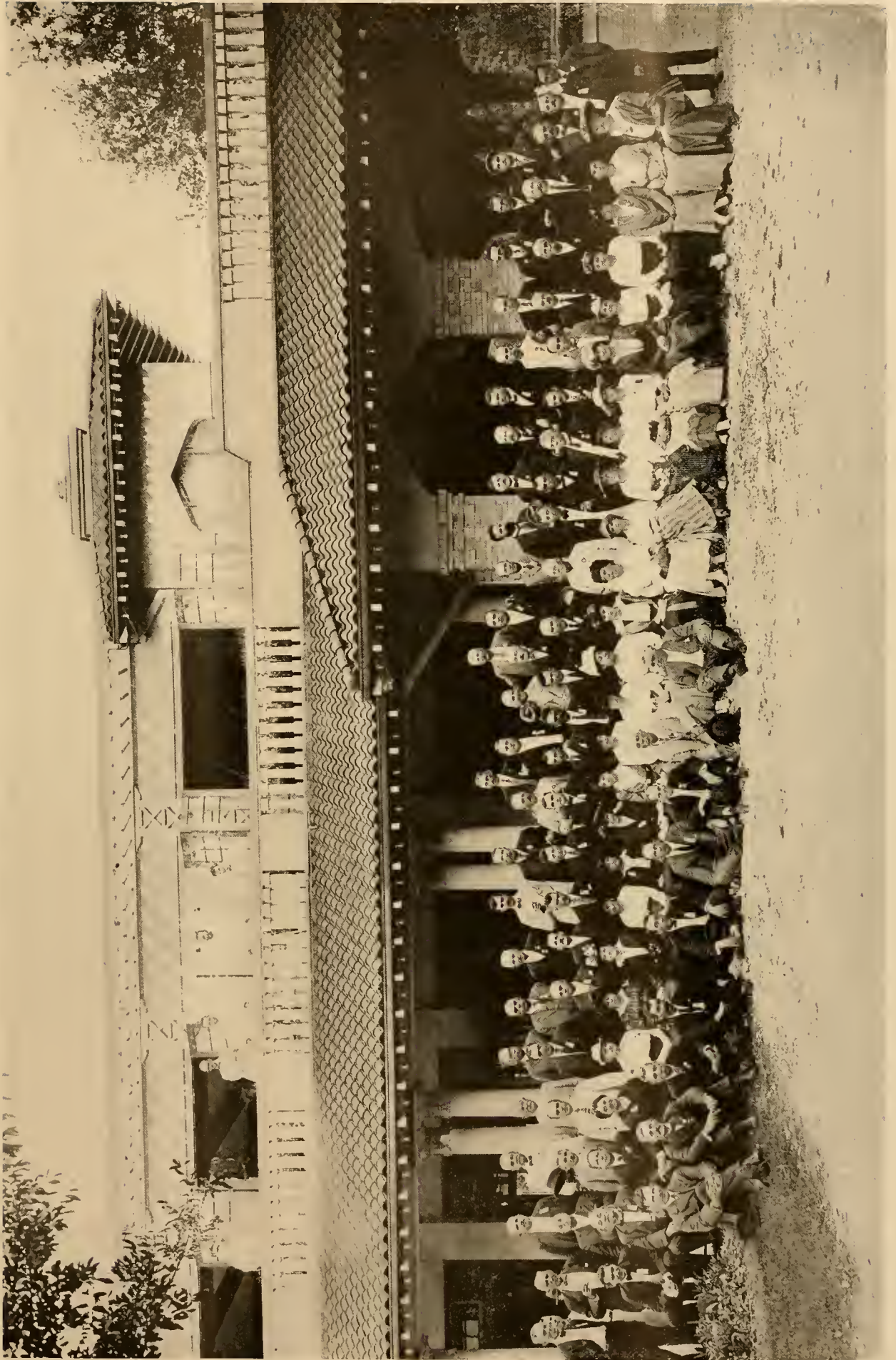
For convenience, they may be divided into two groups:

Group No. 1, such as Pines, Spruces, Firs and Hemlocks, cannot be depended upon to break from the old wood to any very great extent, and it naturally follows that if they are cut back very hard they will be bare stumps for a long time, if they ever recover. All the pruning or clipping that should be done consists of shortening back the new growth just about as it is completed in May or June. It can be readily seen that hedges should be formed of young plants that will grow together and be gradually formed by the annual clipping.

Group No. 2, such as Yews, Hollies, Box Arborvitaes, Portugal and English Laurels, *Osmanthus*, *Retinisporas*, break rather freely from the old wood, and may be cut back more severely with good prospects of their clothing themselves with new foliage. They, of course, make closer and more compact hedges. Larger plants—according to their kind—may be used, although if you want a perfect hedge without gaps and holes, well furnished right to the ground, you must start with rather small plants, say, not much higher than eight feet.

The clipping should be done about May and June, as with Group No. 1.

It is sometimes advisable, for the purpose of getting the very best color effects, to prune *Retinisporas* and evergreens used for this particular purpose. Practically all of them show their best color on the young wood. To get this young wood and to keep an abundance of it, it is advisable to prune after the plant has made about half its growth. This, as already noted, gives best color effect and also keeps the plant compact. This pruning, however, should be very carefully done, so that the general character of the plant is not destroyed. Pinching back, as already described in this article, is perhaps the best method.



*Convention of American Association of Park Superintendents at New Orleans. The Convention Party at City Park.*

# American Association of Park Superintendents

## OFFICIAL COMMUNICATIONS

JOHN F. WALSH, New York.

R. W. COTTERILL, Sec.-Treas., Seattle, Washington.

### ANNUAL CONVENTION.

The eighteenth annual convention of the American Association of Park Superintendents convened in the city of New Orleans on October 10, 11 and 12. The business sessions were held in the convention hall of the Grunewald Hotel each forenoon and evening of the days of the convention, while entertainment was provided each afternoon by the local hosts.

About one hundred delegates were in attendance, representing some fifty different cities, as well as a large local attendance of persons connected with the various park and parkway districts of the city of New Orleans.

Every officer of the association responded to the roll call at the opening session. This is something which has not occurred for many years. The officers present were: President, Emil T. Mische, of Portland, Ore.; vice-presidents, J. W. Thompson, of Seattle, Wash.; John F. Walsh, of New York City; Alexander Stuart, of Ottawa, Canada; Emmett T. Griffin, of East St. Louis, Ill.; Eugene V. Goebel, of Grand Rapids, Mich.; and L. P. Jensen, St. Louis, Mo.; secretary-treasurer, Roland Cotterill, of Seattle, Wash.

Prior to the opening of the convention the Executive Committee met and acted on twenty-two applications for membership, which were later elected by the convention. The list being as follows:

Senior Membership.—C. C. Cox, Superintendent of Parks, Wichita, Kan.; W. S. Rawlings, Superintendent of Parks, Vancouver, B. C.; T. W. Shimmins, Superintendent Cameron Park, Waco, Tex.; Emile Altherr, Superintendent Battlefield Park, Quebec, Canada; Grant Forrer, Assistant Superintendent of Parks, Harrisburg, Pa.; Julius Koenig, City Forester, St. Louis, Mo.; Fred Nussbaumer, Superintendent of Parks, St. Paul, Minn.; Walter Wright, Secretary and Executive Officer, Special Park Commissioner, Chicago, Ill.; Samuel Marshall, Superintendent Audubon Park, New Orleans, La.; Joseph Bernard, Superintendent City Park, New Orleans, La.

Junior Membership.—James E. Fitzpatrick, Superintendent of Parks, Terre Haute, Ind.; Harry B. Frase, Superintendent of Parks, Des Moines, Ia.

Associate Membership.—John D. Hyland, Commissioner of Parks, St. Paul, Minn.; Charles A. Hausler, City Architect, St. Paul, Minn.; C. H. Hager, Assistant Superintendent, Toledo, Ohio; L. M. De Saussure, Secretary Memphis Park Commission; D. L. Mackintosh, Horticulturist, Minnesota State Prison, Stillwater, Minn.; J. P. Zaleski, Landscape Architect University of Illinois; Robert R. Moss, Landscape Engineer, Long Island, N. Y.

Sustaining Membership.—Department of Parks of Sioux City, Iowa, represented by Commissioner J. M. Lewis; Playground and Recreation Association of America, represented by Field Secretary L. H. Weir; Board of Park Commissioners, Virginia, Minn.; Board of Park Commissioners, Hibbing, Minn.

Besides the officers and applicants already mentioned, the following visitors attended the convention from outside of New Orleans: Harry S. Richards and wife, Chicago; Herman W. Merkel and wife, New York; Theodore Wirth and wife, Minneapolis; J. A. Ridgeway and wife, Minneapolis; Edwin A. Kanst and wife, Chicago, Ill.; L. P. Jensen and wife, St. Louis; Ernst Stehle and wife, St. Louis; Henry W. Busch and wife, Detroit; Albert N. Robson and wife, Youkers, N. Y.; Ralph R. Benedict and wife, Kansas City, Mo.; Edward A. Miller and wife, New York City; M. L. Moore and wife, Toledo, Ohio; Ernest Kettig and wife, Louisville, Ky.; John Meisenbacher and wife, Tulsa, Okla.; Fred Steinhauer and wife, Denver, Colo.; Adam Kohankie and wife, Denver, Colo.; Nelson Crist and wife, Atlanta, Ga.; Una Keith, Bridgeport, Conn.; Walter Wright and wife, Chicago; Julius Koenig and wife, St. Louis; Miss May Stuart, Ottawa, Canada; Grant Forrer and wife, Harrisburg, Pa.; J. A. Hager and wife, Toledo, Ohio; E. D. Philbrick, Virginia, Minn.; A. A. Berschjold, Chisholm, Minn.; A. A. Fisk, Racine, Wis.; Charles W. Davis,

Memphis, Tenn.; William I. Hoek, Reading, Pa.; Clarence L. Brock, Houston, Texas; William S. Manning, Baltimore, Md.; John W. Kernan, Lowell, Mass.; Wood Posey, Terre Haute, Ind.; Fred C. Green, Providence, R. I.; John Berry, Denver, Colo.; Conrad B. Wolf, Hibbing, Minn.; A. J. Waldredon, New York City; Louis Kindling, Milwaukee, Wis.

The following officers were elected for the ensuing year: President, John F. Walsh, New York City. Vice-presidents, Henry W. Busch, Detroit, Mich.; Herman W. Merkel, New York City; Ernst Strehle, St. Louis, Mo.; Alexander Stuart, Ottawa, Canada; Clarence L. Brock, Houston, Texas; Charles W. Davis, Memphis, Tenn. Secretary-treasurer, Roland Cotterill, Seattle, Wash.

St. Louis was selected as the place for the 1917 convention after a spirited contest with Louisville, Ky., and Hartford, Conn.

George A. Parker, of Hartford, Conn., was by unanimous vote elected as an Honorary Life Member of the association.

During the business session papers and addresses were presented on the following subjects:

"Playgrounds in Parks, from a Designer's Viewpoint," paper by F. L. Olmsted. Discussion leaders: H. S. Richards and W. S. Manning.

"Efficiency and Accounting in Park Administration," paper by Frank S. Staley. Discussion leaders: Theodore Wirth and Alexander Fisk.

"The Trend of the Playground Movement," an address by L. H. Weir. Discussion leaders: H. W. Busch, Ralph Benedict and E. D. Philbrick.

The Committee on Nomenclature, which is working with the joint committee of other organizations, reported through Chairman H. W. Merkel that real progress is being made which will result in the standardization of names. The association appropriated \$100 as its share of a fund to continue the work.

A resolution was passed, after a thorough discussion of the subject, urging the universal adoption of a rule at bathing beaches that all bathing suits must have a shirt; women's suits to have quarter sleeves; but the use of stockings not to be required.

New Orleans proved itself a most genial host and entertainment was provided for the visitors at every opportunity. On the first and second afternoons of the convention automobile tours were arranged to the various parks and parkways, while on the third afternoon a steamer trip was provided on the Mississippi River and an inspection of the wonderful harbor of the city.

The convention will be more fully reported in the next issue of the CHRONICLE as all details were not at hand when the paper went to press.

The eastern delegation of the convention consisting of a jovial party which sailed on the steamer "Comus" of the Southern Pacific Company from New York on Wednesday, October 4, consisted of the following members:

Mr. and Mrs. Herman W. Merkel, New York City; Mr. and Mrs. H. S. Richards, Chicago, Ill.; Mr. and Mrs. Henry W. Busch, Detroit, Mich.; Mr. and Mrs. Albert N. Robson, Youkers, N. Y.; Mr. and Mrs. Grant Forrer, Harrisburg, Pa.; Alexander Stuart and daughter, Ottawa, Canada; Miss Una E. Keith, Bridgeport, Conn.; John F. Walsh, New York City; Fred C. Green, Providence, R. I.

Part of the Western delegation, consisting of E. D. Philbrick, Virginia, Minn.; E. V. Goebel, Grand Rapids, Mich.; Ernst Strehle, St. Louis, Mo.; Ralph R. Benedict and wife, Kansas City, Mo.; Roland Cotterill, Seattle, Wash.; M. L. Moore and wife, Toledo, Ohio; C. H. Hager and wife, Toledo, Ohio; Julius Koenig and wife, St. Louis, Mo.; Emmett Griffin, East St. Louis, Ill.; F. Nussbaumer, St. Paul, Minn.; Mr. Hyland, St. Paul, Minn.; John Berry, Denver, Colo.; Emil T. Mische, Portland, Ore.; Theodore Wirth and wife, Minneapolis, Minn.; Conrad B. Wolf, Hibbing, Minn.; J. A. Ridgeway, Minneapolis, Minn.; L. P. Jensen and wife, St. Louis, Mo., gathered at St. Louis on October 8 to become the guests of the park authorities for the day. An automobile tour of the west and north side parks was the program of the morning. After being entertained at dinner, the visitors continued the tour of the south side parks and a visit to the Shaw Gardens in the afternoon. In the evening they became the guests of the St. Louis Park Department Association, which is composed of about three hundred members of the parks of St. Louis. A supper and evening entertainment were provided which kept the party occupied and in good humor until time for its departure for New Orleans.



# NATIONAL ASSOCIATION OF GARDENERS

WILLIAM N. CRAIG, President,  
Brookline, Mass.

OFFICIAL COMMUNICATIONS

M. C. EBEL, Secretary,  
Madison, N. J.

## ANNUAL CONVENTION NATIONAL ASSOCIATION OF GARDENERS

Washington, D. C. December 5-6, 1916

### ANNUAL CONVENTION.

The date of the annual convention to be held in Washington, D. C., this year has been fixed for Tuesday and Wednesday, December 5 and 6. An interesting programme will be provided for the two days' session which will include visits to some of the departments of the government in which the gardeners are interested. Several interesting lectures will also be provided pertaining to horticulture and the gardening profession. Full details of the programme, headquarters, and time of departure from principal points will be published in the November issue of the CHRONICLE.

It is hoped that many of the members of the association as can arrange to be away from their duties for a few days, will make every effort to attend this convention to make it the most successful of the association's annual meetings yet held.

### NEW MEMBERS.

The following new members have been added to our roll: John L. Donnelly, Buffalo, N. Y.; George S. Low, Sewickley Heights, Pa.; Joseph Goatley, Bernardsville, N. J.; James E. O'Brien, Brooklyn, N. Y.; Henry Harrer, Riverdale-on-Hudson, N. Y.; John R. Clark, Alfred H. Brown, Holland, Mich.; Jacob Henry, Jr., Groton, Conn.; D. Laconelli, Bryn Mawr, Pa.; Neil McCallum, Pittsburgh, Pa.; Arthur Stratford, Convent, N. J.; Aaron Zimmerman, Edward Thompson, New York, N. Y.; Eric Langenmayr, Ridgefield, Conn.

## MASSACHUSETTS AGRICULTURAL COLLEGE

THE college opened its doors on Wednesday, September 27. Professor A. H. Nehrling reports an enrollment of 30 students in the courses in Floriculture for the first term. The new four-term schedule has gone into effect, and under this plan the college will never close its doors. The Department of Floriculture and the Department of Landscape Gardening will offer practical courses during the Summer months, which has been impossible under the old two-semester system.

L. H. Jones, of Milford, Mass., and C. E. Wildon, of Melrose Highlands, Mass., have registered in the graduate school as candidates for the degree of M. Sc. in Floriculture. Both Mr. Jones and Mr. Wildon are graduates of the college.

A. S. Thurston has resigned as assistant in the Department of Floriculture and is now at Ames College, Ia., as head of the Department of Market Gardening and Floriculture. C. E. Wildon has been appointed to fill the vacancy.

Professor A. V. Osmon has been appointed to the position of Head of the Department of Botany, recently left vacant by the resignation of Doctor George E. Stone.

S. W. Hall, of Saxonville, Mass., who graduated from the course in Floriculture, is now with S. J. Goddard, of Framingham, Mass.

G. A. Read, a recent graduate of the college, is now manager of the Peckham Floral Company, at Fairhaven, Mass.

The following officers of the Florists' and Gardeners'

## AMONG THE GARDENERS

James Bell, for a number of years head gardener on C. K. G. Billings' Estate at Oyster Bay, also New York City, resigned his position on September 30.

Andrew Mellendry, formerly of the Harkness Estate, Glen Cove, N. Y., has succeeded James Bell on the C. K. G. Billings' Estate at Oyster Bay, N. Y.

Fred Falconer, formerly of Cedarhurst, N. Y., succeeded Andrew Mellendry as gardener on the Harkness Estate, Glen Cove, N. Y.

Felix Woods, recently with Mrs. A. J. Moulton, Llewellyn Park, Orange, N. J., has accepted the position of superintendent on the estate of Charles de Rham, Coldspring, Putnam County, N. Y. Mr. Woods assumed his new duties the first of the month.

Frank Brnnton, recently superintendent of the estate of Edward McQueeney, Fine Creek Mills, Va., resigned to accept the position of superintendent at the Vander Kamp Farms, Cleveland, O-wego County, N. Y.

Arthur Jackson has resigned his position as gardener to A. E. Newbold, Chestnut Hill, Pa., to take charge of the new estate of J. B. Schlotman, Grosse Point Shores, Detroit, Mich. He will assume his new duties the latter part of this month.

Joseph Goatley, formerly head gardener on Lord Northcliffe's estate, Surrey, England, and more recently of Canada and "Grey-stone," Yonkers, N. Y., has secured the position of head gardener under Lester E. Ortiz, superintendent of the Walter Bliss estate, "Wendover" Farms, Bernardsville, N. J.

Club of M. A. C. have been elected: E. Stanley Duffill, of Melrose Highlands, president; Walter I. Cross, of Hingham, Mass., vice-president; John T. Dizer, of East Weymouth, Mass., secretary-treasurer. Much interest and enthusiasm is being aroused in the club, and the new president prophesies the biggest year in the history of the club.

Plans for the Annual Flower Show of the Massachusetts Agricultural College have been announced by Professor A. H. Nehrling. Special prizes and exhibits are being arranged for. The Northampton & Holyoke Gardeners' and Florists' Club will again co-operate with the Department of Floriculture. Several new features, which will be announced later, are to be incorporated into the show this year. While the attendance last year far exceeded that of any previous show held on the campus, a much larger attendance is looked forward to this year because of the increased interest which is being shown in the work of the department all over the State.

The new Perennial Garden has attracted much interest during the past Summer. Florists and gardeners in this vicinity have paid frequent visits to the garden, and as a result many are contemplating the culture of perennials in conjunction with their regular florists' crops. Visitors have come from as far away as Philadelphia to see the garden and to take notes on the plants which are being grown. The garden now contains over 500 species and varieties, and the department is planning to add to this number from year to year. Just now a collection of Asters and Heleniums is attracting a great deal of attention.

## NATIONAL ASSOCIATIONS

- National Association of Gardeners.**  
M. C. Ebel, secretary, Madison, N. J.
- Society of American Florists and Ornamental Horticulturists.**  
John Young, secretary, 54 West 28th st., N. Y.
- American Carnation Society.**  
A. F. J. Bauer, secretary, Indianapolis, Ind.
- American Dahlia Society.**  
J. Harrison Dick, secretary, 1423 73d st., Brooklyn, N. Y.
- American Gladiolus Society.**  
Henry Yonell, secretary, Syracuse, N. Y.
- American Peony Society.**  
A. B. Saunders, secretary, Clinton, N. Y.
- American Rose Society.**  
B. Hammond, secretary, Fishkill, N. Y.
- American Sweet Pea Society.**  
H. A. Bunyard, secretary, 40 West 28th st., N. Y.
- Chrysanthemum Society of America.**  
Charles W. Johnson, secretary, Morgan Park, Ill.
- Women's Farm and Garden Association.**  
Miss Hilda Loines, secretary, 600 Lexington ave., New York, N. Y.

## LOCAL SOCIETIES

- Bernardsville Horticultural Society.**  
W. G. Carter, secretary, Bernardsville, N. J.  
First Monday every month, Horticultural Hall, 7:30 p. m., Bernardsville, N. J.
- Boston Gardeners' and Florists' Club.**  
William N. Craig, secretary, Brookline, Mass.  
Third Tuesday every month, Horticultural Hall, Boston, Mass., 8 p. m.
- Cleveland Florists' Club.**  
Frank A. Friedley, secretary, 95 Shaw avenue, East Cleveland, Ohio.  
Second Monday every month, Hollenden Hotel, Cleveland, Ohio.
- Cincinnati Florists' Society.**  
Alex. Ostendorp, secretary, Cincinnati, Ohio.  
Second Wednesday every month, Jabez Elliott Flower Market.
- Connecticut Horticultural Society.**  
Alfred Dixon, secretary, Wethersfield, Conn.  
Second and fourth Fridays every month, County Building, Hartford, Conn., 8 p. m.
- Detroit Florists' Club.**  
R. H. Wells, secretary, 827 Canfield avenue, Detroit, Mich.  
Third Monday every month, Bemb Floral Hall.
- Dobbs Ferry Gardeners' Association.**  
Henry Kastberg, secretary, Dobbs Ferry, N. Y.  
Second and fourth Saturdays every month.
- Dutchess County Horticultural Society.**  
Theo. H. DeGross, secretary, Hyde Park, N. Y.  
Second Wednesday every month, Fallkill Bldg., Poughkeepsie, N. Y.

**Elberon Horticultural Society.**  
George Masson, secretary, Oakhurst, N. J.  
First Monday every month, Fire Hall, Elberon, N. J., 8 p. m.

**Essex County Florists' Club.**  
John Crossley, secretary, 37 Belleville avenue, Newark, N. J.  
Third Thursday every month, Kreuger Auditorium.

**Florists' and Gardeners' Club of Holyoke and Northampton, Mass.**  
James Whiting, secretary, Amherst, Mass.  
First Tuesday every month.

**Florists' and Gardeners' Club of Rhode Island.**  
William E. Chapel, secretary, 333 Branch avenue, Providence, R. I.  
Fourth Monday each month, Swartz Hall.

**Gardeners' and Florists' Club of Baltimore.**  
N. F. Flittin, secretary, Gwynn Falls Park, Sta. F, Baltimore, Md.  
Second and fourth Monday every month, Florist Exchange Hall.

**Gardeners and Florists of Ontario.**  
Geo. Douglas, secretary, 189 Merton street, Toronto, Canada.  
Third Tuesday every month, St. George's Hall.

**The Horticultural Society of New York.**  
Geo. V. Nash, secretary, Bronx Park, New York City.  
Monthly, irregular, May to October, New York Botanical Garden, Bronx Park, New York. November to April, American Museum of Natural History, 77th st. and Columbus ave., New York.

**Houston Florists' Club.**  
A. L. Perring, secretary, 4301 Fannin street, Houston, Texas.  
Meets first and third Monday, Chamber of Commerce Rooms.

**Lake Geneva Gardeners' and Foremen's Association.**  
Raymond Niles, secretary, Lake Geneva, Wis.  
First and third Tuesday every month, Oct. to April; first Tuesday every month, May to Sept., Horticultural Hall.

**Lenox Horticultural Society.**  
John Carman, secretary, Lenox, Mass.  
Second Wednesday every month.

**Los Angeles County Horticultural Society.**  
Hal. S. Kruckeberg, secretary, Los Angeles, Cal.  
First Tuesday every month.

**Massachusetts Horticultural Society.**  
William P. Rich, secretary, 300 Massachusetts avenue, Boston, Mass.

**Menlo Park Horticultural Society.**  
Percy Ellings, secretary, Menlo Park, Cal.  
Second Thursday each month.

**Minnesota State Florists' Association.**  
Gust. Malmquist, secretary, Fair Oaks, Minneapolis, Minn.  
Third Tuesday every month.

**Monmouth County Horticultural Society.**  
Harry Kettle, secretary, Fairhaven, N. J.  
Fourth Friday every month, Red Bank, N. J.

**Montreal Gardeners' and Florists' Club.**  
W. H. Horobin, secretary, 283 Marquette st.  
First Monday every month.

**Morris County Florists' and Gardeners' Society.**  
Edw. J. Reagan, secretary, Morristown, N. J.  
Second Wednesday every month, except July and August, 8 p. m., Madison, N. J.

**Nassau County Horticultural Society.**  
Henry Gibson, secretary, Roslyn, N. Y.  
Second Wednesday every month, Pembroke Hall, 7 p. m.

**New Bedford Horticultural Society.**  
Jeremiah M. Taber, secretary, New Bedford, Mass.  
First Monday every month.

**New Haven County Horticultural Society.**  
W. C. McIntosh, Secretary, 925 Howard avenue, New Haven, Conn.

**New Jersey Floricultural Society.**  
Geo. W. Strange, secretary, 216 Main street, Orange, N. J.  
Third Monday every month, Jr. O. W. A. M. Hall., 8 p. m.

**New London Horticultural Society.**  
John Humphrey, secretary, New London, Conn.  
Second Thursday every month, Municipal Bldg.

**New Orleans Horticultural Society.**  
C. R. Panter, secretary, 2320 Calhoun street, New Orleans, La.  
Third Thursday every month, Association of Commerce Bldg.

**Newport Horticultural Society.**  
Fred P. Webber, secretary, Melville Station, R. I.  
Second and fourth Tuesday every month.

**New York Florist Club.**  
John Young, secretary, 54 W. 28th street, New York.  
Second Monday every month, Grand Opera House.

**North Shore Horticultural Society.**  
Leon W. Carter, secretary, Manchester, Mass.  
First and third Fridays every month.

**North Shore Horticultural Society.**  
E. Bollinger, secretary, Lake Forest, Ill.  
First Friday every month, City Hall.

**North Westchester County Horticultural and Agricultural Society.**  
Thomas Shore, secretary, Katonah, N. Y.  
Third Thursday every month, except June to August, at 8 p. m.

**Oyster Bay Horticultural Society.**  
John Ingram, secretary, Oyster Bay, N. Y.  
Fourth Wednesday every month, Oyster Bay, N. Y., 7:30 p. m.

**Pacific Coast Horticultural Society.**  
W. A. Hofinghoff, secretary, 432 Phelan Bldg., San Francisco, Cal.  
First Saturday every month, Redmen's Bldg.

**Pasadena Horticultural Society.**  
Geo. B. Kennedy, secretary, Pasadena, Cal.  
First and fourth Friday every month.

**Paterson Floricultural Society.**  
Richard Buys, secretary, 207 17th ave., Paterson, N. J.  
First Tuesday every month, Y. M. C. A. Bldg., 8 p. m.

## GARDEN CLUBS

**Pennsylvania Horticultural Society.**

David Rust, secretary, Broad and Locust  
sts., Philadelphia, Pa.  
Third Tuesday every month.

**People's Park Cottage Gardeners' Association.**

John Ainscough, secretary, 4 Chestnut st.,  
Paterson, N. J.  
First and last Friday every month, Working  
Man's Institute, Paterson, N. J.

**Philadelphia Florists' Club.**

David Rust, secretary, Broad and Locust  
sts., Philadelphia, Pa.  
First Tuesday every month, Horticultural  
Hall, 8 p. m.

**The Pittsburgh Florists' and Gardeners' Club.**

H. P. Joslin, secretary, Ben Avon, Pa.  
First Tuesday every month, Fort Pitt  
Hotel.

**Reading, Pa., Florists' Association.**

Fulman Lauch, Secretary, 123 South 5th  
street, Reading, Pa.  
First Thursday each month.

**Redlands (Cal.) Gardeners' Association.**

Jas. McLaren, secretary, Box 31 R. F. D  
No. 2, Redlands, Cal.

**Rhode Island Horticultural Society.**

E. K. Thomas, secretary, Box 180, Kingston,  
R. I.  
Third Wednesday every month, Public  
Library, Providence, R. I.

**Rochester Florists' Association.**

H. R. Stringer, secretary, 47 Stone street  
Rochester, N. Y.  
Second Monday every month, 95 Main  
street, East.

**Shelter Island Horticultural and Agricultural Society.**

First and third Thursdays every month.

**Southampton Horticultural Society.**

Julius W. King, secretary, Southampton,  
N. Y.  
First Thursday every month, Oddfellows  
Hall.

**Tacoma Florists' Association.**

F. H. Atchison, secretary, South 50th and  
East F street, Tacoma, Wash.  
Third Thursday, Maccabee Hall, 11th and  
C streets.

**Tarrytown Horticultural Society.**

E. W. Neubrand, secretary, Tarrytown  
N. Y.  
Third Wednesday each month except July  
and August. Annual meeting last Thurs-  
day in December.

**Texas State Horticultural Society.**

G. H. Blackman, assistant secretary, College  
Station, Texas.

**Tuxedo Horticultural Society.**

Thomas Wilson, secretary, Tuxedo Park,  
N. Y.  
First Wednesday every month.

**Washington, D. C., Florist Club.**

J. L. Mayberry, secretary, Washington,  
D. C.  
First Monday every month.

**Westchester and Fairfield Horticultural Society.**

J. B. McArdle, secretary, Greenwich, Conn.  
Second Friday every month, Hubbard's  
Hall, Greenwich, 8 p. m.

**International Garden Club.**

Mrs. Charles Frederick Hoffman, President,  
Club House, Bartow Mansion, Pelham Bay  
Park, New York City.  
(Address all communications to Mrs. F.  
Hammett, Asst. Sec'y, Bartow Mansion.)

**The Garden Club of America.**

Mrs. J. Willis Martin, president, "Edge-  
combe," Chestnut Hill, Philadelphia, Pa.

**The Albemarle Garden Club.**

Mrs. Russell Bradford, secretary, Charlot-  
tesville, Va.  
Fourth Friday each month. Blue Ridge  
Club.

**The Garden Club of Alma, Mich.**

Mrs. E. J. Lamb, secretary, 803 State street.  
Twice a month at members' residences.

**The Garden Club of Alleghany County, Pa.**

Mrs. Finley Hall Lloyd, president, Sewick-  
ley, Pa.

**Amateur Garden Club of Baltimore, Md.**

Miss Sarah S. Manly, secretary, The  
Walbert.

**The Garden Club of Ann Arbor, Mich.**

Miss Annie Condon, secretary, 920 Uni-  
versity avenue.

**The Garden Club of Cleveland, Ohio.**

Mrs. Geo. Scoville, secretary, 1453 E.  
Boulevard.

**The Garden Club of Cincinnati.**

Mrs. Glendinning Groesbeck, secretary, East  
Walnut Hills, Cincinnati, Ohio.

**Garden Club of East Hampton, L. I.**

Mrs. F. K. Holister, secretary, East Hamp-  
ton, N. Y.

**The Park Garden Club, of Flushing, N. Y.**

Mrs. John W. Paris, president,  
Flushing, N. Y.  
Second and fourth Mondays, members'  
homes.

**The Garden Club of Greenwich, Conn.**

Mrs. Norman McCutcheon, secretary,  
Greenwich, Conn.  
At members' residences.

**The Garden Club of Hartford.**

Mrs. John H. Buck, secretary, 17 Atwood  
st., Hartford, Conn.

**The Garden Club of Harford County, Md.**

Mrs. Martin E. Ridgley, secretary, Benson  
P. O., Md.  
First and third Thursdays, April to  
December at members' residences.

**The Garden Club of Twenty.**

Mrs. W. Irvine Keyser, secretary, Stevencoe,  
Baltimore County, Md.

**The Gardeners of Mont. and Dela. Counties, Pa.**

Miss Elizabeth D. Williams, secretary,  
Haverford, Pa.  
At members' residences.

**The Weeders' Club, Pa.**

Miss Ellen Winsor, secretary, Haverford,  
Pa.  
First and third Wednesday at members'  
residences.

**The Garden Club of Illinois.**

Mrs. Leverett Thompson, secretary, Lake  
Forest, Ill.

**The Larchmont Garden Club, N. Y.**

Mrs. Edgar Park, secretary, Larchmont, N. Y.  
First Thursdays.

**The Garden Club of Lawrence, L. I.**

Mrs. Thomas Lawrence, secretary, Law-  
rence, L. I.

**The Garden Club of Lenox, Mass.**

Mrs. Francis C. Barlow, secretary, 47 E.  
64th street, New York.  
First and third Mondays, June to Octo-  
ber at Lenox.

**Lewiston and Auburn Gardeners' Union.**

Mrs. George A. Whitney, secretary, Auburn,  
Me.

**The Garden Club of Litchfield, Conn.**

Mrs. Henry S. Munroe, secretary, 501 W.  
120th street, New York.  
Second Friday, June to October at Litch-  
field.

**The Garden Club of Michigan.**

Miss Sarah W. Hendrie, secretary, Grosse  
Pointe Farms, Mich.  
At members' homes. Two Spring and one  
Fall Shows.

**The Millbrook Garden Club, N. Y.**

Mrs. Keyes Winter, secretary, 125 E. 78th  
street, New York.  
Meet at Millbrook, Dutchess County, N. Y.

**The Bedford Garden Club, N. Y.**

Mrs. Benjamin W. Morris, secretary, Mt.  
Kiseo, N. Y.

**The Garden Club of New Canaan, Conn.**

Mrs. Francis H. Adriance, secretary, New  
Canaan, Conn.  
Second Wednesday each month.

**The Newport Garden Association, R. I.**

Miss Dorothea G. Watts, secretary, New-  
port, R. I.  
Annual Meeting, August. Others when  
called. Five monthly summer shows.

**The Newport Garden Club.**

Mrs. Chas. F. Hoffman, president, 620 Fifth  
avenue, New York.

**The Garden Club of New Rochelle, N. Y.**

Mrs. Francis M. Walker, secretary, 22  
Petersville Road, New Rochelle, N. Y.  
Members' residences and Public Library  
Shows monthly, May to November.

**The Garden Club of Norfolk, Conn.**

Philemon W. Johnson, secretary, Norfolk,  
Conn.  
Second Wednesday each month at Public  
Library.

**North Country Garden Club of Long Island.**

Mrs. Edward Townsend, secretary, Oyster  
Bay, L. I.

**Plainfield, N. J., Garden Club.**

Mrs. H. C. McMillen, secretary, Plainfield,  
N. J.  
Meets second and fourth Wednesdays at  
members' homes.

**Garden Club of Philadelphia, Pa.**

Miss Ernestine A. Goodman, secretary,  
Chestnut Hill.

**The Green Spring Valley Garden Club.**

Mrs. Lawrence M. Miller, secretary, Roslyn,  
Md.

**The Garden Club of Princeton, N. J.**  
Mrs. Junius Spencer Morgan, secretary,  
Constitution Hill, Princeton, N. J.

**The Garden Club of Ridgefield, Conn.**  
Mrs. Cass Gilbert, secretary, 42 E. 64th  
street, New York.  
Twice monthly at Ridgefield. Also ex-  
hibitions.

**The Ridgewood Garden Club, N. J.**  
E. T. Sowter, secretary, Ridgewood, N. J.

**Rumsen (N. J.) Garden Club.**  
Miss Alice Kneeland, secretary, Rumson,  
N. J.

**The Garden Club of Somerset Hills, N. J.**  
Mrs. Geo. R. Mosle, secretary, Gladstone,  
N. J.  
Second and fourth Thursdays, middle of  
April to November. August excepted.

**The Hardy Garden Club of Ruxton, Md.**  
Mrs. R. E. L. George, secretary, Ruxton, Md.

**The Garden Club of Rye, N. Y.**  
Mrs. Samuel Fuller, secretary, Rye, N. Y.  
First Tuesdays, April to October. Also  
special meetings and Flower Shows.

**The Shedowa Garden Club, New York.**  
Miss Mary Young, secretary, Garden City,  
N. Y.

Second Wednesday each month at mem-  
bers' residences. Vegetable and flower  
shows, June and September. Correspondence  
with other clubs invited.

**The Short Hills Garden Club.**  
Mrs. C. H. Stout, secretary, Short Hills, N. J.  
Monthly at Short Hills Club House dur-  
ing January and February.

**The Southampton Garden Club, New York.**  
Twice a month in summer at Southamp-  
ton, L. I.

**The Staten Island Garden Club, N. Y.**  
Mrs. J. Harry Alexander, secretary, Rose-  
bank, S. I.

**Garden Club of Summit.**  
Mrs. Henry A. Truslow, secretary, Bedford  
Road, Summit, N. J.

**The Garden Club of Trenton, N. J.**  
Miss Anne MacIlvaine, secretary, Trenton,  
N. J.

Bi-monthly meetings at members' resi-  
dences.

**The Garden Club of Illinois.**  
Mrs. William G. Hibbard, Jr., secretary,  
Winnetke, Ill.

**The Garden Club of Orange and Dutchess  
County, New York.**  
Mrs. Morris Rutherford, secretary, Warrick,  
Orange County, N. Y.

**The Ulster Garden Club.**  
Miss Mary H. Haldane, secretary, The Hunt-  
ington, Kingston, N. Y.

**Warrenton Garden Club, Virginia.**  
Mrs. C. Shirley Carter, secretary, Warren-  
ton, Va.

**Garden Club, Webster Groves, Mo.**  
Caroline Chamberlin, secretary, 106 Plant  
ave., West Grove, Mo.

## HORTICULTURAL EVENTS

**Annual Chrysanthemum Show of the  
American Institute, Engineering Building,  
25 West 39th street, New York, N. Y., No-  
vember 8-10.**

**Horticultural Society of New York, Fall  
Exhibition, American Museum of Natural  
History, November 9-12.**

**International Flower Show, Grand Cen-  
tral Palace, New York, N. Y., March 15-22,  
1917.**

**Massachusetts Horticultural Society, Au-  
tumn Show, Horticultural Hall, Boston,  
Mass., November 1-5.**

**Maryland Horticultural Society, Annual  
Exhibition, Fifth Regiment Armory, Balti-  
more, Md., November 14-18.**

**Menlo Park Horticultural Society, Fall  
Show, Redwood City, Cal., October 27-28.**

**Morris County Gardeners' and Florists'  
Society, Annual Show, Madison, N. J., Oc-  
tober 26-27**

**National Association of Gardeners, An-  
nual Convention, Washington, D. C., Decem-  
ber 5-6.**

**Nassau County Horticultural Society, An-  
nual Fall Show, Glen Cove, N. Y., November  
2-3.**

**New Bedford Horticultural Society, An-  
nual Chrysanthemum Show, New Bedford,  
Mass., November 2-3.**

**New London (Conn.) Horticultural Socie-  
ty, Chrysanthemum Show, Waterford,  
Conn., November 8-9.**

**North Shore Horticultural Society, Fall  
Show, Lake Forest, Ill., November —**

**Northern Westchester County Agricul-  
tural and Horticultural Society, Annual Fall  
Show, Mt. Kisco, N. Y., October 27-29.**

**Pennsylvania Horticultural Society, An-  
nual Fall Show, Horticultural Hall, Phila-  
delphia, Pa., November 7-10.**

**Rhode Island Horticultural Society's  
Flower Show, November 14-15, Providence,  
R. I.**

**St. Louis Spring Show, 1917, St. Louis,  
Mo., March 15-18, 1917.**

**Tarrytown (N. Y.) Horticultural Society,  
Chrysanthemum Show in Music Hall, Tarry-  
town, November 1-3.**

**Tuxedo Horticultural Society, Annual  
Flower Show, Tuxedo Park, N. Y., Novem-  
ber 3-5.**

**Westchester and Fairfield Horticultural  
Society, Fall Show, Greenwich, Conn., Oc-  
tober 31 and November 1.**

### DAHLIA SHOW AT GLEN COVE, N. Y.

The annual Dahlia Show of the Nassau  
County Horticultural Society, held on Octo-  
ber 5, was a most decided success from  
both a financial and horticultural view-  
point. The exhibits were of the very high-  
est quality, and in almost all classes the  
competition was very keen. The Henry  
Dreer silver cup, which was offered for the  
best collection of dahlias, 25 varieties,  
brought forth a splendid display, there be-  
ing four exhibitors, each one with a top-  
notch collection. The judges finally  
awarded the prize to W. R. Coe (Joseph  
Robinson, gdr.), with W. J. Mathieson  
(James Kirby, gdr.) second. The E. M.  
Townsend silver cup for the best collection  
of outdoor roses was won by Harold Pratt  
(F. O. Johnson, gdr.); John Pratt (John W.

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out a spring. Everyone  
loves these beautiful messen-  
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summer.**

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**NEW YORK CITY**

Everett, gdr.) second. The North Shore Garden Club's silver basket for the best collection of outdoor flowers was awarded to George Pratt (John Johnstone, gdr.); C. F. Cartledge (William Noonan, gdr.) second. The F. S. Smithers silver cup for the best 10 varieties of gladioli, six spikes of each, was captured by Mrs. Darlington (P. W. Popp, gdr.).

The class for the best collection of 12 kinds of vegetables was one of the most attractive features of the show. There were three exhibitors and so evenly matched were their exhibits that in the final scoring only eight points separated the winner from the second man, while the third entry was only 20 points behind. Percy Chubb (Robert Jones, gdr.) was the winner in this class and W. R. Coe was second. Mr. Chubb also won in the class for nine kinds of vegetables.

The Hitchings & Co.'s silver cup for the best collection of outdoor fruit was won by Herbert Pratt (Henry Gaut, gdr.) with a superb collection, comprising a great number of varieties. The competition for the best decorated dinner table was another feature which proved to be very popular with the patrons of the show. There were seven entries and the honors were carried off by Joseph Adler, Henry Gaut and Herman Miller, in the order named.

Mills & Co., of Mamaroneck, were awarded a certificate of merit for a large collection of dahlias, and C. F. Cartledge received the same award for three vases of seedling dahlias. Mrs. Darlington received a certificate of culture for a vase of gladioli.

The judges were Thomas Aitcheson, William Robertson and James Stuart.

JAMES McCARTHY, Cor. Sec'y.

**NORTHERN WESTCHESTER COUNTY HORTICULTURAL AND AGRICULTURAL SOCIETY.**

The regular monthly meeting of the above society was held in Firemen's Hall on the 21st inst., President A. Thomson in the chair. There was a large attendance and business was "trump." Mr. Charles Young was proposed for membership and our treasurer, Mr. Carl Kochen, of Bedford, was made a life member as he is leaving us. Everything pertaining to our coming show was thoroughly gone over, and a feature this year will be that admission will be free. It will be held in the Civic Hall, Monnt Kisco, on October 27, 28, 29. The judges for general exhibits will be Mr. John Featherston, superintendent Sleepy Hollow Cemetery; Mr. John Grant, Tarrytown, and William Broek, Tuxedo. Mr. G. A. Drew, Conyeas Farms, Greenwich, is to judge the fruit exclusively. There are six silver cups and a solid silver chocolate set to be awarded to the successful competitors.

A. G. ROSS, Cor. Sec'y.

**NEW LONDON HORTICULTURAL SOCIETY.**

The New London Horticultural Society resumed its sessions again after two months vacation in its rooms at the Municipal building, State street, Thursday the 14th inst. Mr. John Silva, gardener to Frank Palmer, Esq., gave a very interesting talk on the dahlia.

The latter flower was shown on the ex-

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hibition tables in some very fine varieties. Mrs. Chapman, of Hill Crest Dahlia Garden, had a very fine display of peony and single flowered varieties. Mr. Robert Cato, of Branford Farm Gardens, exhibited some very fine blooms of cactus, show and singles.

Several nice blooms were also seen from the Harkness, Guthrie and Armstrong estates.

Mrs. G. W. Nicholls, an amateur member of the society, had a very nice box of asters.

Treasurer Ewald expressed a motion the society send its expression of sympathy to the family of the late Edward Clarke, florist, the latter having been the society's first president.

Votes of thanks to the speaker terminated a very pleasant evening.

STANLEY JORDAN, Sec'y.

**NASSAU COUNTY HORTICULTURAL SOCIETY.**

The regular meeting of the Nassau County Horticultural Society, held on the evening of September 13, was the best attended meeting of the season, and a most interesting session was the result. A letter was received from Henry Gibson, tendering his resignation as secretary of the society owing to the fact that he was about to move to a point too remote from Glen Cove to carry out the duties of his office. The resignation was laid on the table, and Ernest Westlake was appointed secretary pro tem. for the remainder of the year. During his term of office Mr. Gibson proved to be a genuine hustler and a most capable official, and we deeply regret losing his

services. He carries the best wishes of all his fellow members to his new location.

James Gladstone, Harry Goodband and John Ingraham were appointed by President MacDonal to act as judges of the exhibits, and they turned in the following report: Best muskmelon, first, Joseph Robinson; six ears of corn, first, Frank Petroccia; 25 lima beans, first, Frank Petroccia; six ears of corn, Honeysweet, thanks of the society to Frank Petroccia.

The final schedule of the Chrysanthemum Show was read and adopted. It contains 53 classes, covering a considerable variety of exhibits and should bring forth a great many entries. In all but a very few classes the competition is open to all. Final arrangements were made for the Dahlia Show to be held on October 5, and James Gladstone was appointed manager of the same, with Thomas Twigg as assistant.

An essay on "Mushrooms and Their Culture," was read by Joseph Robinson, and proved to be very interesting and full of practical information. Mr. Robinson described the various types of edible fungi and also told of many distinguishing characteristics of the poisonous varieties.

Two essays were received from the National Association of Gardeners, one on "The Diabrotian," by Robert Sell of Texas, and the other on "The Maranoetua," by Percy Snow, of Pennsylvania. Both were very favorably received.

JAMES McCARTHY, Cor. Sec'y.

**HOLYOKE AND NORTHAMPTON FLORISTS' AND GARDENERS' CLUB.**

The regular meeting was held October 3 at the greenhouses of Butler & Ullman,

We have a superb stock of Darwin, Cottage and Breeder Tulips of our usual Highest Grade, such as was awarded the Gold Medal of the Horticultural Society of New York last Spring.

TRY A FEW FOR COMPARISON. LIST OF STOCK WILL BE SENT UPON APPLICATION.

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Northampton. There was an excellent attendance of members, and the meeting throughout was packed full of interest. Prospects are bright for the fourth annual show, which is to be held in the Northampton City Hall, November 1 and 2. The Henry F. Michell Co., of Philadelphia, offered one of their bronze medals for competition, and it was voted to award this for the best group of plants. Instead of a paper being read and discussed, each member brought a question. These naturally covered a wide field of inquiry, but as a sign of the times it was interesting to note that several had to do with the increasing cost of doing business. Butler & Uhlman exhibited vases of Ophelia and Russell roses of excellent quality, and H. E. Downer showed flowering plants of the water hyacinth, Eichornia crassipes.

H. E. D.

#### SEWICKLEY HORTICULTURAL SOCIETY.

The regular monthly meeting took place in the Odd Fellows Hall, Broad street, on Tuesday, October 10; President Wessenauer in the chair. Four new members were elected. Some fine Dahlia exhibits were on hand from R. Taylor, T. Sturgis, J. Carman, H. Rapp, G. Wessenauer and M. Curran, which brought forth an interesting discussion on this favorite flower. A vote of thanks was accorded all the exhibitors. The Vegetable and Flower Show of September 22 and 23 last was voted a complete success and the thanks of the society was extended to the committees. Arrangements were gone into for the forthcoming Chrysanthemum Show on November 2, 3, 4 and 5, and final committees appointed. The classes for private gardeners are confined to Allegheny County, but the commercial classes are open. Schedules may be had from the secretary, M. Curran, Sewickley, Pa. The ladies of the Allegheny County Garden Club are giving us able assistance and a good show is looked for.

M. C.

#### TUXEDO (N. Y.) HORTICULTURAL SOCIETY.

The final schedule is now ready for our fall show which will be held at the Tuxedo Club House on November 3, 4 and 5. There are some very interesting classes. One of the special features is the dinner table decorations of 'Mums for a table arranged for eight persons. There are special prizes offered by Scott Bros., A. N. Pierson, C. H. Totty, Knight & Struck Co., Adolph Lewi-son, Esq., Weeber & Don. Metropolitan Material Co., Arthur T. Boddington, Carters Tested Seeds, John Scheepers Co., Bon Arbor Chemical Co., Julius Roehrs Co., Burnett Bros., Hitchings & Co., Winter & Co., Vaughan's Seed Store, Peter Henderson Co., Lager & Hurrell, Henry A. Dreer, C. Peterson. At this writing we expect keen competition in most of the classes, as all the boys report their crops looking prosperous.

THOS. WILSON, Sec'y.

#### CONNECTICUT HORTICULTURAL SOCIETY.

Following the usual two months' vacation, the Connecticut Horticultural Society held its first fall meeting on Friday evening, September 22, President Hollister presiding.

The announcement that "Dahlia Night" would be observed worked splendidly in two ways: the attendance was good and there were two exhibits of dahlias that were a sight for sore eyes. John F. Huss, superintendent for Mrs. James J. Goodwin, had on exhibition a collection of some 90 varie-

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or so-called Old-fashioned Flower worth growing, we have it in one shape and another in quantity the year round. We have the largest stock in this country, all Made in America, and our prices will average

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ties of every imaginable tint and combination of color; while Warren S. Mason, superintendent of the Pope estate, Farmington, displayed 30 or more varieties. The collections contained numerous varieties of cactus, decorative, show, fancy, pompom, peony-flowered, single, and collarette. The judges were H. R. Hurd, Samuel Gordon and Sannel H. Deming, and both displays received first class certificates. G. Ogren exhibited a vase of Mexican poppies and a pot of asters.

Mr. Huss in his remarks complained of the depredations made by grasshoppers, many of his dahlia blooms being entirely eaten by these pests.

E. M. Smith, of the East Hartford Dahlia Gardens, having been a successful competitor at the Boston Flower Show, gave an interesting talk on the history of the dahlia.

A. DIXON, Sec'y.

#### LENOX (MASS.) HORTICULTURAL SOCIETY.

The regular meeting of the society was held October 11. After the usual business the president introduced a party sent by the State Board of Agriculture, who spoke on "Commercial Fertilizers." The speaker, a practical gardener, dwelt on the value of various manures on different crops and recommended the buying of mixed manures as most economical, avoiding the cheaper grades. A discussion followed which related principally to the value of cover crops. The opinion appeared to be general that Rye sown as early as possible, especially between Corn, in August, was the cheapest and best for this purpose. It is to be regretted that only about a dozen members availed themselves of the opportunity of hearing a very interesting and instructive lecture. The annual meeting and election of officers for the coming year is to be held November 8, when it is hoped all members will be present.

J. H. F., Ass't Sec'y.

#### WESTCHESTER (N. Y.) AND FAIRFIELD (CONN.) HORTICULTURAL SOCIETY.

A good attendance and a fine display on the exhibition tables were the marked features of the regular monthly meeting of the society, held October 13, in the society's rooms, at Hubbard Hall, Greenwich, Conn., President Sealy in the chair. The membership lists were increased by the addition of four new names, and one new proposition for membership was filed.

The Fall show committee reported every-

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thing in readiness for the annual fall exhibition, to be held this year in Drinkwater's Hall, at Greenwich, Conn., October 31 and November 1. An attractive schedule of 121 classes has been prepared and is ready for distribution. Valuable prizes of cash, cups, silverware and cut glass articles are included in the premium list, and we anticipate a fine display of plants, flowers, fruits and vegetables, as well as examples of the gardener's decorative art.

J. H. Troy, of New Rochelle, N. Y., and F. E. Conine, of Stratford, Conn., were visitors, and each in turn addressed the meeting briefly. The judges made the following awards: Wm. Graham, cultural certificate for a handsome vase of *Bouvardia*; Robt. Grusmert was highly commended for display of carnations; Anthron Pederson was highly commended for display of roses in 10 vases, and was also given a vote of thanks for a box of grapes and a vase of carnations and petunias. P. W. Popp received high commendation for a display of gladioli, a certificate of merit having been previously awarded.

The next meeting will be held November 10, when the nominations for officers for 1917 will be in order. A full attendance is desired.  
P. W. POPP, Cor. Sec'y.

#### OYSTER BAY (N. Y.) SHOW.

The annual Fall Flower Show of 1916 was the most successful exhibit in the history of the Oyster Bay Horticultural Society. The classes were well filled and the exhibits were meritorious, showing the great interest manifested by the members. The prizes were donated by A. G. Hodenpyl, M. L. Schiff, George Oakes, J. Stuart Blackton, Mrs. W. R. Coe, J. C. Moore, Wm. L. Swan, H. C. Smith and others. Jos. Robinson, Superintendent on W. R. Coe's estate, won one of the trophies for the necessary times to have it become his property and was the greatest winner in the show, getting 41 firsts aside from the trophy. His exhibits were flowers and vegetables. His competitors in the vegetable classes were George Wilson, of the Taylor estate, Jericho; Wm. Garvin, of the Hodenpyl estate, Loest Valley, and Michael O'Neill, of the Strauss estate, Cove Neck. The principal exhibitors in the flower department were Duncan Beaton, of Mortimer L. Schiff's estate, John Devine, of James A. Blair's estate, Alfred Walker, of Howard C. Smith's estate, James Duckham, of R. F. Whitney's estate, Frank Kyle, of the Tiffany estate.

Frank Gale, of Syosset, John T. Ingram and George Wilson competed for table decoration in which competition Mr. Gale won with Ingram second.

James Duthie's display of dahlias was one of the attractions. He had 120 varieties but did not enter the show as a competitor, coming in on the meritorious class, and winning the gold medal presented by the American Dahlia Association.

#### THE HORTICULTURAL SOCIETY OF WESTERN PENNSYLVANIA.

Following a three months' summer suspension, the Horticultural Society of Western Pennsylvania convened for its September session and the re-opening for the season of 1916-17 at the Colonial-Annex Hotel, where the meetings will be held until further notice. There was no formal programme adhered to, the evening being devoted to a general discussion of plans for the coming year's work; the Flower Show under the auspices of the Garden Club of Allegheny County in which the society is to co-operate with the Florists' Club of Pittsburgh, and of dahlias and their culture, which was really scheduled as the subject for the meet-



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ing. Apropos of this there was a display of varied blooms by Mr. Adler of the North Side, a visitor by special invitation of the organization. While Mr. Adler's exhibition included some fine varieties, owing to the excessive heat and drought of the late season, few were up to "concert pitch," so to speak. Vice President William Allen presided in the absence of David Fraser, who was in New York.

#### NEW YORK STATE FEDERATION OF HORTICULTURAL SOCIETIES.

A meeting of the State Federation of Horticultural Societies was held at the State Fair in Syracuse on September 14, 1916. Vice-President E. A. Bates, of Syracuse, presided. There was a good attendance at the meeting, and various reports were given on the work of the different committees during the past year.

A committee consisting of Messrs. McCarthy, Thorpe and White was appointed to draw up suitable resolutions on the death of President Wm. F. Kasting.

It was the opinion of the Federation that its work would be more effective if there were more meetings during the year. It was therefore voted to hold an annual meeting at the New York State Fair Grounds in Syracuse during State Fair Week, a second meeting at Cornell during Farmers' Week, a meeting in New York City during the

Spring Flower Show, and a fourth meeting with some society of the Federation at such time as the President might designate.

It was voted to provide for an executive board to consist of the President, Secretary and Treasurer of the State Federation of Horticultural Societies and the president of each affiliated society in the Federation.

The officers elected for the ensuing year were as follows:

President, F. R. Pierson, Tarrytown.  
First Vice-President, Dr. E. A. Bates, Syracuse.

Second Vice-President, George McCarthy, Syracuse.

Third Vice-President, C. H. Vick, Rochester.

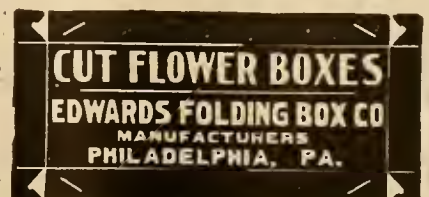
Fourth Vice-President, George E. Thorpe, Syracuse.

Fifth Vice-President, F. A. Danker, Albany.

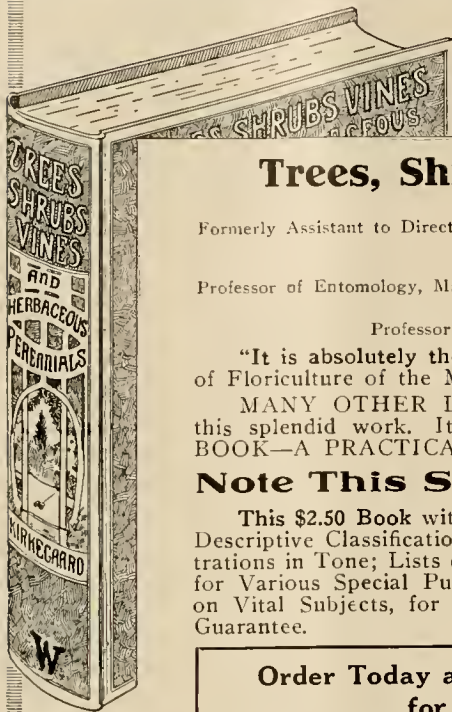
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and PROF. E. A. WHITE,

Professor of Floriculture, New York State College of Agriculture at Cornell University.

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After much prolonged persuasion and "a bit o' siller," finally gained consent of the caretaker of a neighboring property, to let me climb up on the roof and take this general view of the layout. That's the superintendent's cottage in the immediate foreground.

## The FLETCHER LAYOUT AT BROOKLINE, MASS.

W. GARDNER, *Superintendent.*



Glimpse of the cottage through the Spanish wall gateway.



And the greenhouse itself, with one of the wandering arches, and Dorothy Perkins just beginning to assert her possession.

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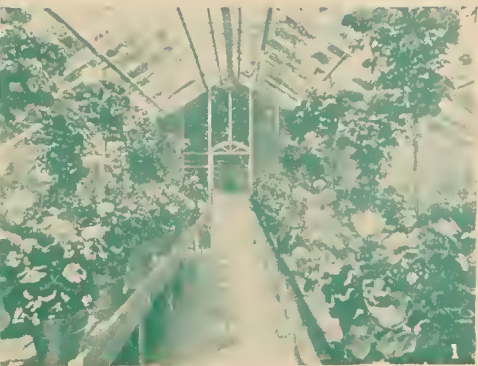
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- 5—Sometimes there is an objection to the greenhouses being attached to the garage, but in this particular case the scheme worked out very well and highly gratifying to the gardener, Ivan Sibson.
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*The Prize-Winners for next year will be*

Pres. Everitt, W. H. Waite, Bol d'Or, October King, Nag-ir-roc and Louisa Pockett,  
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These, with our new list of Novelty Early Flowering and Single varieties, will all appear in our catalogue for 1917, which will be mailed in January.

---

*If your name is not on our mailing list, drop us a postal.*

---

CHARLES H. TOTTY, Madison, N. J.

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The three best Hardy Lilies for outdoor or indoor growing have arrived. Have you placed your order for your full requirements? They may be planted now in pots and carried over until planting out time next spring.

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11 to 13 inch bulbs.....	3.50	25.00	11 to 12 inch bulbs.....	4.50	35.00
13 to 15 inch bulbs.....	4.50	35.00			
			8 to 9 inch bulbs.....	\$1.00	\$8.00
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			11 to 13 inch bulbs.....	3.50	25.00
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# GARDENERS' CHRONICLE OF AMERICA

Devoted to the Science of Floriculture and Horticulture

Vol. XX.

NOVEMBER, 1916.

No. 11.

## *Things and Thoughts of the Garden*

By The Onlooker

ONE of the chief disturbing questions of the moment is not the rise in the cost of living, how to get coal at \$8 a ton, nor how long Villa will remain at large; no, it is, what is an amateur gardener? Men have grown heated and red in the face arguing it. The long and short of it is that everybody but the man who grows for sale, is an amateur. At the shows the professional gardener who draws a salary of \$150 a month, which is a lot more than many a "commercial" man earns, is still an amateur, or rather he comes under the protective covering of his employer, who exhibits as an amateur. The small man or woman (and there are plenty of ladies in the ranks of amateur gardeners) who does all the work of the garden, from the planting up to the final cutting of the show bloom, may still hire an "odd" man to do the wheeling in of manure and the digging, so what is the difference between such a one and the man or woman higher up who gets a little more help—the little more in this case running all the way to staking and tying and pinching and syringing with some etceteras thrown in? There's the rub. The wealthy owner of a large estate with a score of trained gardeners headed by a proficient superintendent at \$3,000, a house, and a helping hand to everything on the place, may still be an ardent and perfectly legitimate amateur. For the meaning of the word is lover, in this case, a lover of flowers, plants, trees, gardens.

\* \* \*

Is not Mrs. Francis King an amateur? Is not Mr. Hunnewell an amateur; or Admiral and Mrs. Aaron Ward? Many others could be mentioned. The fad in the definition of amateur is simple and direct—one who grows his plants for pleasure and does not sell for a living. That he may occasionally sell surplus stock should not debar him or her from the title of amateur. Here, however, a difficulty arises, as when this ruling is given it would allow a doctor, a clergyman, a newspaper editor or any one of a different calling, but who cared for plants and grew a surplus to sell these—how often? Well, as often as he had a surplus! In England, where there is an enormous body of experienced and intelligent amateurs, many of them ought rightly to be classed as traders, i. e., commercial florists. Take the case of a celebrated clergyman who raised so many beautiful Narcissi. He was decidedly a trader, as he sold his novelties yearly at high prices. Another minister of the Gospel ministered to the people by breeding beautiful roses (which he sold for a consideration, not always trifling). A third "amateur" bought choice orchids, bred them with others equally select, raised seedlings, flowered

them, and when they were proved and the thoroughbreds selected, he would have a big auction sale in London.

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The worst kind of "amateur" is the one who tries to keep within the folds of the amateurs, yet who persistently sells. Sometimes it is actual surplus, often it is a surplus that has been patiently and patiently planned for. These people want to make their garden pay some of its expenses. I once worked in a garden where everything was sold that would bring a cent, from rhubarb to roses. Yet at the shows Mr. H—— was an amateur right enough, and a respected member of the council of the horticultural society, who was backed by friends "in the trade"—the latter had public nurseries and seed stores and couldn't very well pose as other than what they were. "Heigh ho," said Anthony Rowley.

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So far I'm an amateur. I'll tell you the reason: I'm too poor to employ even a wheelbarrow man. (Between ourselves, a boy with down on his chin isn't bad help if he's willing.) But this very day I have lifted quite a quantity of English ivy shoots that had grown long and rooted, and these I've laid in trenches for the winter. Anybody want to buy a stock next May? Same with golden privet, which friend Manda gets a quarter and fifty cents for a piece. Yes, where is the line to be drawn? In flower show schedules there might be three classes provided for: 1, commercial growers; 2, amateurs who employ professional gardeners; 3, amateurs who do *all* their own work. The latter are termed "cottagers" in the Old Country; while in most schedules those in class 2 are termed "private growers."

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Foxgloves are so beautiful and stately that most people like to have a colony in their garden. There is no garden or yard so small but that it can have some. There are pure white varieties and there are all shades of pink and carmine. A friend of mine has taken pains for years to select the tallest and best, as well as those in pleasing colors, by tying a small piece of bast (raffia) round the flower spike in June and July, when the plants are in bloom. Then he saved the seeds of these. The finest Foxgloves "The Onlooker" has seen were in the gardens of Maine. In that cool northern climate they simply revel. Whether the plants come through the winter out of doors I cannot say; most likely yes. They should be covered with dry straw or leaves. But they are safest in deep cold frames, if your garden is in a northern state. In the neighborhood of New York City

they only need some light litter thrown over them and nothing more.

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A friend in Virginia wants to grow violets, but doesn't know where or when to start. In that latitude violets will doubtless succeed in the open air, but, of course, it is better to have cold frames. The plants are set out in rich soil in September at the latest, and earlier if possible, and must be within six inches of the glass. Princess of Wales and Marie Louise are recommended. If the frame is filled with two feet of well packed tree leaves and fermented stable manure and has nine inches of soil or loam placed over this and the whole allowed to settle before planting, the violets will grow apace and ought to begin to yield an abundant crop this month (November). They will continue throwing up dozens of blooms all winter. Keep them watered, but don't close the frames at any time when the foliage is wet. A skillful waterer will irrigate between the rows of plants, these being one foot apart each way, unless they were small when set out, then they could be put closer. Soak well. Don't water merely on the surface or in driblets. When sharp frost occurs, the sashes should go on, but till then, back on all fine days and give ventilation whenever the open air temperature is above 40 degrees Fahr., less when its cold, more as the temperature rises. Manure water will scarcely be required, since the roots will go down to the substantial fare below. Bast mats, or straw mats, should be placed over the frames when the temperature gets to 16 or 18 degrees above zero.

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This is the season of the year when we love to pore over seed and nursery catalogues. There is much other literature, books that are interesting as well as instructive. Many of these are English, but we have several good ones that are true American. This readable class of garden book is increasing in number, and a good thing it is. Among those I have in mind of this type are: Mrs. Helena Rutherford Ely's "Hardy Garden" book; Charles Skinner's "Little Gardens"; Wilhelm Miller's "What England Can Teach About Gardening"; Mr. Horace McFarland's and Mrs. Francis King's recent books, as well as a heap of others that could be named. Together with these we want, of course, more serious works, or rather, I should say, reference works, like Bailey's Rule Book, Johnson's Dictionary (of which a new edition is now on the market), and other handy volumes. To the making of horticultural books there is no end. At a guess I should say that a man, if he were wealthy enough, could purchase twenty-five thousand different books on horticulture and closely allied subjects and then leave some over.

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A class of winter flowering Begonia that is almost new to our American gardens, but which they have seen and grown in the gardens of England for nearly twenty years past, is that with large trusses of big double and single flowers. These were first raised by John Heal, one of the foremen in the world's famous nursery establishment of James Veitch & Sons, of Chelsea, London. He crossed the beautiful pink single flowered Begonia Socotrana, which Prof. Isaac Bayley Balfour, of Edinburgh, found on the Island of Socotra, and which is fibrous rooted, with a summer-flowering tuberous rooted Begonia. I think the first two he exhibited were named Winter Cheer and Mrs. Heal. Both were fine crimson scarlet varieties with pyramids of flowers, very gracefully disposed, each bloom two and a half to three inches across. The first double one, at least the first pink double one, was named Julino. Since then there have been Saffron,

orange-red and russet colored forms, but none of these appear to be grown here yet. These Begonias are now appearing in some of the gardens of New England and the Atlantic States. One grower at Boston offers them for sale at retail. They last well and are undoubtedly gorgeous and meritorious. John Scheepers, in New York, has exhibited them, also William Tricker, of Arlington, N. J., possibly others as well. In most respects they can be treated the same as the tuberous Begonias; the one great point of difficulty that many growers find is in keeping them safely over the period between the passing of the flowers until they are to be started into new growth the next summer. As the bulbs or tubers are small, they perish if dried off wholly like the true tuberous Begonias. Remember, that these we are speaking of are semi-tuberous, a cross between a non-tuberous Begonia and one that did make a tuber. Therefore they should not be wholly dried; they should be rested by being kept quiescent, the soil dampish, yet not by any means moist. No amount of writing can tell exactly the conditions that are best; only experience can discover. It should be said that there are few cultivators who finish these plants to perfection, but when they are well grown they are worth going a long way to see.

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How about your supply of rhubarb? Until this year my stock has been all located in a position facing northwest, consequently the warming influence of the sun in spring was missed. To remedy this, a new plantation has been made, one-half the crop being in the sunniest, driest part of the garden, the other remaining as before. With the aid of a frame and some hot bed material, we look forward to having a dish or two of rhubarb a couple or three weeks earlier than usual in the coming year. Rhubarb is so excellent a diuretic and so palatable that its season is never found to be too long in our case.

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A few years ago, indeed, one might say two years ago, advertisements of apple fruits were unknown. The orange growers led the advertising campaign in the daily, weekly and monthly papers and magazines, but the apple growers, through their societies, quickly followed. We all know "Sunkist" oranges now; so do we know Hood River and Skookum apples. Good for the apple man! "An apple a day keeps the doctor away" quite a good bit. Every night yours truly eats an apple before bedtime. Some of the growers of choice vegetables under glass are also putting these up in attractive packages and are advertising them under copyright names. It used to be said, "Sweet are the uses of advertisements" (itself a parody), but now we can well say, "Sweet are these subjects of advertisement."

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A plant for blooming in late winter, one this writer has mentioned before, is Pelargonium Clorinda, one of Totty's introductions. It grows with the utmost freedom, has scented leaves and flowers that are bright rose pink, in good size clusters, plentifully produced. You can get young plants now to grow and have in bloom in March and onward.

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An everblooming Scarlet Sage should find favor. There is such a variety. It is named America, and hailed from Washington, D. C., but some of the plant firms may have it. Even in the cutting bench it blooms, but I don't say that is a merit there. A white "Scarlet Sage" (sounds like a white blackbird, and there is such a bird), is also an achievement of recent times. We may hear more of it.

Seeing that November has been so summer-like (up to this writing), a great deal of late planting of bulbs, hardy flowers, trees and shrubs has been done. Even now, November 11, the conditions are ideal for all kinds of hardy stock and even many summer plants are still in bloom. Don't forget yellow, white and blue Crocuses, blue Squills, Darwin Tulips and some of the white as well as (commoner) yellow Narcissi. Where Roses have been or are to be transplanted and still have their leaves on, these should be stripped off. This prevents the bark from shrivelling. Evergreen trees can be planted practically all winter, so long as they have big balls of soil which are kept intact.

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With reference to Foxgloves, mentioned in another paragraph, I find that the sturdiest and best plants are from self sown seedlings. Allow the old plants to sow their seeds just around their own base. If the soil is good, friable, with humic matter in it, the seedlings will grow apace and can remain through the winter where they are. Protect as suggested. In April, transplant them to their flowering quarters, or merely thin out if they are to bloom where they are. The flowering will be in June and July. Tobacco plants (*Nicotiana*) can be left over and will seed and come through in the same way. Shirley Poppies, Sweet Peas, *Nemophila* and many other annuals and biennials give very little trouble. Are you trying fall sown Sweet Peas as suggested in the last number?

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We are now well through the Chrysanthemum season again. It has been a good year, but not particularly eventful. That, however, is purely according to how one feels personally about the matter. There is but little evidence of the old "fever" that waxed mighty warm in November back five and twenty years ago or fewer years ago than that. Then the tremendous flowers of today, the Turners, Odessas, Vallis, Hopetoun, Kitchener and others were not known. They had big flowers then, but I think that the biggest of today are well ahead of the monsters of that time. For many years nothing approached Mme. Carnot for size, and its snowy masses of gracefully falling petals were assuredly "a sight for sair

een" (eyes). The finest of this year's stands have been Golden Champion, W. H. Waite, President Everitt (each new), William Turner, Meudon, Jas. Fraser, Odessa, F. S. Vallis, Rose Pockett, Lady Hopetoun, Donellan, Bob Pulling, Elberon, Mrs. R. C. Pulling, Earl Kitchener, Mrs. F. Lloyd Wiggs, Mrs. Gilbert Drabble, Mrs. J. P. Mitchell, Pockett's Crimson and H. E. Converse. We have seen few or none of Wells Late Pink which was so fine last year. Totty's and Smith's novelties of the last few seasons have been very good and reliable. The first named certainly has a winner in Golden Champion, one of the finest novelties for many years, bar none. The same grower advances Louisa Pockett (white) as finer, bigger, bolder than Turner. We'll "wait and see," as the British premier once said.

The advance of the singles and Anemones has been steady. A surprise awaits the land, generally, when those giant Anemones of Mr. Shaeffer's (shown at New York and neighborhood) get into commerce. Some charming varieties are obtainable in singles, friends, and they deserve to be taken up right away. Discard all your small flowered and medium ones and get the newer selections which are so bright, rich, handsome and long lasting. White Doty has proved its merits as a fine cut flower. It will be seen in all the shops within two years from now.

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Why don't small gardeners, by which is meant the possessors of gardens from 30 x 100 feet and upwards, plant fruit trees therein. Are we in America afraid to plant trees—fruit trees, evergreen trees and what not. Travel from Philadelphia to New York and far along the coast eastward, count the evergreen trees and plantations. You will have an easy job. Yet evergreens have every feature of beauty, shelter, shade and hardiness. They are no more difficult to success with than deciduous trees. True, they are often expensive, despite heavy importations. The nurserymen of this country are behind the times, far behind their marvelous opportunities. But as regards the planting of apple, pear, plum and peach trees—who does it; who thinks of it? Only those in regular charge of gardens; certainly not the suburbanite. Test the matter and see.

## Feed the Trees

**T**HE natural tree thrives, or at least exists, under natural conditions. But when man steps in and makes what he considers an improvement on nature's handiwork, he must expect to provide the improved conditions necessary to the existence of his improved product.

It was improved, and not natural, conditions and treatment that produced the first improvement, and these improved conditions and treatment must be continued if the improvement in the product is to continue. We are not trying to produce a natural product when we set out an orchard or plant a bush or fruit plant. We are attempting to improve upon what nature has provided. If you want natural fruit, you can find it on the wild crab, or the bitter, knotty seedling apple, the little, thin-fleshed seedling peach, the wild grape and the wild plum and strawberry.

It is because we want something better and different that we set improved varieties, and with those improved varieties we must provide improved conditions, and improved treatment of the plant or tree. Otherwise we get no improved product. Like produces like. If you neglect the tree, the tree will neglect you. It is a natural

consequence. In its natural state, in the forest, the tree has its needs supplied by nature. The soil is shaded and the natural growth of vegetation falling each year replenishes the plant food taken up by the growth of the tree, and all conditions necessary to growth and reproduction are provided by nature. But nature does not concern herself with the likes and dislikes of man.

When man demands an improved fruit he must provide the material and conditions. The natural tree can produce enough fruit to reproduce itself and support the birds and insects which naturally look to it for subsistence, in spite of its insect and fungous enemies, but it does not produce any great surplus for the use of civilized man. Man is endowed with the power to provide this surplus, through his selection and treatment of trees and plants, and he must do it or he don't get the surplus.

The natural tree has its food provided in the forest, but outside the forest it is in an unnatural location, and is in a great measure dependent upon man for its food. A tree is usually said to feed as far from its trunk as its branches reach. This is a great mistake, or at least only a partial truth, for a tree of ten or twelve years'

normal growth will put out feeding roots at least three or four times the length of its longest branch. Trees do not get much of their food close to the trunk. They absorb it through the little fibrous feeders scattered all along the larger roots, and most numerous near the extreme tips of the roots. It is almost impossible to trace these little feeders to their extreme end, and it is a mistake to suppose that the food for a tree should be placed within a foot or two of its base. In almost every orchard of ten years and older the feeding roots of the trees cover practically every inch of soil between the trees, and manure or other tree food should be scattered over the surface as evenly as you would place it on a meadow.

Probably the greatest mistake commonly made in feeding trees is to continue the feeding too late in the season. In one respect most trees are like children, they continue to feed when food is within their reach, regardless of consequences. A tree needs time to digest its food. This we commonly call "maturing the wood." If the tree is still feeding and making new and succulent growth when freezing weather comes, the wood will not be solid and dry enough to withstand the low temperature of a cold Winter, and we have the injury commonly known as winter-killing of the twigs and branches.

Therefore the necessity for knowledge and judgment in feeding a tree is the same as in feeding an animal. The only difference is that the results of bad feeding or starvation are not so quickly discernible in the case of the tree, and when these results do become apparent, most of us fail to attribute them to the right cause. In fact we often believe that there is no cause at all, or that it is something occult and mysterious.

It is generally conceded that fertilization and cultivation of fruit trees should not continue later than the first of August, and in the more northern sections, where Winters are severe and the growing season short, it is best to stop about the middle of July. Manure may be applied to the surface of the soil all through the Winter, if desired, and it can be worked into the ground all through the Spring and early Summer, when moisture conditions are suitable. But to take away a crop of fruit each year and give the tree nothing in return is unnatural, and failure is the sure result.

The man who makes the greatest success with trees is the one who studies them closest, learns their likes and dislikes, their needs and enemies. He finally comes to realize that they have many characteristics closely resembling the animal creation, and that they are in some respects just as susceptible to the effects of care and neglect.—*The Fruit Grower.*

#### HINTS ON TRANSPLANTING.

THE most unorthodox things (according to the books on gardening) have been done in my garden with the most extraordinarily successful results, but the one point I would impress on all gardeners and experimenters in gardening processes, writes E. P. Smart in *Canadian Florist*, is the imperative need of carefulness in planting and transplanting. The finest roots or bulbs carelessly or hurriedly planted will never give the best results. With care and some knowledge of the requirements and nature of roots, one can transplant successfully at any time during the growing season. Even rose bushes carefully lifted and transplanted after flowering, may be made to thrive in an astonishing way—but only as the result of care. In the case of roses this is seldom advisable or necessary, but I mention it as an example of what can be done and what has been done when the need arose.

My invariable method of transplanting roots, whether

of annuals or perennials, is, first of all, to have the ground well dug and mellow. I then make in the soft earth a hole deep enough to allow the tips of the roots to be placed in their natural position. This is next partly filled with earth and watered liberally, even lavishly. When the water is quite absorbed I fill up with earth above the level of the ground and press the earth firmly down around the stem of the plant with a trowel or hand. This latter is of great importance. In the case of larger roots tramping with the foot is the best method. This makes the plant firm and upright and prevents the air penetrating the earth and drying up the tender roots before they have got established. No watering on the surface is needed for a week or more—perhaps never.

As to bulbs, lilies and other kinds of bulbous plants, a long experience has shown that after the period of bloom is over and while the plant is in a decadent state, and later on in its dormant condition, nothing must be allowed to grow over the ground or even to shade it from the sunlight, else the bulbs deteriorate and the blossoms of the next year will be inferior, both in size and number, and if such conditions continue, the bulbs eventually die. This is often the reason why amateur gardeners fail with lilies of various kinds; also, with the handsome Crown Imperials which bloom in the early spring and are so liable to be overgrown later on. While speaking of bulbs, emphasis must be laid on the importance of deeper planting than usually prevails. Bulbs have a tendency to come towards the surface of the ground, consequently deep planting is necessary.

While Spring planting of roses is certainly most favored, I have found that bushes transplanted in late September or even November do excellently the following year; but in doing this, as in all else connected with the work of planting, I would reiterate and emphasize what I have said before: Carefulness, great carefulness in planting is the road to successful gardening.

#### WILD CUCUMBER VINE.

THE wild cucumber vine—*Echinocystis lobata*—is one of the quickest-growing annual climbing plants we have. It is useful for covering unsightly outhouses, high fences and arbors. It is very showy when in full bloom, the creamy-white flowers being borne in long racemes. The blossoms are followed by bladder-like fruits two inches long, which are covered with soft prickly spines. The fruit or seed pods are a never-failing source of interest to the children, who delight in making them burst.

On account of the thick leathery coat, the seed is very slow in germinating—in fact, I have known sowings to remain dormant in the soil from spring until the following spring, ere sprouting, writes George W. Kerr in *Country Gentleman*. Therefore, the only sure way to have a perfect stand of plants is to sow the seed in the Fall or early Winter, thus subjecting them to the influences of the snows and rains; then they will quickly germinate in early Spring.

In sowing cover the seed with not more than one inch of soil, and place them six inches apart. This will be ample to give you a solid mass of luxuriant growth. The only drawback to this useful vine is that should the soil ever become dry the leaves quickly become yellow at the bottom. To guard against this, give regular and copious supplies of water during periods of drought.

There is never any necessity of sowing seed the second year, as self-sown seedlings will appear in abundance. In spite of its precocious habit of self-sowing, there is no danger of its ever becoming a noxious weed as the seedlings not required are readily destroyed.

# The Gardener and His Profession

By W. N. Craig,\* Massachusetts.

I NEED not say how ancient and honorable is our calling, and surely the Almighty, when he placed our earliest forefathers in the Garden of Eden, must have given them a glimpse of Paradise itself. We their successors in these later years, while we may often complain of our lot, should remember that as tillers of the brown soil, we have at once the most lovable, fascinating and enthralling of professions. We work in the most wonderful laboratory in the world, and even though many of us may not have the scientific attainments we might wish, in spite of some discouragements, failures, and possible drawbacks, we know and feel as much of the great secret of life itself as those who spend countless hours reading and soliloquizing over protoplasm, and the essence of all being. We plant, prune, sow, and reap, of not only things horticultural, but faith and hope. We garner rugged natures, and given rude health, our sleep, in spite of unavoidable worries, is so sound and sweet, that frenzied financiers and moneyed kings would fain have the comparative freedom from care and restful repose which is ours.

The very word "gardener," to come back to the more practical part of our subject, is oftentimes a misnomer. The United States Census statistics state that gardeners outnumber florists over two to one. I do not know who are classed as gardeners. Probably jobbing gardeners, market gardeners, and the general handy men who earn some considerable portion of their income from caring for gardens, are included in this category. What I have to say will refer to only a small fractional part of this body, commonly known as private gardeners, but more correctly as professional gardeners.

The gardener is, or *should* be, not only one who is a florist, but very much more; he should have a good general knowledge of horticulture in its broadest sense, and this is not by any means all, for there are an increasing number of calls for men who are good gardeners but who in addition are capable of handling all details of estate management, and the man who is to fill these positions must be wide awake, energetic, eager to learn, and never satisfied to muddle along in any happy-go-lucky way, as is too often the case today.

To be a good practical gardener in itself requires a great deal of care and forethought; I doubt if there is any other occupation which requires one to have his senses more keenly alert. A trifling omission today, or a little oversight tomorrow may seem unimportant at the time, but may cause much worry and anxiety at a later date. One of the best friends a gardener can have is a carefully kept *diary* of operations, of the weather, time crops mature, etc. I was advised when a boy to keep one, and have continued it religiously, and I can honestly say that for the little time necessary to keep it, no gardener should be without it, particularly would I urge upon young men to do so.

I have often been glad in my early gardening days I had the rare good fortune to serve under one who was not only a good practical gardener, but a good botanist. I still highly prize a collection of 420 varieties of the British flora I collected after work hours, while I was still a journeyman. I wish I knew *more* botany; it is of great help to every practical gardener. We often hear the remark that good botanists never make good gardeners. This is not at all true; where could we get a better example of both than in one of our fellow members—the respected superintendent of the Harvard

Botanical Gardens (Mr. Cameron). The value of botany may not be very apparent while you are young, but its knowledge will be very helpful as you advance in life.

The majority of us have not had the advantage of college, or even high school training; and it says much for the grit, perseverance, and skill of many who, spite of these educational drawbacks, have risen to good positions and are in many cases leaders in their profession. Times, however, are changing, new conditions have arisen and now face us; and we must equip ourselves to meet them. I refer more particularly to the so-called college graduates who are being trained to fill posts such as we now occupy.

I believe largely in a college course, and that the young man who can have both a horticultural and agricultural training in such colleges as Amherst or Cornell, while they may gain less of the really practical work than on a private estate, will gather, nevertheless, a good theoretical knowledge of the fundamentals of our profession, and will, in many cases, be more eager for knowledge and quicker to learn than those who have started at the foot of the ladder and are slowly but diligently plodding along in the regulation way. I have sufficient faith in the college course to recommend it to any who are able to send their boys there. Certainly, if any of my own boys show a sincere desire to follow in their father's profession, I would feel it were money well expended to send them there.

I think, however, that the college bogy has been held up too much. I don't believe that a college course at all fits a man for assuming charge of even a small estate. The drawbacks in our agricultural colleges today are, that really practical men are to a large degree lacking. I don't mean to infer that the professors are not bright, intelligent men; but how many of them have had any great degree of practical horticultural training? When our colleges select men who are first-class *growers* to have charge of their greenhouses and grounds, men who will be free from petty interferences, from the more purely theoretical teachers, then they will turn out young men who can with greater confidence apply for positions where practical worth is needed. Even then, I doubt if such men would be competent to take charge of any positions before spending a year or two on some private estate.

Let us, however, be fair; let us be tolerant; remember that these young American boys should have a helping hand and not be sneered at, rebuffed, and discouraged. Do not forget that, while we may pass through life without a college course, in the years that are coming the need of more scientific attainments will be greater than now, and botany, chemistry, and other essentials will be much more necessary. The practical gardener of the future, the estate manager of the future, must know these things, and he who thinks otherwise will be woefully left in the procession.

Then we have, or may have, competition from another source. I refer now to the so-called landscape gardeners, or architects, as some prefer to call themselves. To some of these, men on a high plane, with a national reputation, we would all be ready to doff our hats; but there are now a veritable flood of these embryo landscape gardeners, female as well as male, being turned loose on suffering humanity. I don't refer for a moment to the jobbing gardener or florist who has the magic words "landscape gardener" printed on his letterhead, but to the more cultured product of Amherst, Technology, and Harvard.

Situated where I am, I have abundant opportunities to see and study these rising, active, and intelligent young men. They are being turned out in such numbers that I wonder what must become of them all. Now, I have noted that nearly all these youths, and their teachers, can talk pleasingly on landscape designs, but that so far as practical *gardening* is concerned, they know very little indeed. Yet these men are intruding themselves upon those who have forgotten more of horticulture than their new fledged landscape artists know, and in not a few cases are allowed to draw plans, make changes, and suggest or even superintend plantings for which they are grossly unfitted. I think I am safe in saying that not one landscape gardener, architect, or artist—choose whatever term you like best—in ten, is competent to draw up plans, suggest proper plantings, and see such carried out.

I will take up another question, one which is of vital importance to everyone. I refer to gardeners' remunerations. I know many gardeners are getting too small a salary for the work they are doing. I know also that others are overpaid for the little they do and produce. I know further that on an average the scale of wages may seem low compared with that secured in other professions where a comparatively low degree of skill is needed. But conditions have much improved in 25 years, the rate of remuneration has advanced, and I believe the average practical gardener is, on the whole, more appreciated than a quarter of a century ago. We must always remember that gardening is more or less of a luxury; we cannot fix or regulate salaries by any trades union, co-operative or other method: any such efforts would prove disastrous to our profession.

We can, however, instill in the minds of our employers that confidence, and almost intimate relationship, which should exist between employer and employee. Such noted British patrons of horticulture as the Duke of Portland, Sir George Holford, the Hon. Vicary Gibbs, Sir Jeremiah Colman, and others I might name, look upon, and speak of their head gardeners as friends rather than employees, and are not afraid to say so on public occasions, when both are present. I feel we are approaching in some measure that condition here. Once real confidence exists, wages will regulate themselves. Let us do our work so well that our employers will feel that an advance in salary is well merited. All employers are not equally appreciative, however; some there are who give praise grudgingly and find fault unstintedly. It is not necessary, however, for any first-class gardener to continue indefinitely with such, for there are many kindly and appreciative employers who would not starve the very souls of their employees for want of a few kind words, as some are doing.

Now, fellow members, you may not believe it, but I do, that the principal reason why a great many of our members make no headway, is, because they fall considerably below the requirements of their employers. They don't measure up to their opportunities; in short, they are stand-pats, and not progressives. I feel also that our profession is retarded, and seriously retarded, by a large proportion of the men within its ranks. There should be a weeding out of this incompetent and undesirable material. How it can best be accomplished, I cannot say. Many have no right to the name of gardener. Such men should *never* be recommended to positions of trust by those who are asked to fill them.

Co-operation is in the air, and here I can see hopes of much benefit to our craft. The National Association of Gardeners is accomplishing a good work, not only for its own members, but the profession generally; and I advise every gardener not yet a member, to join it. This is the only purely private gardeners' national asso-

ciation in America, and the only one, in my estimation, which can be of real benefit to our members. While we have the friendliest of all feelings for the various trade bodies—I belong to at least five of these myself—and are always willing to help them in every possible way, we must remember that they have their own problems to face. We also have others fully as complex. We cannot in any trade society get that sympathy and ready support that is forthcoming in a body largely confined to practical gardeners; therefore, if we can belong to but one national society, let it be the National Association of Gardeners.

As each year rolls on, our perspective changes, and I want to say that it is changing very fast in favor of outdoor horticulture. I am not underestimating the value of greenhouses; they are, however, not of vital importance; many first-class places have little glass, some none at all; probably these greenhouses are visited a few times yearly, at most. They serve their purpose, but are invariably placed in as inconspicuous a place as possible, so as not to be a blot on the landscape.

Now, the outdoor department is ever in view, and more men should equip themselves to handle this part effectively. Trees and shrubs, their proper planting and care; hardy herbaceous plants; bulbs, both naturally and formally planted; tennis courts, their formation and care; fruit trees and their care; tree surgery, including both pruning and cement patching; spraying, now of vast importance; proper rotation of farm and garden crops; live stock and their care; bird protection—our winged aerial fleet is of supreme importance—these are a few subjects we should all be conversant with.

Then again, do not let us give every moment to our estates; we need some relaxation, such as the fraternal orders offer us; but let us, wherever possible, be of some little use to the community in which we reside; we can all assist in civic betterment, by aiding in the home and school garden movement, by encouraging the proper planting and caring of trees on our streets, by helping along the public grounds movements, and in other little ways trying to make conditions more pleasurable for young and old. We will get no salary for this, but there is the satisfaction of knowing that you are doing good to others.

I have often heard gardeners speak contemptuously of book learning, and have even heard some say that they never read a horticultural paper. Such men are to be pitied—they are never found in the van of progress. Our American horticultural papers may not be all that private gardeners could wish them to be, but they are filling their field acceptably, and every gardener should patronize one or more of them. Their price is low, and none of us are so advanced that we cannot learn something each week if we will do a little careful reading. I wish more gardeners would send communications to the horticultural press, as is done in Europe; I am sure the editors of all the papers would welcome such.

I want to see our noble profession better recognized than it is today, to see its craftsmen more looked up to and esteemed, to see a better feeling existing between employer and employee. Let us all, therefore, labor unitedly to seek each others' welfare in a better grasping of the needs of our calling, and try to be of special help to those who need our aid the most, and remember that we who are constantly working assiduously in Nature's boundless workshop are working at the same time very close to the great Creator of all life; therefore let our lives be as harmoniously beautiful and bountiful as are the works of Nature's God.

*Extracts from a paper read before the Gardeners' and Florists' Club of Boston, and republished by request.*



## TIARELLA CORDIFOLIA.

ALTHOUGH the Foam Flower, as the subject of this note is popularly called, is one of our "oldest inhabitants," it is but rarely that we come across it in modern gardens.

Its primary charm, as its English name suggests, is its multitude of tiny flowers, which cover the plant with a milky whiteness from April to June. When growing in its native soil—the glens of the Canadian Rockies—its large, heart-shaped leaves often carpet wide areas with a dense growth of dappled green. But when the flowers appear, as they do quickly, they look at a little distance as if a drift of snow had been forgotten by the returning sun. *T. cordifolia* is a good rockwork subject, as it does not grow more than 6 inches to 8 inches high. Though not at all fastidious, it should be given a soil of sandy peat, well drained, and an aspect in which it will be screened from the midday sun. In a word, if you remember that it is a Saxifrage and treat it as you would one of its Mossy relations, it will not complain.



*The Foam Flower (Tiarella Cordifolia)*

The Foam Flower is also an admirable edging plant and one that may be used with very pleasing results in carpeting the later bulbs and other spring bedders. In this sphere it affords a delightful change from the eternal *Arabis* and *Forget-me-not*. As a pot plant in the greenhouse it is said to force and do well either by itself or in company with bulbs and other early bloomers. Propagation is easily effected either by division or by the little summer runners, which are sometimes produced rather too abundantly in favorable weather and soil. Spring planting (March to April) is usually recommended, but this is not at all an essential to success.—*The Garden*. (English.)

PILLARS VERSUS PERGOLAS FOR  
RAMBLING ROSES.

NOW that rambling roses play such an important part in garden decoration, and varieties increase annually, with some improvement in certain respects upon older varieties, it is well to consider carefully which is the best method of displaying their various qualities.

A few years ago, covering pergolas with rambling roses was considered the best method of display. From observation and experience, I have come to the conclusion that this system of training the plants is not absolutely the best, writes E. Molyneux in *Gardeners' Magazine* (English). The chief objection is that the principal flowering portion of the plants is on the top of the pergola, where, in the majority of instances, it cannot be

seen to advantage. Pergolas, as a rule, are not less than 8 feet high, and usually as much in width, so, excepting the end plants and the portions which hang downwards, the remainder of the roses cannot be seen, and thus the major portion of the display is lost to view.

I know one garden owner who has a handsome pergola covered with roses, and he felt this loss of beauty so much that he built a high platform at one end, with a staircase, so that he and his friends could admire the whole from above.

Rambling roses lend themselves so well to an all-round training of their shoots that, in my opinion, the pillar method is the most advantageous. There are so many sites in a garden, too, where pillars can be placed to advantage; a favorite place is at the back of a herbaceous border, where the latter is arranged on each side of a path. Pillars from 12 feet to 14 feet high, when perfectly covered, provide a brilliant display. In the shrubberies they are also appreciated, especially when the latter are mainly composed of evergreens. The deep green of *Thuja Lobbi*, or the various *Cupressus*, *Pines*, etc., make a splendid foil to the brilliantly-colored roses, of which there are so many now in cultivation. Judiciously placed among dwarf-growing roses in beds or borders, pillars are an advantage, breaking up the stiff, flat appearance of the whole.

A favorable place for pillar roses is on grass, in recesses, about the lawn, where they form surprise objects, and nowhere do they display their qualities better than here. There are two methods of training pillar roses. There is the use of single poles and of tripods, the latter necessitating the employment of three plants, as against one for a single pole. The tripod method affords an opportunity to provide a bold display of any special variety in a suitable site. But all these suggestions as to site and method of training are of no consequence if the cultural conditions, especially as to pruning, are not correct.

## EPIGÆA REPENS.

THE trailing arbutus (*Epigæa repens*), although a common native plant in cool woods throughout the north and northeastern States, usually does not do well when attempts are made to take it from its natural conditions and place it under garden conditions. Unlike most ericaceous plants, it grows in areas where lime is present in the soil, for the writer has seen it thriving over large areas of limestone regions. It is also common in regions where there is no lime in the soil. Usually it is found at its best in sandy loam, on a gravelly, well-drained subsoil, under partial shade, with its roots penetrating a cover of leaf soil or humus. The only thing to do is to try and imitate these conditions. In removing it from its native haunts, dense tufts of low growing, and apparently your plants should be selected. These should be lifted intact and to such a depth that the roots are not in the least disturbed and placed in conditions in the home grounds or garden, exactly similar to those from which they were taken. To place the plants in ordinary herbaceous borders and cultivate them in the same way as columbines, campanulas, irises, etc., certainly means failure. If there is not a cool "woody" corner on the grounds, select some sloping corner as near as possible to these conditions, well drained, cool and partially shaded; place the tufts in holes that equally fit them and leave them undisturbed. Of course, they must not be choked out with grass or coarse weeds. If these appear they should be hand-weeded. In dry weather water the plants occasionally. In Winter give a little mulching of leaves.—*American Florist*.

# Marble Work in the Garden

By D. C. Gale, Vermont.

EVERY one knows something about the long and honorable record that marble has made. It is almost impossible to take up a volume of history, or, indeed, a book of any kind without bringing into prominence some passing reference to the stone that has had so much to do with the building of the nations. Even in the Good Book, one may turn to the first chapter of Kings and read how the Temple of Solomon was built out of white marble, taken from quarries outside the Damascus Gate.

The famous epigram of Caesar Augustus, "I found Rome mud and left it marble," gives forceful expression to the attitude of those ancient times. Marble stood for beauty and attractiveness. It was a hand in hand with all the worshippers of art. It was classed with the diamond and other precious stones as one of the symbols of enduring prosperity.

"The position of marble among building materials is a unique one," writes Patrick Calvert in the *American Architect*, "for in its strength and durability are united to a beauty of surface, color and texture that is infinite in range; and this pre-eminence has not only been fully recognized by ancient and modern architects, but has, in large measure, contributed to the historical development of the art. In firmness of structure and almost imperishable nature few other materials bear comparison to it, and these fail utterly when comparison is extended to include variety of surface beauty. The most famous buildings of antiquity, the Parthenon and Erechtheion at Athens, the temples and

palaces of Rome, St. Mark's and St. Peter's of the Renaissance, owe their charm of color and delicacy of detail to the use of marble. The oriental luxury of the Court of Constantinople, the palaces of the conquering

Moors at Granada and those of the Grand Monarch at Versailles—all are embellished with this material which also expresses appropriately the most dignified and elegant conception of modern architects. Not only are the public buildings and costly residences of today enriched with marble, but, in practically every structure of any size, it is used in some form or other."

It is not at all strange, therefore, that marble should be appropriated to the needs of parks and gardens. The custom was inaugurated many centuries ago. The wealthy families of the old world gave almost as much thought to the garden as to the house itself. Nor was any

element allowed to enter it that might detract from its dignity and refinement. Nature was not only the instructor, but the high priestess: her rules were inviolable.

Marble was admitted because it is never obtrusive or unduly conspicuous. It takes its place naturally in the most delicate of settings. It is just as much a part of nature as the shrubs or greenward and yet, while it is ever subservient to the harmony of growing things, it is none the less rich in individuality and distinctiveness.

"In a formal garden," to quote from Stone, "every bit of stone work counts toward the desired effect whether it be



The Shelter House on the Thompson Estate, Canandaigua, N. Y.



The Swimming Pool on the Thompson Estate, Canandaigua, N. Y.



*Sunken Garden on the Jennings Estate, Fairfield, Conn.*

a balustered terrace or a colonnade, a tea house or a pergola, a spouting fountain or a lily pond, or even nothing more pretentious than a sun-dial or a simple pedestal and bust. Indeed, a tiled path or a coping for parterres will afford grateful and artistic contrast from the greenery and floral bloom. It is a welcome sign of the growth of the public taste that even in many of the rather humble suburban homes, one can see strivings for well ordered and formal effects by the introduction of stone work—steps or seats, a marble urn for flowers, or the like. The heedless and unthinking might perhaps say that they preferred nature unadorned, but this is just what they cannot have in the surroundings of the average dwelling. The closely clipped lawns, the trimmed hedges, the paved pathways, the formal beds of flowers—all of these suggest artificiality, and a bit of well-contrived masonry and stone carving adds the one touch that is necessary to render them most alluring."

In the early days of this country, people were concerned chiefly about building plans. Landscape architecture was known only by name to a majority of home makers. The old colonial houses, notwithstanding their impressive quaintness and originality, were not of a kind that called for a skillfully designed background; they needed nothing better than the old fashioned garden with its riot of stiffly set flowers, broken here and there by loaded trellises and uncurbed vines.

Modern homes, particularly those of the more imposing type, call for studios and masterful treatment. The development of the grounds is no longer left in the hands of an understudy; it is turned over to the

expert. Oftentimes the garden represents an expenditure that is only a step behind the cost of the house. This change can be traced to a number of causes. There is more money to be spent for one thing; millions are now going into residences where once there were only thousands. Furthermore, the tendency of present day life is toward the open. Each year finds the garden delegated to a broader field of service, and with the enlargement of its functions has come the desire to make it equal to the occasion.

The transformation has been notably apparent in country estates. Small gardens open the way for seats and vases, steps, figures, or, perhaps, sun-dials and gazing globes, but the larger grounds, in addition to all these accessories, provide space for bridges or swimming pools, drinking fountains, bird baths, shelter houses and numerous other stone products, all of which may be made to contribute generously to the charm of the countryside.

Many of these forms of marble work have been incorporated in the grounds of the Thompson Estate at Canandaigua, N. Y. Perhaps, the swimming pool should be mentioned first, as that would, no doubt, be considered the dominant feature of the picture. It is commodious in the extreme and its covered portions, equipped as they are with drinking fountain, seats, figures and pedestals, have a peculiar attractiveness that is not often equalled in structures of this type. Vying with the swimming pool in interest, stand the shelter houses, set back against a drapery of foliage. These also are supplied with seats, vases and figures, and outlined by rows of shapely columns. The approach to the residence includes marble



*Marble Garden Ornaments in Proctor Park, Utica, N. Y.*



*Bridge on the Bourne Estate, Oakdale, N. Y.*

steps and balusters arranged in unique fashion and still further accentuated by the various sculptured creations. (See cover illustration.)

The natatorium which was built for the George J. Gould grounds, at Lakewood, N. J., is of another pattern, and yet it is no less noteworthy, and it is supported by marble columns that are fully as sightly and imposing. Many tons of marble have been set in place on the Gould property. It appears in the long stretches of railing and wall work, in the expansive sweep of the enclosures, in the arches and pillars of the bridge. On every hand is the subdued harmony that may be gained through intelligent manipulation of natural stone.

Among the many splendid residences of Long Island stands the Bourne residence at Oakdale. It rises in the midst of an estate of five hundred acres. Much has been said in commendation of this admirably planned home, an old Colonial mansion brought down to modern times, and many eyes have been drawn to the bridge on these premises, with its masses of brick and marble knit together with a firmness and ingenuity that will defy all the batteries of the seasons that are yet to come.

Of a somewhat similar cast, although placed amid less luxurious environment, is the new bridge at Proctor, Vt., a marble structure which spans the historic Otter Creek River at a point that was often traversed by Ethan Allen and his stalwart companions in arms. It stands on the site of a covered wooden bridge, a model that was once very common in this country. As one may learn from the bronze tablet, this Vermont landmark is dedicated to the memory of the late Governor Proctor.

As it is with bridges, so it is with less pretentious attempts at decoration. In the sunken gardens of the Jennings estate at Fairfield, Conn., and on the grounds adjoining the artificial lake at the Proctor Park, Utica, N. Y., there has been only a limited use of marble, but every piece has been wisely placed. The Proctor gardens have simply a few seats and vases of which to boast, and many other modest examples might be recalled wherein a little stone work has been made to serve big purposes. It is not true that marble is beyond the reach of the small garden. Many a little plot might be turned into a richer and more beautiful enclosure through a judicious selection of the right kind of stone.

Elaborate conceptions in marble will always be, more or less, expensive. They can never be cheap, for they represent a lavish amount of material and labor. But there are any number of simple, inexpensive pieces that are altogether worth while—a seat or a sun-dial, perhaps, or maybe nothing more than a plainly molded pedestal or vase.

It was nearly a century and a half ago that the first marble quarries were opened in this country, and, in the years that have intervened, American machinery and methods have tended to standardize and give stability to the output. Nor is that all. The buyers of the nation have been brought to see the worth of their own products; they have learned that the Old World can give them nothing better than the stone which can be dug out of our own soil. It should be a matter of pride to all believers in the "Made in America" slogan, that the bulk of the marble described in this sketch was quarried in the mountains of Vermont.

#### MISCELLANEOUS PLANTS FOR THE HOUSE.

ONLY plants of the same general character should be placed in window boxes, since plants of differ-

ent kinds require different treatment. Begonias are about the only plants that may be expected to flower in a window box. For the most part foliage alone must be depended upon as the contribution of the indoor plants to the attractiveness of the room. Among the plants which may be grown for foliage for window boxes are ferns, geraniums, Kenilworth ivy, smilax and aspidistra. The latter plant is especially valuable as a window box plant as it will thrive in spite of considerable neglect, drought and dust. Direct sunlight also is not required by this adaptable plant.

An advantage in growing plants in pots instead of in boxes is that a larger variety can be grown since different treatment may be given. In addition to the plants already mentioned for growing in window boxes, palms, rubber plants, and cacti may be grown in pots. It is advisable in growing all these plants to make use of regular florists' potting soil, made up of 1 part compost, 1 part good loam and 1 part sand. It is well to add one-twentieth part bone meal to the mixture.

From time to time examinations should be given to see whether the plants require repotting. This is done when the soil is moist by inverting the plants and tapping the pot until it can be lifted off. If the surface of the ball of earth is entirely covered with roots, the plants should be placed in a larger pot, soil being firmed into the spaces.

It is possible sometimes to force potted geraniums to bloom indoors during the Winter. To accomplish this, it is necessary to pot them in a way to restrict root growth and to keep them fairly dry.

Potted ferns require close care. They should be kept slightly moist at all times, but should not be over-watered. Occasionally the potted ferns should be placed in a tub and given a bath with weak suds made from a good grade of soap. Besides removing accumulations of dust from the fronds, the baths remove minute insect parasites. The suds must be rinsed off immediately.

Potted palms should be regularly watered, but not kept moist. While small, the plants should be washed like ferns. When too large for such treatment, the tops should be sprayed frequently with clear water. Small quantities of bone meal and wood ashes should be stirred into the soil occasionally, or the plants may be watered now and then with manure water.

Rubber plants should be treated much as are palms, but the soil should be kept somewhat more moist. Oleanders may be treated practically like palms. Aspidistras require less attention than the other plants mentioned. They should be kept rather drier than palms and rubber plants. A dry, sandy soil is required for cacti.—*United States Department of Agriculture Bulletin.*

A very good illustration of hardiness may be observed in the well known California Privet. This plant is say quite hardy as far north as New York, yet it is a well known fact that it will get winter killed in much more southern localities, especially if it is planted in heavy or undrained soil. Ripening of the wood has a very important bearing on hardiness. If a plant continues to grow until very late in the fall the chances are that the branches will be tender and get killed back, whereas if the wood thoroughly ripens up before frost it will remain sound to the tips even during the most severe weather.

Severe winter killing may be always expected after late warm fall that keeps the sap moving.

# In the Greenhouse Month to Month

By W. R. Fowkes, New York.

WE are now in the midst of the dull period of the year, and more interest will be centered indoors—the frost having completed its work outdoors, will give more time to the glass houses. The chrysanthemum shows will soon be over and much knowledge will have been gained by visits to the shows, where large and small growers of these horticultural gems have made displays. Many of the places so prosperous today owe their beginning to the initiative and energy of the enthusiasts in each community who commenced these wonderful exhibitions of flowers, giving pleasure to thousands of people.

Many persons are somewhat at a loss as to what to grow to fill the vacancy caused by the end of the chrysanthemums, but this is where the bulbs come in useful as well as sweet peas. They all like the cool temperature of the chrysanthemum house. The Mignonette that was sown last month in pots can be planted on the side benches, using rich soil containing plenty of rotten cow manure; plant eight or nine inches apart and thin out seedlings to one plant and cultivate lightly between the plants.

The pot fruit trees will have their place in this house later on, so do not plant anything permanently in the center benches or much profit will be lost. Azaleas can now be placed in this department and kept until wanted in bloom, which can be done by taking a few as required into the warmest department.

Keep the atmosphere of the houses sweet. Sprinkle air slacked lime under the benches and around dark and damp places. Many plants quickly become infested with fungus diseases unless their abode is kept clean and sweet.

Fumigation is the order of the day on most places, but it has attendant evils resulting from closing the houses tight, and the strong fumes are injurious to soft wooded plants. Mignonettes should never be fumigated. Take also the roses after fumigating; it will be noticed that many of the robust lungs of the plant, the leaves so necessary to the welfare of the future crop of flowers, become yellow and fall off, and, denuded of foliage, the plant cannot be healthy. The better remedy is to spray with insecticides. The same applies to the use of sulphur on the pipes. This old remedy causes the frequent loss of many valuable leaves. In the carnation house it is bad for the flowers, for they will quickly go to sleep. It is far better to spray with insecticides and fungicides.

Sow this month a pinch of seed of *Clarkia*. The new varieties advertised by reliable seedsmen in the *CHRONICLE* are exceedingly useful; also *Schizanthus* should be sown. Both require cool treatment and light soil for the seedlings. *Calendulas* commonly called "Pot Marigold" are coming into favor again as pot plants, while for Easter pots and pans a good strain of pansy can be sown that will prove a good inexpensive addition to the cool greenhouse. All watering in the houses must be done on mornings, and with the exception of the palm house should never be damped down after twelve noon.

Roses will readily become infested with fungus diseases if grown in a muggy atmosphere. When plants are watered it should be done thoroughly and in a careful manner, for the basis of all successful plant culture is founded on careful and proper watering. Orchids need not be sprayed now, but in order to keep healthy they should be well cleansed with a soft sponge and water.

If scale is prevalent use the insecticide as well. Lily of the Valley can be had in flower daily if a few are planted in pots each week and grown in the palm house.

All bulbous plants such as *Caladiums* and *Gloxinias* that have completed their growth and work and have been ripened properly, must now be placed in their resting quarters. *Caladiums* can be kept in pots and placed on their side under the rose bench. Turn out and examine occasionally and if signs of decay are visible cut the bad parts away and cover with sulphur. *Gloxinias* can be turned out of pots and cleaned and the bulbs will keep in bags of sand in a temperature not lower than forty-five degrees, a dry atmosphere being necessary.

*Freesias* which were planted in August will be rapidly growing and will require support to keep them erect or their full value will be lost. Neat stakes fifteen or eighteen inches long are best for the purpose. Tie carefully and avoid cutting the growth. Keep cool and well up to the glass to induce a stocky growth.

*Hyacinths* and *Narcissus* will be greatly benefited by liquid manure. The proper way to make this is to place a bushel of fresh cow manure in a bag to which add ten pounds of dried blood in a barrel containing fifty gallons of water.

*Cyclamen* will be helped by a watering once weekly with soot water. Make in the same manner as the liquid manure. Give *Azaleas* Clay's Fertilizer and soot water, but on no account use animal manures or their fine fibrous roots will be destroyed.

## GROWING ROSES FROM SEEDS.

WHEN plants are propagated from cuttings, the progeny is almost invariably found to be similar to the parent plant. When they are raised from seed a stronger tendency exists towards the production of sports or varieties having qualities different from the plants which produced the seed. Although I have never actually experimented myself, I have heard it stated on good authority that a nectarine stone may put forth a peach tree and vice versa. There is one thing that we all know from experience; that there are flowers whose color we cannot tell with certainty until they are actually in bloom. I once saw a laburnum tree on which the flowers were of three or four distinct colors, including yellow, white and mauve. *Ivies* and *hollies* again produce eccentric sports. With roses, as with chrysanthemums, we may at any time meet with a pleasant surprise.

Some roses produce seed capsules very freely, and at this time of the year they may be noticed adding a charm to the place which recently gloried in a galaxy of bloom. The flowers have probably been fertilized by insects during the Summer, and the fruit, or "hips" as they are sometimes called, will be filled with the rough bodies known as seeds. There is no better illustration of this than the beautiful Japanese rose (*Rosa rugosa*), the lovely flowers of which are superseded in the Autumn by brilliant clusters of orange-red berries (the seed pods), which are almost, if not quite, as ornamental as the blooms themselves. Let these berries ripen until they are a deep red. Then gather; open them with the fingers and collect the seeds on paper. The seed should be preserved in a cool, dark place, where it will not become too dry. In fact, the hips may be left as gathered until the time comes for sowing.

In November or December make up a compost con-

sisting of two parts leaf mould, one part sand, and a liberal dressing of small pieces of charcoal. Place a good drainage of crocks in a shallow seed pan, then a three-inch layer of the prepared compost, pressing it firmly into the pan. On this scatter the seeds thinly, and as evenly as possible—say, at intervals of two or three inches, in order to avoid too early transplanting. Cover the seeds to a depth of about half an inch with a mixture of sifted compost. The surface should then be given a watering with a fine stream so as not to disturb the soil, and the pan placed in a box of moss. Cover the whole with a piece of glass. Keep the moss damp as occasion demands, and turn the glass over twice a day. In about six weeks the seedlings will appear. As they begin to peep through the soil, a little more ventilation must be given until, as they grow, the box is left entirely open. If possible, place on a shelf near the roof of the greenhouse, or close to the glass in a frame. In the youthful stages they will require careful treatment to prevent damping off. Fresh air and moderate supplies of tepid water are essential to success.

When the third or fourth leaf shows itself, the little plants may be potted up singly in pots, or hardened off and placed under protective twigs in the open. If the grower's ambition is the production of a new world-famous rose, he had better keep them in pots until he at least sees what the fates have bestowed upon him. For this purpose, the usual greenhouse treatment is all that is necessary for the tiny plants. When he gets his first blossom in the second Spring, he can decide what should be done.

The first blossom these maiden roses yield is unlikely to be satisfactory in point of size. Color, brilliance, form and character, however, should be the criterions of merit. If the shrub promises to give satisfaction, it can be budded on to a wild stock, or grown in the rich soil of the garden, where the individual flowers will be found to increase in magnitude, and the other qualities to remain constant. If they turn out to be exact replicas of the parent, they can be employed to fill up blanks in the rose border, or to replace bushes that are old and worn out.

A greenhouse with a gentle heat is no doubt more satisfactory in raising roses from seed. A frame is quite good enough, though not so easily managed. A water must be kept upon the young plants for the appearance of the many enemies that attack them. The green-fly will appear, as if by magic, upon the tender young shoots. Spray with nicotine or some such substance.—*Canadian Florist.*

#### PACHYSANDRA FOR SHADY PLACES

THE constant inquiry of the estate owner—"What can I plant in those shady places where grass will not grow?" is satisfactorily answered by advising the use of *Pachysandra terminalis*, a beautiful evergreen plant growing six inches high, perfectly hardy and enduring dense shade and dry locations as well as flourishing in direct sunlight or moist positions.

Although introduced into this country from Japan some years ago, its full value as a ground cover for shady places does not seem to have become known, possibly owing to the difficulty of propagation and the fact that the unusual method of planting and preparation of the soil are at fault.

The writer, after numerous experiments, finds that the planting of rooted cuttings directly into the permanent positions is much the best method of obtaining quick and lasting effects, as the plants then grow to an

even height and quickly fill up all open spaces with their beautiful green foliage, particularly if the top is pinched out the year following the planting, causing from four to six new shoots to break from the crown, whereas with an old field grown plant the tendency is to assume more of a scraggy effect.

The ground should be first dug and properly manured and fertilized and the rooted cuttings planted about six inches apart, given a good watering and then, if possible, an inch deep mulch of leaf mold or humus. If this is done no further care is required except the suggested pinching the following year, although occasional fertilization is beneficial.

Plantings of *Pachysandra* made in this way have proven highly successful under Beech and other trees where such plants as *Periwinkle* and *English Ivy* were failures. Particularly beautiful effects may be obtained by bulb plantings made among the *Pachysandra* to remain year after year.

This planting of such a ground cover adds not only to the beauty of an estate by covering the unsightly bare places with a sheet of deep green in strong contrast to the green of the lawns and tree foliage, but is of extreme benefit to the trees or shrubs under which it is planted, as the falling leaves of the trees and shrubs may remain among the *Pachysandra* providing a very beneficial mulch for both.

*Pachysandra* is also a very suitable border for walks and flower beds, as it is of a low even growth at all times and may be easily kept within bounds.—*Exchange.*

#### WATERING RHODODENDRON BEDS.

WE have often referred to the importance of protecting *Rhododendrons* and all broad-leaved evergreens from the sun and high winds in winter, but at this time we wish to make special mention of the necessity of seeing that there is abundance of moisture at the roots. It is from lack of this that much of the loss of plants in winter occurs. At the present time, where the writer lives, the ground could not be in worse condition should winter set in early; it is so very dry. Evergreens of all kinds need moisture at the root as much in winter as in summer; their foliage demands it all the time. Without it the plant dies or is greatly injured. Unthinkingly it is put down to "the winter," while the fact is that just the same thing would have happened in the summer, the plant or plants having died from lack of water. But few persons realize this, so applying water is never thought of in winter.

The present is the time to see that beds of shallow rooting plants of all kind, evergreen or deciduous, are well supplied with water. Do not cease watering because summer is over, but soak the ground around them thoroughly at once, not waiting until the leaves commence to show the dryness. Turn the hose on *Rhododendron* and other beds whenever the soil is dry, and at once before freezings come, so that the plants can procure all the moisture they require at once. Then later, when winter is about at hand, place a mulch over the ground to prevent the escape of moisture.

Evergreens of all sorts particularly need this attention, the shallow rooting ones the most. Lack of moisture below ground is more often responsible for the death of evergreens in winter than anything above it is. The writer has known of large deciduous forest trees on a hillside to be killed in winter when winter set in on them with the soil very dry. Keep in mind that plants must have water in winter as well as in summer.—*Exchange.*

## December's Work in the Garden

By Henry Gibson, Pennsylvania

THERE is but little that can be done in this department this month, save to continue cleaning up, and making the place presentable before snow comes to put an end to these operations. Any necessary pruning of shrubs can be proceeded with, and all beds that have been planted with spring flowering bulbs should be mulched with litter as soon as the ground is frozen two or three inches. It is well to have plenty of litter on hand where it is most likely to be needed when cold weather sets in in earnest.

In the vegetable garden very little can be done, but to get ready for another season, spinach and other plants needing protection should have it as soon as the ground is frozen, and the final covering should be given to celery, in trenches, or roots in pits, and if not already done give the asparagus bed a liberal coating of manure. Bean poles, pea brush and stakes of all kinds should be looked over, the tool-house put in order, and everything put in shape for next spring. Every effort ought to be made to have all vacant land trenched or ploughed before the ground is hard frozen. The disintegrating influence of frost and snow on soil, especially that of a heavy nature, is worth a good many cultivations during the growing season, and for this reason, if for no other, the ground ought to be turned over and left as rough as possible to the elements of winter.

In such sections of the country where protection from severe frost is necessary, grape-vines, blackberries, raspberries, etc., should be loosened from their supports and laid down and covered with soil, leaves, straw or other available material. The washing of fruit trees, with an alkali solution, is to be recommended. Not only are mosses and lichens, but insect and fungus pests destroyed in this way. A cheap and effective wash is made of a saturated solution of soft soap and common salt (brine) or caustic soda. Of course, spraying with any of the dormant spray materials will prevent the development of these pests, but this method of hand-painting the trunks and large branches of the tree with the solution mentioned is meant as a supplement to, and not as a substitute for, winter, or dormant spraying. It is good practice to scrape all the large limbs and trunks of tree before applying the solution.

As soon as the leaves of the fruit tree are all fallen, spraying with any of the dormant sprays may be commenced providing that hard freezing weather is not prevalent. Where trees are badly infested with scale, it is an excellent plan to spray as soon as possible in the fall, and supplement this with another good spraying again in early spring before the buds burst. Pruning of fruit trees is a controversial subject, some contending that spring is the one and only time for pruning, while others just as strongly contend for winter pruning. Personally we are of the opinion that any fine day during the winter is a good time for pruning. It is a cold job on a cold day, and the wise gardener will select warm, mild days for this work.

There is this, however, to be said against early winter pruning of fruit trees. If the previous fall has not been favorable to the proper ripening of the wood, it is possible that a severe winter would kill the wood back much

farther than it would be pruned, thus making it necessary to go over the trees a second time. This, however, is not likely to happen generally, and so it may safely be said that pruning may be done any fine day during the winter.

Snow that accumulates on the cold frames or other structures of this nature should be removed as soon as possible, especially if the ground beneath the glass has not been frozen. If the ground is frozen it may remain longer as the plants growing therein will be dormant, and several days of darkness will not harm them in the least.

The planting of deciduous shrubs and trees may be continued as long as the ground remains open if each plant is carefully mulched after planting is completed. Big trees may be prepared for moving, after the ball of earth is frozen hard through. Not so very long ago this used to be considered the best means of moving large trees with any prospect of success, but with the improved tree-moving machines that have been put into use during late years it is possible to move trees of almost any size at almost any time of the year. Nevertheless many trees are still moved during the winter months by the old-fashioned method of freezing the ball of earth and using the old stone boat as a means of transport. Where such removal is contemplated, now is the time to make the preparations.

It is not a far cry from the removal of trees to the woodland lot, and it is at this time of the year that much can be done in the way of improvements there. Dead trees that were marked with white paint in October should be brought down as soon as possible. Dead branches may be trimmed from living trees and the cut ends nicely tarred over.

Forked branches that are liable to split by swaying with the wind had better be bolted together. In doing this allowance should be made for the swaying of the limbs by having joints, or elbows, as it were, in the bolt that extends between the two limbs. Cavities should be cleaned out down to live tissue and the surface either tarred over or filled with cement as may seem to be necessary. As long as the weather remains sufficiently open woodland walks may be made and provision made for bridal paths by cutting off any such branches as are likely to interfere with one riding through the woods.

The thinning out of cross branches that overcrowd and prevent light from reaching the center of the tree, can be attended to at this time. Mulching and manuring of large trees is a matter that is worth some attention at this time. In fact this phase of arboriculture, or rather the necessity of it, is just beginning to be realized by gardeners. It is a practice that is becoming general. Comment on the necessity of it is needless when we reflect but for a moment upon the artificial conditions under which large trees are expected to live and thrive. Lawns and green swards are made where once existed plant food in abundance in the form of vegetable mold which is now raked up and carted away to make the place look neat. The consequence is that trees that flourished under such conditions cease to do so when growing on lawns and deprived of Nature's food supply. Hence the necessity of manuring.

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CARNATION CULTURE.

By W. R. Fowkes, New York.

**P**ROPGATION of carnations may be commenced in January, and if good cuttings can be had, even in December. It is an advantage, because the plants have not by this date been highly fed. Select cuttings with great care, as future success depends on the start in the first stage. The best and earliest blooms can be had from cuttings taken from the flower stems and the nearer the bud the cutting is taken, the earlier it will flower.

The usual house will do for propagating, that is, the north side of a rose or other house, as they are usually built, and there is no necessity for a special structure, for if a position of a bench in the carnation house is utilized, provided the cuttings are watered daily for the first week and shaded with a strip of cheese cloth from the sun for two days, they will be all right.

As soon as rooted, pot in 2¼ inch pots, using a compost screened through an ⅛ inch sieve of loam, sand and leaf soil and no manure.

As they advance, pot again into threes, using a compost with a little old cow manure in, and keep near the glass to induce a sturdy growth. They can again be potted into four-inch pots and placed in a cold frame in March, being careful to protect from frost or cutting winds. Now in order to obtain early blooms, and most of us are expected and like to exhibit in the fall, a start should be made in May with the house for the reception of plants for their summer quarters. I am not mentioning field culture for early crops, because that part is best suited to the commercial grower who cannot afford to grow his plants inside all summer.

The soil can be cut the first week in April, and the best fibrous sod to be obtained is not too good but is more in order than any artificial feeding afterwards. One-fourth cow manure mixed with the soil and carried on to the benches, which should receive previously a coat of lime wash and sulphur.

Turn the soil over once daily, and when it is in proper condition level off with a rake and spread a fine coating of wood ashes on top, which can be forked in and afterwards the bench can be pressed fairly hard, but not like a mushroom bed.

Planting can be commenced any date after May 15, and the space required is according to the strength of the varieties being grown. When planted, give a good watering, and it should not be necessary to shade at all when turned out of pots in the manner described. All that is required during the next three and a half months is careful watering and light cultivation of the surface soil.

Watering, we are all agreed on, must be done, but syringing is with many a different matter. Scientists claim that as the carnation comes from *Dianthus*, which was formerly a rock weed growing on a high altitude where the air was rather dry, does not require water on its foliage; also that it is noticed in dull weather that the bloom on the plant's growth is more pronounced than in bright weather, which seems to be an indicator of protection from damp.

Now the idea as applied to the primitive carnation is all right, but to apply the same dry treatment in our long hot, dry summers when evaporation is rapid would only court disaster and the plants would become infested with red spider. A few sprayings lightly applied with a hose with a man who knows how is not only important, but necessary; also damp the floors well if of cement or dry boards.

The plants require several pinchings to induce a bushy growth, but eight weeks must be given generally for the last stop for a certain flower to be cut. When the stems commence to push up, the plants require a light feed, and dried bone manure rubbed through an inch screen is a grand food to commence with in addition to a fair sprinkling of bone flour. Potash is a necessity and can be applied in wood ashes, sulphate of potash or Scotch soot, which also has a number of high fertilizing properties.

The temperature during summer cannot be regulated, only cooled off by the spraying and damping, but when fall commences and the beauty looked for begins to show, then the best temperature is fifty degrees nights, rising to seventy degrees during the day of course. All the air must be given cautiously and with all sense, the small things, namely watering and ventilating carefully being the most necessary and important ones. Never over-water, and in cold weather syringing must be dispensed with.



# Investigation of Rose Diseases

By Dr. L. M. Massey, New York.

A SPECIAL and extensive investigation of the diseases of roses has been undertaken by the Department of Plant Pathology, Cornell University. This work, which was begun August 1, 1916, is being conducted in co-operation with the American Rose Society, whose members have contributed towards the financial support of the undertaking.

During the past three months much time has been spent in visiting rose plantings in northeastern United States, making a survey of diseases. The gardens and greenhouses of some thirty-five rose growers have been visited. The number and extent of the diseases present have been noted and specimens taken for further study. Growers have also materially aided the work by sending in specimens. These specimens have been examined, and the grower advised as to the cause and control of the disease so far as our present knowledge and experience allow.

Unfortunately, nothing is known concerning the control of many diseases of the rose, and but little concerning even some of the most common diseases; and what little is known is mostly of an academic rather than of a practical nature and not accessible to the average grower. Every grower who has endeavored to obtain much information upon any rose disease has been brought face to face with this unfortunate situation. It is for the correction of this condition that members of the American Rose Society have enlisted the services of a plant pathologist to investigate rose diseases and place the information before the growers.

The preliminary survey has shown that the two most common diseases of the rose are the powdery mildew and the black spot, both on indoor and outdoor plants. These diseases have received the most attention of growers and plant pathologists in the past. It has been proved beyond doubt that they are caused by fungi; the life-histories of the causal organisms have been partially worked out, and various suggestions for control offered. Considerable work remains to be done to determine the conditions which favor the development of these diseases and the best methods of treatment. It is the plan of the writer to publish a short article in the trade papers in the near future upon each of these diseases in which the known facts concerning them will be placed before the growers.

However, the survey has revealed the fact that other diseases besides mildew and black spot cause rose growers considerable losses. In fact, many greenhouse men claim that these two diseases cause them little worry.

Ophelia and American Beauty plants affected with a serious root or crown-rot have been received from growers and observed by the writer, in visits to rose houses. The plant decays just below the surface of the soil, usually where the plant "breaks," the developing branches being encircled by the rot. Soon the parts of the plant above ground become yellow and of a sickly appearance as if starved for moisture or food, and die, a more or less lingering death. Some growers have kindly furnished samples of plants so affected, and several organisms which may possibly be causing the disease have been isolated from diseased tissue. Inoculations will be made to determine which organism is the cause. The life-history of the pathogene will be studied and an attempt made to work out some method of control. This is necessarily a slow process but will, we trust, result in the discovery of an effective means of controlling the trouble.

Other diseases which have been noted are: (1) crown gall, caused by a bacterial pathogene, affecting the roots and occasionally the stems of both indoor and outdoor roses; (2) *Phyllosticta* leaf-spot, affecting outdoor roses, chiefly ramblers; (3) other leaf spots and cane diseases of unknown causes. Work upon the cause of the diseases in this last group is now under way. Extensive experiments on the control of leaf-spot diseases of indoor and outdoor roses are being planned and will be tested out as quickly as possible. Reports of progress will be made from time to time.

Some misunderstanding seems to exist among growers in regard to sending specimens for examination. Where desirable, a postal card will bring to the grower one or more franked tags which will carry specimens by mail postage free; or the grower may pay the postage if he so desires. The specimens will be examined, and the sender furnished with all available information regarding the cause and control of the disease. Not only members of the American Rose Society, but rose growers in general may take advantage of this opportunity to obtain information relating to rose troubles. By sending specimens the grower will not only help himself, but will be materially aiding the project. Specimens will always be appreciated, regardless of whether or not they are of a new or an old disease, or of economic importance. It is especially desired at this time to obtain rose plants affected with root diseases.

Address all correspondence to L. M. Massey, Department of Plant Pathology, Cornell University, Ithaca, N. Y.

## Rose Diseases and How to Control Them

ROSES are subject to a number of fungus growths causing serious diseases and the gardener must ward these off carefully if he would keep his plants in the healthful condition necessary for satisfactory growth and the production of blossoms. These fungus parasites rarely kill the plants outright, according to the U. S. Department of Agriculture, but by their presence the vigor of plants is greatly reduced, the foliage may be rendered unsightly, branches more or less distorted or disfigured, and the quality of the blossoms lowered. In considering the fungus

diseases of these plants the fact must be recognized that in common with similar diseases of other plants treatments are preventive rather than curative. While thorough and repeated sprayings with a suitable fungicide will in most cases so check the development of the parasite that the disease for the growing season will be in a great measure controlled, the full benefit of fungicidal applications can only be secured by their early use in the spring, guarding in this way against the recurrence of a disease of the previous season.

Powdery mildew is extremely common, few gar-

dens being entirely free from this most destructive of all rose diseases. Wild as well as cultivated roses suffer from it, crimson rambles being especially susceptible. The fungus frequently appears very early in the season on young buds, leaves, and young shoots, causing the appearance of a delicate white mildew that becomes mealy after the development of the summer spores. If the attack is severe, the normal development of the succulent young shoots is arrested, the leaves become curled and deformed, falling prematurely, and complete defoliation sometimes results. Later in the season the Winter spores develop. These spores are capable of persisting through the winter and setting up a new infection in the Spring.

Rose rust appears as conspicuous, orange-colored swellings on the green parts of rose bushes in the Spring or early Summer. Later these take a deeper shade and become powdery. Small, circular spots may occur on the leaves.

Anthraxnose attacks principally the leaves, but also, to some extent, the branches, causing the appearance of blotches, which later discharge a pinkish mass of spores. The affected leaves are dwarfed and fall.

There are several leaf-spot diseases of roses. In most cases the spots have a more or less brownish center with a purplish border.

Leaf-blotch, which is also known as black-spot, ranks next to powdery mildew in frequency of occurrence. Bush roses are more susceptible to this trouble than climbing roses and the attacks are most severe in wet seasons. The first symptoms of the presence of the parasite are irregularly shaped, blackish spots without definite borders on the upper surface of mature or nearly full grown leaves. These spots may grow together so as to cover almost the entire leaf.

Practically all these diseases require the same treatment, which consists, in general, of careful spraying for control during the growing season and the cutting out of diseased portions of the plant in the Fall, followed by more spraying of the shortened plant. The diseased wood removed, together with the old leaves and debris under bushes, should be burned. In case of attacks by rusts and leaf spots, the diseased wood or leaves should be removed and burned even during the growing season.

For powdery mildew, the control sprayings should be with lime-sulphur or potassium sulphide. After cutting back in the Fall, a similar spray should be made use of. The control spraying for rusts should be ammoniacal copper carbonate. The Fall spraying should be with a strong Bordeaux mixture. For leaf-spot and leaf-blight, the control sprays may be either Bordeaux or ammoniacal copper carbonate, and the Fall spraying should be with the former.

Another disease to which roses are subject is canker. A wholly satisfactory method of control has not been worked out for this disease. The early symptoms are the appearance of small reddish patches on the green parts, generally of 1-year-old growth. The disease is caused by a fungus classed as a wound parasite, that is, the spores gain entrance to the bush through certain mechanical injuries. These may be slight ones made upon the young branches by the thorns of the bush itself when one branch has been blown against another, or by insect punctures. Such infected areas may increase until the entire stem is surrounded and may extend for several inches along the branch. The only advice to be given is to cut away rigorously all diseased branches, and it may be necessary to cut back entire bushes if badly infected. Cover the exposed surfaces thus made by this cutting with paint or tar. This diseased material must be burned and the dor-

mant bushes sprayed with strong Bordeaux mixture in both the Autumn and early Spring. At the first appearance of the disease, cut away and destroy all the branches showing infection. Then spray about every 10 days, first with Bordeaux mixture and later with ammoniacal copper carbonate.

#### WHAT HOUSE PLANTS REQUIRE.

THESE are no home to which some plant is not adapted, and while conditions for its growth may not be ideal, its culture is not impossible. Ignorance of cultural details even in a proper environment has resulted in the elimination of many house plants which otherwise would have endured and become a source of attraction and of pleasure to their owner. Plant culture demands the application of intelligence. Commonsense methods are necessary for success.

Negligence in cultural details is likewise a derogatory factor. The rooms must not be stuffy, the windows must on favorable occasions be opened, the blinds should not be drawn until dark, or left down too long in the morning. A fairly even temperature must be maintained. Atmospheric humidity must be created by placing pans of water on the radiators, stoves, furnaces, or near the registers. Cleanliness is also essential, neglect of this will result disastrously. Plants breathe through the pores of their leaves, one-half of their food material is absorbed in this manner (carbon). They should, therefore, be sprayed or sponged to remove the dust which clogs the pores, remembering at all times that it is as necessary to clean the under surfaces as the upper surfaces of the leaves. The surroundings must be cleanly and wholesome. The dictionary indicates that surroundings are but the environment. The scientist says environment governs or influences development and growth. To neglect the foregoing conditions must be to court failure, as these are the things which constitute environment.

Having chosen your plants, observe the following suggestions. Learn them by heart. Light is essential to green plants in that through its influence they are alone able to assimilate their food. Plants can only perform their functions within certain limits of temperature. Keep an eye on the thermometer, there is a temperature called the optimum, at which the absorption of food materials and consequent assimilation (under the influence of light) and growth proceeds more rapidly than at any other time. The most favorable average temperatures are 55 to 60 degrees F. by night, and 60 to 70 degrees F. by day.

Fresh air is necessary, for from it the plant extracts its carbon and some of its oxygen (carbon dioxide); without oxygen it cannot perform its life functions. Do not forget this, but when opening the windows do not create draughts which chill. It is better for cold air to be warmed by contact with that of the room ere it reaches the plants, therefore, ventilate carefully. Keep the atmosphere charged with moisture; it prevents excessive transpiration of water through the plant cells, especially at night. Transpiration should be reduced to a minimum at this time, as only during daylight is it of great importance in promoting growth.

Plants rest at night, and while resting their food is digested, the starch they have formed by day is changed in the leaf cells to sugar, this being the first step in the formation of organic food material. Pay careful attention to the many details of potting, watering, spraying, and fertilizing; it is worth while, as it will lead you to a study and eventually to a love of your plants. You will soon understand their requirements, and learn from experience much more than can be taught by word of mouth or scrawl of pen.—*Canadian Horticulturist*.

## SOIL FERTILITY AND VEGETABLE CROP.

By Prof. Henry Bell, Illinois.\*

THE yield of vegetables is cut short at least one-third on account of lack of attention to the supply of plantfood for the growing crops. Vegetable crops, both in the greenhouse and in the garden, more than any crop, require most thorough attention to soil tillage and plantfood if they are to make maximum growth. The factors influencing productiveness may be classed under two headings—those influencing the home of the plant and those influencing the food.

Soil drainage is absolutely essential to plant growth. Water-logged soil smothers the growing plant and the soil bacteria.

There is great need for more attention to humus. Humus is decaying vegetable matter in the soil. It performs four great functions: First, it helps hold water, catching it like a sponge; second, it opens up heavy clay soils and binds together sandy soils; third, it forms a home for the food of soil bacteria; fourth, it catches and absorbs plantfood that would otherwise leach out of the soil, and saves it for the growing crop.

A great deal of water is essential to successful plant growth, because the plant must have all of its food in soup-like form, with the exception of carbon, which it takes out of the air in a gaseous form, but it obtains all the rest dissolved in the soil water or root juices from the soil. In order to control the water supply of the soil, the gardener should aim to keep up the organic matter, and deeply plow his soil in the fall so as to create a reservoir for catching and holding the precipitation of fall, winter and early spring. His crops should be carefully tilled, so as to preserve a dust mulch which prevents the escape of soil water.

A great deal of study is being given to the use of lime. Lime is not a plantfood, but is a soil corrector. It corrects a condition that we call sourness in the soil. Sourness is deadly to soil bacteria, both those that grow free in the soil and those that grow on the roots of peas, beans and other legumes. The soil should be kept sufficiently sweet so that its own constituents of plantfood may be able to serve the needs of the crops.

The plantfood question is one of the most serious that the market gardener has to face. In order to meet the situation most successfully, he should inform himself as fully as possible relative to the moisture of the soil, the duties of the constituents of plantfood, and the best method of obtaining and handling them. The former great source of plantfood was manure. The gardener finds that he has to supplement his failing supply of manure with fertilizers, which are carriers of available plantfood. They supply three essential constituents: Nitrogen, which causes rapid stalk growth and lengthens the season of growth of the crop; phosphoric acid, which hastens the ripening and assists in the filling out of the fruit; and potash, which strengthens the stalk, influences the formation of starch in the fruit, and has a great deal to do with the healthy development of the plant. Fertilizers supply these three constituents of plantfood just as does barn manure. Fertilizers vary in analyses, and hence should be chosen of an analysis to suit the especial conditions of the soil and to meet the especial requirements of the crop on which they are to be used. For instance a bean crop, which is harvested when the beans are ripe, under normal conditions should be fed with a plantfood very high in phosphoric acid, since it is this

constituent as well as a medium amount of nitrogen and potash which the bean plant requires. On the other hand, the potato crop, under normal conditions, should be fed a liberal supply of available nitrogen and potash and a fair supply of phosphoric acid, since the nature of the crop demands that it receive a plantfood which aids in depositing starch in the tuber.

For a quick growing crop, such as lettuce, radishes, or tomatoes, he should supply a fertilizer whose plantfood is rapidly available so that the plant can take it up and make maximum growth in the shortest time. For longer growing crops such as potatoes, beets, carrots, and the like, the fertilizer should contain a form of plantfood which is less rapidly available, so that the effect of the supply of food will last throughout the growing season.

With proper attention to the preparation of the soil and balancing of plantfood, coupled with the use of high quality seed of suitable varieties, the yields of many of the truck and garden crops can be increased very materially. The secret is that the grower must inform himself, and must be carefully observant, benefiting by his yearly experience.

\*Extracts of address before Chicago Convention of Vegetable Growers' Association of America, by Prof. H. G. Bell.

## FORTIFY IN FALL AGAINST PLANT DISEASE.

By Karl Langenbeck, Washington

SOME plant diseases have their seat in the soil. Our readers have been made familiar by us that scab introduced by infected seed potatoes may develop in such a soil not planted again with potatoes for several years and yet ruin later plantings. The scab germ thrives best in a soil kept over-sweetened. We have told how the earth may be freed from the pest and still bring up the soil to full growing condition in several seasons by progressive sweetening, a little more in each season, always using only sterilized seed. This cannot be done with a system of keeping excessive lime in the soil, as recommended with ground limestone. It must be done with the quick action of a short ration of quick lime or hydrate alternating with the natural souring resulting from manure decay. Excess of ground limestone will keep the field a scab seed bed.

But, another soil disease has been spreading with rapid strides over the country. This is a vegetable cancer which attacks cabbage, cauliflower, turnips, radishes and Brussels sprouts. If not destroyed, it develops in the soil for years and attacks later crops. But as it attacks certain weeds, like wild mustard, a field never planted with these vegetables, may be badly infected with it and show only when these vegetables are grown. The name of the disease is club root, or "fingers and toes," from the way it looks on the crippled plant. But the mother germ of the disease, as it grows in the soil, is a living creeping slime, known to plant disease specialists as a "protista." Burned lime alone in sufficient abundance withers and destroys it. Nothing else will. For this sterilizing process, a liberal lime treatment is essential, and it is necessary to get the soil well stirred with ground lime before any material slaking of the lime can occur. From two to three tons per acre must be used, and contrary to the usual practice in soil sweetening, it should be worked in with light plowing or the cultivator and harrow. This must be done some months before replanting, and the Autumn is the essential time, so as to be safe for the next season. The cold of Winter assures the work of destruction done by the quick lime.

## PITTSBURGH'S CHRYSANTHEMUM SHOWS.

THIS year's display at the Schenley Park Phipps Conservatory was the twenty-second in the history of the institution and included approximately three thousand magnificent blooms. Three sections were called into requisition for the "mums," two being conventionally arranged with reference to artistic color effect, while another could best be likened to a mammoth Dutch bouquet, so massive it was and so gorgeous. The main design of one of the more conventional houses was in the form of a chain of mounds through the center from end to end, while the sides were massed in the corresponding shades of pink, white and yellow. The "centerpiece" in the adjoining house was formed of specimen blooms graduating from pale yellow to the brighter shades, then to light bronze, and again in turn to the richer darker bronzes. The same shades were repeated on the right, while to the left were pinks, yellows and whites, all arranged to the best advantage in tiers. Among the favorites, which seemed to appeal to most of the visitors, were the white and yellow William Turner and Rigby, the single red Cardinal, Mrs. J. Gibson, Mrs. Gilbert Drabble, Odessa, James Fraser and the pink and white Doty. Foreman John Jones also has an exceptionally attractive display of Japanese lilies and crotons, while the aquatic houses are in "fine fettle."

The Phipps Conservatory in West Park, North Side, which is also under the regime of Superintendent George W. Burke, with James Moore, as foreman, has the distinction of entertaining the first annual exhibition of the Pittsburgh Aquarium Society in connection with its Autumn Flower Show. One of the tropical houses is called into requisition for about fifty aquaria occupying eighty feet of space, and include an ensemble of rare beauty and interest. One of the chrysanthemum houses is arranged in Japanese effect, each end of the wall being occupied with a trellised fan of Nerissa, while standards of the same marking are placed at regular intervals along the ground display. A charming effect is

gained from above, where, at frequent intervals, are large hanging baskets of golden-star-like Indicum. Three enormous clusters of ripe bananas attracted considerable attention from visitors.

As usual, the H. J. Heinz conservatory in the East End, under the management of Antony Aloysius Leach, shared honors and visitors with its municipal competitors. In the center of the show house proper was a trained bush, wired and staked, of Wells late Pink, about nine feet across, and showing 250 fine blooms. Banked in tiers, which showed to the utmost the exquisite color and form groupings, were Gertrude Peers, Flamingo, Mendon, Mrs. Wiggs, Mrs. R. C. Pulling, James Fraser and Mason and numerous others of the great family of Autumn Queens. In one of the smaller connecting houses was a charming display of cattleya labiata and oncidium varicosum, while another house was devoted to some exquisite begonias. There was also a Japanese garden in another house with a most fascinating children's corner. Almost all the accessories to this, including a miniature Oriental bamboo house, bridge, a garden within and numerous diminutive Oriental figures were brought from the Orient during a recent trip of Mr. Heinz.

## A THOUGHT FOR EVERY DAY.

If you, my friend,—just you and I,—  
Should smile instead of worry;  
If, as the days and moments fly  
Amid life's stress and hurry,  
We aim to make our thoughts more kind,  
Our hearts and words more tender,  
To be to others' faults more blind,  
For evil good to render:  
Then what a change would come about  
In all this dark world's story,  
If thus the Christ through us shone out,  
Revealing there his glory!

—F. M. Steele.



The Conservatory on the H. J. Heinz Estate, West End, Pittsburgh, as it appeared during the chrysanthemum display.

# Playgrounds in Parks from the Designer's Standpoint

By Frederick Law Olmsted,\* Massachusetts.

ANY question about playgrounds in parks from the standpoint of the designer has just as many different answers as there are different kinds of parks and playgrounds. In one sense any land devoted to public recreation may be called a park, even if it is all playground like a base ball park; and in another connection the most richly decorated public gardens of the most charming reservations of natural scenery appealing to the highest esthetic sensibilities, may be called the "people's playgrounds."

But I suppose the question you want me to discuss has to do on the one hand with those playgrounds which are adapted to active athletic play by many persons concentrated upon a limited area and characterized by a good deal of bare ground and other features not generally desired as parts of a beautiful landscape; and on the other hand with parks which are valuable chiefly for their beauty, whether of natural landscape or of formal gardening or otherwise. Even with these limitations no hard and fast rules can be laid down, such as this Association might adopt to express its opinion that certain things ought always to be done and certain other things ought never to be done. Individual circumstances are so variant that rules are certain to be misleading, and we must fall back upon the much more troublesome method of trying to get at the principles lying back of any such rules.

I want to call attention first to two important principles much broader in their application than the entire subject of public recreation facilities. Both are sound, but either is apt to be misleading if the other is forgotten, because they are complementary to each other. The first principle is suggested by the familiar saying about *killing two birds with one stone*.

If a given piece of public property can be used effectively for two or more purposes, it ought to be so used rather than withdraw a second piece of property from other use or forego the accomplishment of one of the purposes. Thus it is better that schoolhouses should be used in the evening for various worthy purposes to which they are adapted, than that these purposes should go unserved or that separate buildings should be erected and maintained at needless expense to serve them while the schoolhouses stand idle in the evenings. Of course, the use of the schoolhouses in the evening is not all clear gain. There is increased wear and tear, there are serious complications of janitor service, and there are other drawbacks which the school administration would be glad to avoid. But if these drawbacks mean only a somewhat increased expenditure of money and intelligent effort and do not in any essential way impair the quality or quantity of educational work done by the schools, the argument for the double use of the schoolhouses is apt to be unshakable.

And similarly a park meadow may in many cases be largely used for baseball and other games with so little reduction of its effectiveness in the landscape (even though the turf does become a good deal worn in spots) and so little reduction in the effectiveness of the baseball playing as compared with what it might be if played on costly separate playground equipped exclusively for

baseball, that the combination of playground and park becomes in these cases a thoroughly wise one.

Kill two birds with one stone if you can, but don't take too much chance of missing both in the attempt. For there is to be borne in mind the complementary principle of which I spoke, a principle which is reflected in the saying that *you can't have your cake and eat it too*.

Let me illustrate by referring to the combined use of certain lands for park and water-supply purposes. Where water-supply is the prime purpose to be served in acquiring and developing a piece of land, it is very often possible to secure incidentally important means of public recreation of certain kinds at a very slight additional cost and with no impairment of the water-supply function whatever, thereby reducing the extent and cost of park facilities that need to be independently provided. Not infrequently land acquired and policed primarily for park purposes may serve incidentally to protect the purity of a water-supply, or may afford rights of way for water-works or sites for reservoirs, with no impairment of its park value or even with actual increase of park value, thus killing two birds with one stone again. On the other hand, there are some combinations of park and water-works functions to attempt which would be like trying to have your cake and eat it. For the park department to establish a public swimming beach in the distributing reservoir of the city water supply would be such a case. No matter how much the people needed the swimming beach, and no matter what the cost of providing it elsewhere, this particular combination could never be justified. It might be possible and expedient in a given case to give up the use of a reservoir for water-works purposes and convert it into a park lake containing a swimming beach; or it might be found expedient in another case to give up a long-established custom of using a certain natural park lake for swimming and boating and convert it into a reservoir. Either of these courses would be a deliberate transfer of a piece of property from the service of one function to the service of another. The city authorities would make up their minds whether it was best to eat the cake or to have it; whether to drink the water or swim in it; because it is obviously a case where an attempt to kill two birds with one stone would be foolish.

Now the application of all this to the question of playgrounds in parks is: *first*, that any combination of playground and park functions which, under given local conditions, can be worked out in practice without hurting the park scenery and without sacrificing the quality of the playground is desirable on the principle of killing two birds with one stone; and *second*, that where the sort of playground facilities desired are incompatible with the kind of landscape beauty desired for park purposes, as is very frequently the case, there should not be a mere compromise, an attempt to eat the cake and have it. There ought rather to be a deliberate decision as to whether it will pay to exclude certain land from the park landscape and use it primarily for playground purposes.

As a rule, I think it is fair to say that playgrounds are more efficient in proportion to cost when they are scattered in numerous small recreation grounds near the

\* A paper presented at the New Orleans convention of the American Association of Park Superintendents.

people they are to serve rather than when they are associated with the larger parks; but there are good arguments in favor of providing playground facilities in connection with large landscape parks. Wherever this is done, I believe it to be a wise policy to so design the layout that it will be perfectly evident to any intelligent observer that there are two distinct tracts of land, a playground and an adjacent landscape park, not a utilitarian and relatively unlovely playground in a landscape park.

Never put anything in a park primarily devoted to beauty of scenery which does not upon the whole contribute, directly or indirectly, to the public enjoyment of that particular kind of scenery. If, for reasons which are clearly convincing, some such thing, incongruous with the scenery, must be placed on land which has been a part of such a park, there should be a definite decision to withdraw either a portion or the whole of the park from service as primarily a place of scenic beauty, and to devote the land so withdrawn primarily to certain utilitarian purposes, retaining only such beauty of scenery as is compatible with the efficient accomplishment of those utilitarian ends.

As I have said elsewhere\*, in most of the objects with which we are concerned beauty is, and ought to be, an absolutely incidental factor. We want as much beauty in them as possible, but only that sort and degree of beauty which is compatible with a high degree of utilitarian efficiency. This is clearly the case with playgrounds, just as it is with reservoirs or pumping stations or chairs and tables. Some things, however, are of value wholly or primarily for their beauty, and if they have any direct utilitarian value it is secondary and incidental. This is the case with a painted landscape and with a landscape park or an ornamental garden. The extraordinary difficulty of balancing artistic gain and loss against utilitarian gain and loss in detail, and the manifest weighting of the scales in favor of the utilitarian side whenever this process is followed, make it important to segregate sharply from the vast majority of things those which belong to this latter class. The first question in regard to any one of these things, valuable primarily for their non-utilitarian beauty, is—can we afford it? If not, we give it up; if it is portable we sell it to some one who can afford it; if it is real estate, like a landscape park, we either sell it or use it for something else in which the beauty-value is secondary to the use-value. If we can afford it, we direct our efforts toward conserving and making available its beauty, and steadfastly refuse to use it for anything that will impair its beauty.

The importance of sticking firmly and even obstinately to this principle, that in certain park lands set apart primarily for the public enjoyment of their beauty *nothing* must be done which impairs that enjoyment, depends on the fact that where an alteration is proposed in any beautiful landscape, it is much easier to see and to state any utilitarian advantages of the change than it is to see and to state convincingly the artistic disadvantages. If an injury to the scenery is to be justified on the ground that it is "only a little one" and that it permits the attainment of some valuable practical end, the same argument applies to a thousand other propositions the cumulative effect of which on the scenery would be ruinous.

To sum up these rather vague remarks, I would say: First, make your playgrounds as shipshape and orderly and as attractive in appearance as you can—wherever

they are placed. Second, combine them as far as practicable with facilities for other kinds of recreation not primarily dependent on the quality of the scenery; but still make that scenery as pleasant as you can without waste or loss of practical efficiency. Third, when dealing with any piece of park land the prime purpose of which is to give enjoyment by its beauty, do not on any account thrust into it a playground or any other so-called "improvement" which will impair its beauty.

#### FOREST PRODUCTS WIDELY USED.

IN addition to the ordinary uses of wood with which we are familiar, we are dependent upon the forest for a variety of products whose appearance does not indicate their origin. Numerous as these products are, and as extensive as is their use at the present time, science is constantly learning new constituents which enter into the makeup of wood and is finding new uses to which these constituents and those already known can be put. Powder, disinfectants and artificial silk are among the products obtained in whole or in part from wood.

Charcoal, as everyone knows, is essential for the manufacture of black powder. All of the acetone used as a solvent in making nitrocellulose powders is derived from acetic acid, a product of hardwood distillation. Great Britain, it is said, is dependent upon the United States for acetone used in making cordite. Black walnut is a standard for gunstocks, and has been so much in demand for the past two years that our supply of this valuable wood has been considerably reduced and other woods, notably birch, are being substituted. From Europe comes the complaint that there is a shortage of willow for making wooden legs.

Pure wood alcohol is the only substance which can be converted commercially into formaldehyde, which is universally used for disinfection. The experts at the Forest Products Laboratory have conducted extensive experiments on the production of grain or ethyl alcohol from wood and have been successful in experimental work in raising the yield and lowering the cost of production. If this process can be put on a commercial basis, the foresters say, it will result in putting the millions of tons of coniferous sawdust and other material which is now wasted every year to a profitable use.

By converting cellulose, one of the elements of wood, into a gelatinous material, known as viscose, a wide field is opened up for the utilization of wood waste, and a new line of products, varying all the way from sausage casings to tapestry, is added to the already lengthy list. Many of the so-called "silk" socks, neckties and fancy braids now on the market contain artificial silk made from wood.

About nine-tenths of all the paper which we use is made from wood. Besides the detailed investigations of the methods of making newsprint paper, and of the production of paper from woods hitherto unused for that purpose, which have been conducted, kraft paper, which compares favorably with the best on the market, has been produced experimentally at the Forest Products Laboratory from longleaf-pine mill-waste. This kraft paper is brown in color and is very much stronger than ordinary papers. It is used for a variety of purposes, and, cut into strips, is spun or twisted into thread which is then woven into onion and coffee bags, matting, suitcases and wall covering, similar to burlap, and furniture closely resembling that made from reeds, as well as other articles of common use.

\* Landscape Architecture for January, 1914.

# NATIONAL ASSOCIATION OF GARDENERS

WILLIAM N. CRAIG, President,  
Brookline, Mass.

OFFICIAL COMMUNICATIONS

M. C. EBEL, Secretary,  
Madison, N. J.

## ANNUAL CONVENTION NATIONAL ASSOCIATION OF GARDENERS

Washington, D. C. December 5-6, 1916

### THE CONVENTION PROGRAMME.

Plans have all been completed for a successful convention at Washington, D. C., on December 5 and 6.

The New Ebbitt House, on Pennsylvania avenue, has been selected as the headquarters of the association during the convention.

Members will register with the secretary of the association at the New Ebbitt House by nine o'clock on Tuesday morning, December 5, when each member will be supplied with full details of the two days programme, which will be an interesting one and will keep the members busy during their stay at Washington.

In order that the members may have an opportunity to enjoy all that has been planned for them by local members, it has been decided to make the business meetings as brief as possible, but without impairing the business that is to come before the convention.

Some interesting side trips have been planned which will include a visit to the country estate of George Washington, at Mt. Vernon. The gardens of this estate are still laid out as originally planned by the first president of our country and a visit to them will prove of more than passing interest to the gardeners.

Congress will be in session and an opportunity will be given the visiting gardeners to observe how the laws of our country are enacted.

A visit to the White House has not been overlooked. Visits to the various government buildings, including some of the departments of the Department of Agriculture where gardeners may learn how the government grows its plants, and a visit to the Mint which will enable them to see how money is made have been arranged for.

An automobile trip through the park system of Washington is also included in the program.

The lecture hall of the new Smithsonian Institution has been placed at the disposal of the association for its business meetings.

The secretary will be at the headquarters of the association, the New Ebbitt House, on Monday afternoon, December 4, to receive members who may arrive in Washington on that day.

While much of the time will be given up to the sight-seeing features, the purpose of the convention will not be overlooked, however, and several important matters affecting the gardeners will be brought up for discussion. In addition to this a number of prominent speakers will address the meetings.

A large attendance is looked for, both from the East and from the West. The secretary will be glad to furnish any further information desired to members regarding the convention, transportation, etc.

President Craig has appointed the following committee on convention publicity: George W. Hess, Washington, D. C.; William Kleinheinz, Ogontz, Pa.; David Fraser, Pittsburgh, Pa.; Robert Cameron, Cambridge, Mass.; John Canning, Ardsley, N. Y.; P. W. Popp, Mamaroneck, N. Y.; Thomas J. Wilson, Tuxedo Park, N. Y.; Anton Bauer, Deal Beach, N. J.; James Duthie, Oyster Bay, N. Y.; John Barnett, Sewickley, Pa.; Edw. Jenkins, Lenox, Mass.; William Gray, Newport, R. I.; Thomas Head, Lake Forest, Ill.; Albin Martini, Lake Geneva, Wis.; L. P. Jensen, St. Louis, Mo.; Percy Ellings, Menlo Park, Cal.

### NEW MEMBERS.

The following new members have been added to our roll: George H. Instone, Mound, Minn.; Louis Holland, Seattle, Wash.; Anton Vandereem, Clayton, Mo.; Hugo M. Schaff, St. Louis, Mo.; Antiny Sienichi, Council Bluff, Iowa; H. C. Peterson, William F. Stewart, David D. P. Roy, John H. Francis, Lake Forest, Ill.; Gerrard Samson, Henry Cardana, San Leandro, Cal.; William Huckvale, Far Hills, N. J.; Alexander Sherriffs, Bernardsville, N. J.; Robert R. Moss, Yonkers, N. Y.; Harry I. Weaver, Ithaca, N. Y.; George J. Oiler, Yonkers, N. Y.; James Allan, Truro, Nova Scotia; William Shaw, Mendham, N. J.; Rodger P. Burke, Villa Nova, Pa.;

S. H. Vine, Bellingham, Wash.; John E. McQueen, Bernardsville, N. J.; William Irwin, Magnolia, Mass.

### POSTPONEMENT OF ESSAY CONTEST.

Owing to the few essays that have been received in the contest for President Craig's prizes, which were offered for competition to assistant gardeners, the Committee on Essays and Horticultural Instruction, William H. Waite, chairman, has decided to postpone the closing of the contest until February 1, to give the assistant gardeners further opportunity during the winter months to enter in the contest. The essays received to date will be held over until that date. The rules governing the contest are as follows:

The prizes are offered by President Craig—\$25 as first prize, \$15 as second prize and \$10 as third prize, in gold—for the three best essays on any subject pertaining to any branch of horticulture. The essays are limited to twenty-five hundred words and must be signed with a nom de plume, must bear no evidence of the author's identification, and be mailed in a plain envelope, carefully addressed to the chairman of the committee, William H. Waite, P. O. Box 290, Madison, N. J.

The contestant will place his name and full address, stating the position he holds, in a separate envelope, writing the nom de plume he signed to his essay on the outside of this envelope, and mail same in separate envelope to M. C. Ebel, Secretary, National Association of Gardeners, Madison, N. J. This envelope is not to be opened until the judges have rendered their decision on the contest. Write your essay distinctly and use one side of paper only. These rules must be strictly followed to avoid disqualification.

## AMONG THE GARDENERS

We regret to announce that William Downs, the able superintendent to E. S. Webster, Chestnut Hill, Mass., has been obliged to resign his position owing to ill health. Mr. Downs' many friends hope that a complete rest will restore him to perfect health.

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A new range of greenhouses is nearing completion on the E. A. Clark estate, Jamaica Plains, Mass., where W. H. Golby has charge.

\* \* \*

E. O. Orpet has resigned his position as superintendent to Cyrus H. McCormick, Lake Forest, Ill., to take a much needed rest in new environment on the Pacific coast. He carries with him the good wishes of all whom he has been working for and is acquainted with. His successor is Wm. E. Fischer, who was chosen from the Boston Park system to carry on the work of developing the estate over which Mr. Orpet has presided for a number of years.

\* \* \*

Maurice J. Collins, formerly on the B. S. Clark estate, Litchfield, Conn., has secured the position of gardener to William G. Park, Westbury, L. I.

\* \* \*

W. J. Carter, formerly located at Bernardsville as superintendent to J. W. Harriman, is now located in a similar position on what was the Philip Livermore estate, Brookville, L. I., and which was recently purchased by Mr. Harriman.

\* \* \*

H. Watson, until recently with J. W. Pybus at "Tor Court," Pittsfield, Mass., has forsaken the profession of gardening for millwork.

\* \* \*

E. Yeandle, recently gardener to T. D. Leonard, Morristown, N. J., has accepted a position as superintendent on the E. F. Hutton estate, Bayshore, N. Y.

\* \* \*

L. Bisset, gardener to S. T. Bodine, Villa Nova, Pa., who underwent an operation for appendicitis in October, has fully recovered. He had planned to attend the convention this year at Washington, but his recent illness will now prohibit it.

# American Association of Park Superintendents

## OFFICIAL COMMUNICATIONS

JOHN F. WALSH, President, New York.

R. W. COTTERILL, Sec.-Treas., Seattle, Washington.

### CONVENTION AFTERMATH.

Past President Mische, Secretary Cotterill and W. S. Rawlings, on the homeward trip to the Pacific Coast, visited a number of members and had a most enjoyable time. A day was spent with Vice-President Brock at Houston, with a side trip to Galveston and a dip in the Gulf.

Dallas and Fort Worth were also visited, then Mr. Mische proceeded to California, visiting Los Angeles and San Francisco. Cotterill made stops at Denver, going over the mountain boulevards, spent a day with members—Carl Fohn and J. B. Lang—at Colorado Springs exploring the wonders of Gardens of the Gods, Cheyenne Canyon, High Drive and beautiful Glen Eyrie. A pleasant evening was spent with C. H. Holmberg at Grand Junction, a day at Salt Lake City, where a new member was lined up (S. R. Lambourne), then a day with our old comrade, J. W. Duncan, at Spokane.

The convention proceedings will not be issued until sometime in December, as the secretary has not yet compiled the stenographic report. The papers which were presented at the convention which were sought by many will be found, however, in the columns of the CHRONICLE.

The new certificates of membership for framing, authorized by the last convention, will be ready for issuance shortly and will be forwarded to all members in good standing. Bear in mind that you will not receive one unless your dues for the current year are paid, so if you are one of those who receive a due bill from the secretary, prompt payment will get you one of the certificates.

The St. Louis contingent was delighted at securing the 1917 convention and the Louisville delegation was certainly disappointed after making such a systematic and energetic effort. The St. Louis boys, however, had a system of their own which was hard to beat, and as they have been put off from time to time and have been such good losers, it was perfectly logical that their patient efforts should be rewarded. St. Louis is the hub of the country, geographically, and we should have a bumper attendance next September.

Memphis is on the map with a vengeance with members of our association who have visited that city. Besides having the best assortment of park features to show of any city of the South, they have a group of park authorities whom it is a pleasure to meet with and who make the time spent in their city so pleasant that it is hard to leave.

### NEW MEMBERS.

There were twenty-four new memberships added to our rolls at the New Orleans convention, a larger number than for many sessions. For the benefit of those who did not attend the convention as well as for the general information of the membership, the list is presented herewith, with brief facts regarding same, as shown on applications.

#### Senior Members.

**Emile Altherr.**—Superintendent of National Battlefields Park, Quebec, Canada. Age 34, born in Switzerland. Graduate of Horticultural College, Haidenswiel, Switzerland, and Swiss Federal Polytechnic Schools at Zurich. 1909-10-11 in landscape work at Montreal; 1912 to present at Quebec in present position.

**Joseph Bernard.**—Superintendent of City Park in New Orleans for past 12 years. Age 63; born in New Orleans.

**C. C. Cox.**—Superintendent of Parks at Wichita, Kan., for the past six years. Age 39; born in Kentucky.

**Will O. Doolittle.**—Superintendent of Parks at Minot, N. D., for past two years. Prior to that was six years at Painesville, Ohio, four years as city forester and two years as park superintendent, also three years as instructor at Wymans School of the Woods, Marquette, Mich. Age 37; born in Painesville, Ohio.

**V. Grant Forrer.**—Superintendent and assistant superintendent of parks at Harrisburg, Pa., for the past nine years. Age 39; born in Harrisburg.

**Julius Koenig.**—City forester of St. Louis, Mo., for the past six years. Engaged in florist and landscape work since childhood. Age 46; born in St. Louis.

**Samuel Marshall.**—Superintendent of Audubon Park, New Orleans, for the past seven years. Age 72; born in New Orleans.

**Fred Nussbaumer.**—Superintendent of parks at St. Paul, Minn., for the past 25 years. Born in Germany. Former member of the association.

**W. S. Rawlings.**—Superintendent of parks at Vancouver, B. C., for the past four years, and was secretary for three years preceding. Several years' experience in England in municipal engineering. Age 33; born in London.

**Thos. W. Shimmins.**—Superintendent of Cameron Park, Waco, Texas, for the past six years. Four years prior in charge of Ward Park, Waco, Texas. Age 39; born in Kansas.

**Walter Wright.**—Secretary and executive officer, Special Park Commission, Chicago, Ill., for the past five years. Age 32; born in Chicago. Has for several years attended conventions as representing Sustaining Membership of Special Park Commission.

#### Junior Members.

**Jas. E. Fitzpatrick.**—Superintendent of parks at Terre Haute, Ind., since January 1, 1916; prior to that with department in clerical capacity for two years. Age 32; born in Terre Haute.

**Harry B. Frase.**—Recently elected councilman and superintendent of parks and public property for Des Moines, Iowa. Age 44; born in Akron, Ohio.

#### Associate Members.

**L. M. De Saussure.**—Secretary of the Memphis Park Commission for the past eight years. Chief Rabbi of the Ancient and Effervescent Order of Yellow Dogs. Age 47; born in Camden, S. C.

**C. H. Hager.**—Right-of-way agent for Toledo, Ohio, for the past 10 years, in which capacity he has been closely identified with the Park Department. Age 60; born in New York.

**Chas. O. Hausler.**—City architect for the city of St. Paul, Minn. Age 30; born in St. Paul.

**John D. Hyland.**—Commissioner of parks, playgrounds and public buildings for the city of St. Paul, Minn. Age 42; born in St. Paul.

**D. L. Mackintosh.**—Horticulturist and superintendent of construction for the State Prison grounds at Stillwater, Minn. Has had 21 years' experience in all branches of horticulture, landscape work and management of estates. Age 55; born in Scotland.

**Robert Ross Moss.**—In charge of private estate at Long Island, N. Y. Has had 20 years' practical experience in landscape work on estates in Scotland and the United States. Age 40; born in Scotland.

**J. Paul Zaleski.**—Landscape architect. Has had practical experience in parks in Poland and in charge of private estate at Geneva, Wis. At present at University of Illinois completing course in landscape architecture. Age 27; born in Poland.

#### Sustaining Memberships.

Board of Park Commissioners of Hibbing, Minn.

Board of Park Commissioners of Virginia, Minn.

Playground and Recreation Association of America.

J. W. Thompson, of Seattle, is engineering a movement to organize an association of park officials of the Pacific Coast on the theory that distance makes it impossible for many of the coast officials to make the convention trip and a district association will arouse more interest between cities whose work is somewhat in common. This is something along the line of the New England Park Institute which has proven very beneficial to park men in that section. There are many points in favor of associations of this kind, but there is no question but what they have a tendency to weaken the national organization.

#### BATHING SUIT RESOLUTION.

It will be recalled that the New Orleans convention adopted, after much discussion, a resolution urging a standard rule regarding bathing suits to be used at public bathing beaches and bath houses. The resolution was drawn rather hastily and has been misunderstood and misinterpreted, so Walter Wright has forwarded a specific set of rules, which the committee had in mind, but was unable at the time to incorporate in the resolution, but which carry out the spirit of the committee report which was adopted, so it is produced herewith for the use of members.



## RULES REGARDING TYPES OF BATHING SUITS.

**General**—No all white or flesh colored suits permitted, nor suits that expose the chest lower than a line drawn on a level with the arm pits.

**Ladies**—Blouse and bloomer suits may be worn, with or without skirts, with or without stockings, provided the blouse has one-quarter sleeves or close fitting arm holes and providing the bloomers are full and not shorter than four inches above the knee. Jersey knit suit may be worn with or without stocking, providing the suit has a skirt or skirt effect, with quarter sleeves or close fitting arm holes and trunks not shorter than four inches above the knee, the bottom of the skirt to be not more than two inches shorter than the bottom of the trunks.

**Men**—Men's suits must have skirt or skirt effect, or shirt worn outside of trunks. The trunks must not be shorter than four inches above the knee and the skirt must not be shorter than two inches above the bottom of the trunk.

This is a good sensible set of rules, and it is to be hoped that our members will do all in their power to secure their universal adoption.

## AMERICAN SWEET PEA SOCIETY.

A meeting of the executive committee of this society was held at the Hotel Breslin, N. Y., on Friday last, November 10, there being present Geo. W. Kerr, president, in the chair; Harry A. Bunyard, secretary; Wm. Sim, treasurer; J. Harrison Dick, Wm. Gray, Edward Jenkins and W. A. Sperling.

A report was received from Geo. W. Kerr and W. A. Sperling, who were appointed an auditing committee at the annual meeting last July. They reported the books in good order, with a balance of \$147 in cash on hand and all expenses and bills paid.

A warm vote of thanks was passed to Chas. H. Totty, Madison, N. J., and John Stafford, Bar Harbor, Me., who between them had procured subscriptions for a special fund, amounting to \$276; Mr. Totty having obtained \$160 and Mr. Stafford \$116. It was through their efforts that the society's finances were put on a sound basis at this time.

It was proposed that all members whose dues were three years in arrears be dropped. An urgent letter of appeal will be sent to those who are delinquent, asking them to pay their dues. There are 75 members in good standing at the present time, and 10 life members.

Edward Jenkins proposed that the next show be held in Boston, Mass., the date being the first Saturday after the 4th of July. Wm. Gray seconded, and it was agreed to.

Wm. Sim was appointed a committee of one to interview the trustees of the Massachusetts Horticultural Society with a view to obtaining a guarantee from that society of assistance toward the prize fund for the show.

An invitation to meet with them had been received from the officers who are arranging the National Flower Show at St. Louis in 1918, and who are offering \$250 as prizes for sweet peas. It was resolved to suggest that this sum be at least doubled, since few growers, it was thought, would be induced to send displays unless liberal prizes were offered.

General satisfaction was expressed at the prospects before the society, and it is hoped that a successful year lies ahead.

HARRY A. BUNYARD, Sec'y.

## AMERICAN ROSE SOCIETY.

The executive committee of the American Rose Society held two sessions in Horticultural Hall, Philadelphia, Pa., during the Chrysanthemum Show.

President Pennock called the meeting to order at 2:30 p. m., and there was a full attendance. Provision was made to hold the next annual exhibition and rose show in Philadelphia next March in Horticultural Hall.

The prizes allotted for the show were: \$750 for plants and flowers; \$1,000 for rose gardens; \$2,000 for cut flowers. The schedule committee is Messrs. Allan E. Peirce, Waltham, Mass.; Thomas Roland, Nahant, Mass.; J. K. M. L. Farquhar, Boston, Mass.

A letter was read from Mr. John Young, secretary of the National Flower Show committee, inviting the American Rose Society to join with them in an exhibition in St. Louis in 1918.

At the evening meeting, which was called at 8 p. m., there was an attendance of over fifty. Mr. Allan Peirce stated the work of the show, and a letter was read from the Philadelphia Chamber of Commerce, inviting the American Rose Society to come to Philadelphia—The World's Greatest Workshop and Convention City—promising to give every co-operation for its success. The following gentlemen spoke in favor of the exhibition going to Philadelphia: Messrs. Farenwald, Eisele, Simpson, Kleinheinz, Brown, Mills Dodge, Cartledge, W. R. Pierson, Sidelski, W. A. Manda and others.

The guarantee fund as pledged is so far \$4,565, 51 firms and individuals making up the amount.

BENJAMIN HAMMOND, Sec'y.

## THE AMERICAN DAHLIA SOCIETY.

A meeting of the executive committee was held in New York on November 8, there being present Richard Vincent, in the chair, Jas. Duthie, Jos. J. Lane, and Geo. L. Stillman.

The secretary, J. Harrison Dick, reported on matters concerning the last show. He reported that his circular letter to the members for the payment of dues for 1917 had resulted in 138 having already paid the sum being \$242; about 88 of the old membership have still to pay. Another bulletin is in preparation which, it is hoped, will be published at the end of November or early in December. This will be of a useful and interesting character.

The publication of 5,000 dahlia names, which Prof. F. H. Hall is preparing, may likely cost a considerable sum, and the secretary was empowered to make an appeal for funds whenever this was thought necessary.

The definition of the term "amateur" was discussed, but the matter was laid on the table. Another question was the naming of new dahlias. Mr. Duthie suggested that to avoid confusion or duplication of names, such decisions should be published in the trade and other papers, and in the society's bulletin. His motion to this effect was seconded and carried. Hereafter the names of the new varieties will have to be entered with the secretary.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., required by the Act of Congress of August 24, 1912, of GARDENERS' CHRONICLE OF AMERICA, published monthly at New York, N. Y., for October 1, 1916.

STATE OF NEW JERSEY } ss.  
COUNTY OF MORRIS }

Before me, a notary public in and for the State and county aforesaid, personally appeared Geo. A. Burniston, who having been duly sworn according to law, deposes and says that he is the business manager of the GARDENERS' CHRONICLE OF AMERICA, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are:

Name of—	Post office address—
Publisher, The Chronicle Press, Inc., 286 Fifth Ave., New York, N. Y.	
Editor, M. C. Ebel, Madison, N. J.	
Managing Editor, M. C. Ebel, Madison, N. J.	
Business Manager, Geo. A. Burniston, Madison, N. J.	

2. That the owners are: (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent. or more of the total amount of stock.)  
The Chronicle Press, Inc., 286 Fifth Avenue, New York, N. Y.  
M. C. Ebel, Madison, N. J.

Geo. A. Burniston, Madison, N. J.  
M. E. Burniston and J. A. Burniston, both of Jersey City, N. J.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent. or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state) There are no bondholders, mortgagees or other security holders.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholders or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

Geo. A. BURNISTON, Business Manager.

Sworn to and subscribed before me this 2nd day of October, 1916.

[SEAL]

F. I. MORROW.

(My commission expires August 5th, 1920.)

## Of Interest to Estate Owners

The National Association of Gardeners maintains a Service Bureau which is at the disposal of all who may require the services of efficient gardeners in their various capacities.

The association seeks the co-operation of estate owners in its efforts to secure opportunities for those engaged in the profession of gardening who are seeking to advance themselves. It makes no charge for services rendered. It endeavors to supply men qualified to assume the responsibilities the position may call for.

Make your requirements known to

M. C. EBEL, Sec'y, National Association of Gardeners, Madison, N. J.

# DIRECTORY

NATIONAL ASSOCIATIONS, LOCAL SOCIETIES  
AND GARDEN CLUBS WILL BE FOUND IN  
JANUARY, APRIL, JULY, OCTOBER, NUMBERS.

## HORTICULTURAL EVENTS

National Association of Gardeners, Annual Convention, Washington, D. C., December 5-6.

International Flower Show, Grand Central Palace, New York, N. Y., March 15-22, 1917.

### HORTICULTURAL SOCIETY OF NEW YORK SHOW.

The annual show of the Horticultural Society of New York, held at the American Museum of Natural History, November 9-10-11-12, was probably the finest show of its kind ever staged by the society, and the attendance during the progress of the show exceeded that of previous years.

The feature of the show, as has been usual in years past, was the enormous chrysanthemum plants, of which there were more than at previous exhibits and greater competition. Among the prize winners in this group of plants were: J. W. Smith, gardener to F. E. Lewis, Ridgefield, Conn.; William J. Sealey, gardener to Charles Mallory, Port Chester, N. Y.; and R. M. Johnston, gardener to W. B. Thompson, Yonkers, N. Y.

There were also some excellent groups of specimen palms, among the principal prize winners of which was Mrs. F. A. Constable, Mamaroneck, N. Y.

Duke's Farm, Somerville, N. J., A. A. Macdonald, gardener, was again a prominent exhibitor, and the splendid exhibit of grapes and melons attracted the general attention of the public. This exhibitor also won first prize in the class for six white chrysanthemums, and in the class for six reds and also in the class for six of any other color.

Among the other prize winners among private growers may be mentioned: Henry Goldman, Deal Beach, N. J., Anton Bauer, gardener; Mrs. Payne Whitney, of Manhasset, N. Y., George Fergusson, gardener; Frederick Sturgis, Fairfield, Conn., Thomas Bell, gardener; W. B. Thompson, Yonkers, N. Y., R. M. Johnson, gardener; Oscar Straus, Mamaroneck, N. Y., Thomas Aitchison, gardener; Roland R. Conklin, Huntington, N. Y., Wm. H. Sansom, gardener; Albert Crane, Stamford, Conn., Alexander Geddis, gardener; R. Mortimer, Tuxedo Park, N. Y., Carl D. Schaeffer, gardener; Mrs. William Barr, West Orange, N. J., Emil Panuska, gardener; Mrs. W. G. Nichols, Rye, N. Y., George N. Sullivan, gardener; Mrs. H. Darlington, Mamaroneck, N. Y., P. W. Popp, gardener; William Shillaber, Essex Fells, N. J., J. P. Sorenson, gardener.

The judges were: William Robertson, W. H. Waite, Wm. Mackay, George Foulsham, Alexander Robinson, Thomas Wilson.

### THE PHILADELPHIA SHOW.

The annual exhibition of the Chrysanthemum Society of America, in conjunction with the show of the Pennsylvania Horticultural Society was opened at Philadelphia, Pa., under most favorable auspices Tuesday evening, November 7. The show was com-

plete in all departments, particularly that of the cut bloom section, in which the C. S. A. entries formed an important part. In these it was the largest and most varied exhibition ever seen in that city. Large flowers and great excellence had been expected, but the growers fairly outdid themselves, the blooms being truly wonderful in size, form and color. Among the other strong features of the show were the orchid displays. Wm. Kleinheinz, Ogontz, Pa., had a group of plants in flower arranged in a bank at the first landing of the grand staircase extending from the main balcony of the upper hall which was most artistic in its natural woods-like beauty. Two large standing mirrors, between which was a fountain, gave the appearance of a cascade. Cibotium and other ferns, together with cork and birch bark and mosses, gave the group a most natural forest habitat appearance. Well flowered cattleyas were prominent, as well as oncidiums and many other choice genera of this family.

Louis Burke's display was up to his usual standard, and better. The large electrically lighted case was filled with the choicest of his large collection. Magnificent cattleyas, oncidiums, laelias, odontoglossums, stanhopias, phalaenopsis and rare varieties of cypripediums, all in full flower, made an exceptionally fine showing.

The center of the hall, under the large chandeliers, contained a group of fine specimen crotons, six to eight feet in height, very bushy and well colored, staged by John Hobson. H. A. Dreer, Inc., filled the tables bordering the stage with well grown, medium sized plants of crotons, variegated pineapples, Phoenix Roebelenii and other choice plants, backed with fine kentias. At the opposite end of the hall the group of foliage and flowering plants staged by John Dodds, gardener to John Wanamaker, was a feature. Splendid plants of antirrhinum, cattleyas, Pandanus Lindenhurst, and other choice foliage plants made a most interesting grouping. Thomas Long, gardener for G. W. Childs Drexel, staged his usual fine collection of ferns.

In the foyer was staged the variegated and other fancy foliage plants. These were brilliant in their coloring and wonderful in the vigor and finish, the selections of the very best collections from the private establishments in the neighborhood.

Wm. Kleinheinz staged a wonderfully well flowered set of a new winter flowering tuberous begonia. The plants were 18 inches in height and covered with flowers, one inch to three inches in diameter. The colors were red and shades of pink—a real novelty, apparently of great value.

The Mt. Greenwood Cemetery Association of Chicago had an excellent exhibit of Chrysanthemums, and Elmer D. Smith & Co., Adrian, Mich., were represented with a display of immense blooms. Chas. H. Totty, Madison, N. J., made a fine exhibit of more than 100, while W. H. Duckham's showing comprised 75 wonderful flowers. A. N. Pierson, Inc., Cromwell, Conn., with 50 vases of superb pompons and the E. G. Hill Co., Richmond, Ind., with more than 100 immense blooms, including several new varieties, also made splendid displays. The local growers staged stock of extraordinary size and finish. Many of the flowers measured nine inches in diameter and the same in depth.

### BOSTON AUTUMN EXHIBITION.

Boston has ceased to call its fall show a chrysanthemum exhibition, as the Queen of Autumn has lost favor heavily in the vicinity of the "Hub" and neither specimen plants nor big blooms are grown as they used to be years ago. There was a good general show on November 1-5, the greatest features being the winter flowering begonias, fruits, vegetables and groups of flowering plants. Specimen plants were fewer than usual, the leading exhibitors of these being A. E. Griffin, superintendent to G. L. Stone, Marion, Mass.; William Watson, gardener to J. S. Bailey, West Roxbury, Mass.; W. C. Rust, gardener to Mrs. C. G. Weld, and A. E. Davies, gardener to W. H. Wellington, Marblehead Neck, Mass. Mr. Griffin won the silver medal offered for the finest plant in the show with a superb specimen of Garza. Chrysanthemum and mixed groups of foliage and flowering plants from William Thatcher, gardener to Mrs. J. L. Gardener; A. M. Davenport, Kamajama and Serada, W. W. Edgar Co., A. M. Davenport and W. H. Elliott made a great showing in the main hall. For specimen blooms the leading prize winners were A. E. Griffin, A. E. Davies, E. H. Wetterlow, gardener to Mrs. Lester Leland; James Nicol; J. McGuffery, gardener to T. A. Traiser, South Sudbury, Mass.

Begonias were never shown so extensively here before nor of such grand quality. The English winter flowering varieties were superb. William Downs, gardener to E. S. Webber had six specimens of Optima nearly a yard across, W. C. Rust had a large group of Optima, Apricot, Mrs. Heal, Elatior and Winter Cheer which received a silver medal. John S. Doig, gardener to Mrs. J. M. Sears, Southboro, Mass., showed Sylvia and other English varieties; other exhibitors were A. M. Davenport and Janiten & Woolrath Company. Eric Wetterlow took first for six Floire de Lorraine begonias with grand plants; second A. E. Griffin. Mr. Wetterlow received a silver medal for begonia Mrs. J. A. Peterson.

J. L. Smith, gardener to A. W. Preston, Swampscott, Mass., received a silver medal for Cattleya Lady Rothschild alba and a first class certificate for Cattleya Fabia alba. For specimen orchid he was first with Cattleya Moira; second, William Martin, gardener to N. T. Kidder, Milton, Mass., with Cypripedium Spicerianum with twenty flowers.

The fruits were the finest ever staged at a Boston fall show; grapes from William Watson, William C. Winter, and D. Lazebny, gardener to C. A. Stone, Plymouth, Mass., were very good. For fifteen varieties vegetables Edwin Jenkins, Lenox, Mass., won first prize of \$75. Edward Parker, gardener to Oliver Ames, North Easton, Mass., was a close second. For eight varieties there were six entries, first went to E. L. Lewis, second to J. C. Christenson, gardener to W. J. Clemson, Taunton, Mass. For the finest display from a seedsman, T. J. Grey won with a superb exhibit of over two hundred varieties splendidly staged. All of the individual classes of fruits and vegetables brought out keen competition.

## WESTCHESTER AND FAIRFIELD SHOW.

The sixth annual autumn exhibition of this society was held in Drinkwater's Hall, Greenwich, Conn., October 31-November 1. The manager was J. B. McArdle, who was ably assisted by Thos. Ryan, to whom the society is indebted for the staging of a magnificent display of flowers, fruits and vegetables. The handsome and valuable prizes offered for the entire schedule of 121 classes brought out keen competition, the quality of the exhibits throughout being of a very high order. Noteworthy features were the scarcity of the "big blooms" and the increasing popularity of the more decorative types of single and pompon varieties of chrysanthemums, the increasing interest displayed in the classes for groups of plants and of cut flowers, decorative work and table decoration. It is gratifying to note the interest taken in the exhibition by the amateurs—those who do not employ paid assistants. Owing to the unusually mild season, there was a splendid display of outdoor flowers; over 50 varieties were seen in the five groups in this class. Among the novelties noted was the new yellow rose exhibited by A. N. Pierson, Inc., Mme. Collette Martinet, of remarkable, fragrance good form, and which is said to be a good grower and producer. Some fine varieties of anemone flowered chrysanthemum seedlings exhibited by Scott Bros., Elmsford, N. Y., attracted a lot of attention. A vase of the new double flowered form of cosmos was exhibited by J. B. McArdle; the neat flowers should be very useful to the florist as well as a good subject for the garden. The sweepstakes prize for the best chrysanthemum bush plant went to W. J. Sealey, gardener for Chas. Mallory. The prize for the most meritorious exhibit, a display of orchid plants, went to Robt. Allen, gardener for E. C. Benedict. The award for table decoration went to Wm. Whitton, gardener for Mrs. H. M. Flagler, who also won the prize for the largest chrysanthemum bloom in the show. First prize for outdoor flowers went to P. W. Popp, gardener for Mrs. H. Darlington; second, Wm. Smith, gardener for Robt. Mallory, who also was first for a specimen orange tree.

In the chrysanthemum plant classes, the honors were divided by Chas. Mallory, John Downey (Thos. Ryan, Gr.), John Orr, Mrs. W. G. Nichols (G. D. Sullivan, Gr.), A. G. Smith (C. Hankanson, Gr.), Mrs. L. C. Bruce (John Andrew, Gr.), Mrs. H. M. Flagler, Mrs. A. M. Zabriskie (Fred Metzler, Gr.), F. A. Topping (Fred Lagerstam, Gr.).

In the cut chrysanthemum classes the most successful were Mrs. H. M. Flagler, Mrs. E. C. Converse (Wm. Graham, Gr.), Mrs. Ernest Iselin (Duncan McIntyre, Gr.), Mrs. J. D. Barron (James Linane, Gr.), A. G. Smith, G. Lowther (Emil Johnson, Gr.).

In the pompon classes the honors were divided by Adrian Iselin, Jr. (Jos. Tiernan, Gr.), Mrs. H. Darlington, Mrs. E. C. Converse, Mrs. F. A. Constable (Jas. Stuart, Gr.).

In the single classes, honors were shared by Mrs. F. A. Constable, Mrs. H. Darlington, Adrian Iselin, A. G. Smith and Mrs. E. C. Converse. For vase of pompoms, one variety, Mrs. H. Darlington was first, Chas. Mallory, second. For six blooms yellow, 1915 introduction, P. W. Popp was first.

In the carnation classes the principal winners were Mrs. E. C. Converse (Robt. Grunnert, Gr.), Mrs. Nathan Strauss (Thos. Aitchison, Gr.), J. B. Cobb (A. Alius, Gr.), W. Brunny and Geo. Lowther.

In the rose classes the honors went to Chas. Smith (Anton Pederson, Gr.), Mrs. H. M. Flagler, Mrs. E. C. Converse, Mrs. Oliver Hoyt (Jas. Foster, Gr.). First prize for violets went to Miss M. Valentine (A. Carver, Gr.); second to Mrs. Oliver Hoyt. Robt. Grunnert was first for lily of the valley.

Honors in the orchid classes were divided between Mrs. Oliver Hoyt, E. C. Benedict, Mrs. E. Croncheth, J. B. Cobb, Mrs. H. Darlington and Mrs. F. A. Constable.

In the vegetable classes honors were shared by Mrs. F. A. Constable, Mrs. L. C. Bruce,

John Downey, Mrs. A. A. Anderson, J. B. Barron, Geo. Lowther, Mrs. Nathan Strauss, Ernest Iselin, Mrs. Oliver Hoyt, Miss Valentine, D. Millbank, A. Higgins, Mrs. E. C. Converse and J. B. Cobb.

In the amateur classes, J. Merritt Smith and Oscar Addor, Jr., were the most successful.

In the ladies' garden club class, Mrs. W. M. Bennett and Mrs. W. M. Ladd were the winners. The judges were: Wm. Turner, Oceanic, N. J.; Jas. Blair, Staatsburg, N. Y.; Ernest Wild, Morristown, N. J., and Geo. Middleton, Tarrytown, N. Y.

A certificate of merit was awarded to Alex. Geddes for display of single type seedling chrysanthemums; cultural certificate to Wm. Morrow for Eucharis Amazonica, who was also awarded a certificate for Cycas Rumphii; special prize to P. W. Popp for basket of pompon type chrysanthemums.

Eight fine trade exhibits were in evidence. J. H. McArdle, Greenwich, Conn., was highly commended for exhibit of roses, palms and cosmos; Stamford Seed Co., Stamford, Conn., was highly commended for exhibit of sundries. Certificates were awarded to Mills & Co., Mamaroneck, N. Y., for display of dahlias; Geo. E. Baldwin & Co., Mamaroneck, N. Y., display of orchids; Lager & Hurrell, Summit, N. J., display of orchids; Scott Bros., Elmsford, N. Y., display of chrysanthemums; A. N. Pierson, Inc., Cromwell, Conn., display of chrysanthemums; Chas. H. Totty, Madison, N. J., for display of chrysanthemums.

P. W. POPP, Cor. Sec'y.

## MADISON, N. J., SHOW.

The twenty-first annual flower show of the Morris County Gardeners' and Florists' Society was held in Assembly Hall, Madison, N. J., October 26-27.

It may be of interest to many to know what varieties are winning prizes this year, so we will mention a number that entered largely into the successful competition at this show. Some of the following are already well known to the trade: Bob Pulling, a very large yellow bloom; James Fraser, yellow; Pickett, crimson; Mrs. D. Syme, white; A. S. Baldwin, yellow; Glenview, bronze. To the writer's eye, Glenview seems to be the ideal bronze. William Turner, white, has been seen in exhibitions for a number of years and there are but few that, so to speak, can "put it out." Mary Mason, bronze, is well known as a fine flower. Lady Hopeton, lavender shade, is a very large bloom. Alice Day is a white of good appearance. Mrs. R. C. Pullen, a good yellow, and Mrs. G. Lloyd Wigg is another yellow of large size. Golden Champion October King and Marigold are yellows that look fine. C. H. Totty is a good bronze.

The rose exhibits seemed exceptionally fine for this time of year. C. H. Totty's exhibit of new varieties was most interesting. His new yellow rose, Lillian Moore, seems to justify all that has been said and written about it. American Beauty, Mrs. George Sawyer, Hoosier Beauty, Ophelia, Lady Alice Stanley, J. L. Mock, Prima Donna and other varieties were shown in excellent form.

The exhibits were very cleverly arranged. The stage was handsomely decorated by C. H. Totty, as a good-will offering, many fine exhibition, single and pompon varieties of chrysanthemums, being used with autumn foliage. The group in the center of the hall, arranged by Robert Tyson, superintendent for Mrs. H. McK. Twombly, which captured first prize, was a very attractive arrangement of chrysanthemums and crotons. Good fruit and vegetables were exhibited.

The following were among the leading successful contestants in the cut-flower competition: Geo. B. Schley, Far Hills (Wm. Hickvale, Gr.), eight first and three second prizes; J. C. Brady, Gladstone (J. G. Walker, Gr.), seven first and three second prizes; Ernest Wild, Madison, six first, one second and one third prize; O. H. Kahn, Morristown (Jas. Fraser, Gr.), three first and four second prizes; Mrs. H. McK.

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Twombly, Convent (R. Tyson, Gr.), three first and one second prizes; W. H. Dodge, Madison, N. J. (Wm. Duckham, Gr.); G. G. Fruylinghuysen, Morristown (Wm. Benning, Gr.); Kinnelon, Butler (Geo. Fisher, Gr.), and M. Macdonald, Summit, two first prizes each; "Wayside," Convent (S. Francis, Gr.), two first and two second prizes; Mrs. J. Crosby Brown, Orange (Peter Duff, Gr.), one first and two second prizes; New Jersey State Hospital (Otto Koch, Gr.), one first prize; J. Gordon Douglas, Morristown (A. Sailer, Gr.), one second and one third prize; W. G. Castra, Bernardsville, one second prize; John R. Mitchell, Madison, two second prizes; L. A. Theben, Morristown (E. Regan, Gr.), one second prize. In the plant section, the awards were as follows: Mrs. H. McK. Twombly and S. W. and A. Colgate, Orange (W. Reid, Gr.), two first prizes each; David Francis, Convent; Chas. F. Bannott, Summit (S. Blendin, Gr.); Lager & Hurrell, Summit; C. B. Wittpen, Bernardsville (L. Barkman, Gr.); P. H. B. Fruylinghuysen, Mrs. J. Crosby Brown, and O. H. Kalm, one first prize each; A. H. Fries, Morristown (T. Dorner, Gr.), and W. S. Thorne (J. R. Francis, Gr.), one second prize each, and G. B. Schley, one third prize.

#### NASSAU COUNTY SOCIETY SHOW.

The twelfth annual chrysanthemum show of the Nassau County Horticultural Society, which was held in Glen Cove, N. Y., November 2-3, was one of the finest exhibitions this society has ever held. The cut blooms exhibited were of the largest size and finest finish, while the various specimen plants and plant groups showed an acme of perfection that reflected the greatest credit on the skill of their growers. The roses, carnations and vegetables were of an equally high quality and competition in practically all of the classes was of the keenest. The various exhibits were most artistically arranged under the capable direction of Show Manager James Gladstone, ably assisted by James Holloway and Harry Goodband.

There were two groups of plants exhibited, each of which showed the most tasteful arrangement and brought forth many favorable comments. One was a group of chrysanthemum plants staged by Robert Jones, gardener for Percy Chubb; the other, a group of foliage and flowering plants entered by Robert Marshall, gardener for J. R. Delamar.

The classes for the double chrysanthemum standard and bush plants were both won by Robert Marshall, with James McCarthy, gardener for W. E. Kimball, second. The prizes for single chrysanthemums, standard and bush plants, were each won by James McCarthy, with Henry Gaut, gardener for Herbert S. Pratt, second. For six chrysanthemums in 6-inch pots, Robert Marshall was first and Robert Jones, second. For six chrysanthemum plants as grown for market, George Ferguson, gardener for Payne Whitney, first, and Robert Jones, second.

The prize for the largest bloom in the show was captured by Robert Jones with a massive William Turner. Mr. Jones also led in the number of prizes won, taking 17 firsts and six seconds. The classes for single and hardy chrysanthemums were well contested and many exceptionally fine vari-

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eties were exhibited. For 50 varieties of hardy pompons, Henry Gaut was first, with John Everett, gardener for John J. Pratt, second. The same exhibitors finished in the same order for the class of 12 varieties of hardy chrysanthemums.

Among others who were prominent in the list of prize winners were the following: W. A. Coe (Jos. Robinson, Gr.), J. H. Ottley (Thos. Flynn, Gr.), Frank Petroccia, William Noonan, George Ford and James McCarthy. The judges were Walter Angus, Ewen MacKenzie and Howard Nichols.

JAS. McCARTHY, Cor. Sec'y.

#### TUXEDO HORTICULTURAL SOCIETY SHOW.

The annual flower show was held in the ball room of the Tuxedo Clubhouse which was one of the finest displays of flowers ever shown at Tuxedo. The entries far exceeded those of any previous show. The groups were again a feature of our show. Chrysanthemums were very good. Singles were shown to advantage, and are no doubt slowly taking the first place in chrysanthemums, both for their usefulness in decoration and their beauty on the exhibition table. Roses were the best ever shown here, with a big increase in entries. Carnations were of excellent quality and fine color. The classes for vegetables in past years have been falling off, but this year they came right up to the front again. The feature of our show was the table decoration which brought out thirteen entries, the largest we ever had. Chrysanthemums

being the only flower used, the first prize was won by Mrs. S. Spencer (Emil Barth, gardener).

Mr. H. M. Tilford (Joseph Tansey, gardener) carried off first in both the miscellaneous and mum groups. He was also the winner for 20 varieties of single mums. Mrs. J. Murray Mitchell (Thos. Wilson, gardener) won the cup for six cold storage spiraeas and the cup for three vases of single and three vases of anemone mums. Mrs. A. Carbart (C. Costecki, gardener) won the cup for the best flowering plant. Mr. G. G. Mason (D. McGregor, gardener) won the bronze medal for the largest mum in the show with a very fine bloom of Wm. Turner. Mr. A. Monell (C. Davidson, gardener) was first with the fern group, there being three entries in this class. The judges were Messrs. R. Speirs, Dalton, Mass.; John Canuing, Ardsley, N. J.; Jas. Robertson, Newport, R. I., and Thos. Page, Great Barrington, Mass.

The principal prize winners in chrysanthemums were: J. Tansey, D. McGregor, C. Davidson, W. Hastings, Thos. Wilson, T. Lyons, and Mrs. MacMachan.

The principal prize winners in roses were Dr. Brock, D. McGregor, J. Tansey, Thos. Wilson, C. Davidson, C. Costecki.

The principal winners in carnations were J. Tansey, W. Brock, I. McGregor, W. Hastings, C. Davidson, Thos. Wilson, T. Lyons and C. Costecki.

The vegetable winners were D. S. Millar, Emil Barth and D. McGregor.

In the orchid classes Mr. G. F. Baker (Mrs. MacMachan, gardener), and Mr. H. H.

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Roger (P. Venezia, gardener) were the principal winners.

Mr. Richard Mortimer (C. D. Schaeffer, gardener) staged a very nice collection of anemone mums, all his own seedlings, which was awarded a certificate of culture.

THOS. WILSON, Sec'y.

#### NEW LONDON, CONN., SHOW.

New London Horticultural Society held its annual Chrysanthemum and Fruit Show November 8 and 9, in the Court House, State street. Chief among the prize winners was Thos. Hatton, superintendent for Mrs. G. M. Landers, who was first for arranged group of 'mums, and first for largest individual bloom. Ernest Robinson, gardener to Mrs. M. F. Plant, took first for the best twelve blooms; Stanley Jordan, superintendent for E. S. Harkness, second. The latter won first for a display of singles. Thos. Hatton, second. J. D. Rough, manager of Reuter & Son, Westerley, had a very effective display entered for competition. Edward Smith, florist, had a very pretty display of roses and chrysanthemums. Chas. H. Totty, Madison, N. J., exhibited some very fine pompons and singles. An award of merit was given. Elmer D. Smith & Co., Adrian, Mich., also sent a vase of 'mums and a charming new pompon, "Little Gem." Honorable mention given. Bush chrysanthemums and singles in pots were exhibited by Mr. Palmer. Vegetables were displayed by Harkness & Palmer estates. Fruit was shown by C. D. Willis, Mystic, Conn., and Mrs. Alfred Mitchell. Table decorations were staged by ladies. Judges were: Alfred Flowers, of Roseland, N. J.; Otto Ernst, Norwich, and Mr. Senea, of Norwich.

STANLEY JORDAN, Sec'y.

#### OYSTER BAY (N. Y.) SHOW.

The sixth annual chrysanthemum show of the Oyster Bay (N. Y.) Horticultural Society was held on November 9. The schedule was a short one of 45 classes for plants and cut blooms. J. Sorosick won first for the ornamental group of mixed plants, while Jas. Duckham led for the chrysanthemum group. The chief prize winner in the cut bloom class was Jos. Robinson, superintendent to W. R. Coe. Other successful exhibitors were: Alfred Walker, gardener to H. C. Smith; Archie Andrews, gardener to Comm. J. D. Blacton; Frank Kyle, gardener to Chas. Tiffany; and Arthur Patton, gardener to Jas. A. Blair; Geo. Wilson, gardener to J. B. Taylor; Henry Gant, gardener to H. S. Pratt, Glen Cove; and Frank Gale, Syosset.

#### LENOX HORT. SOCIETY SHOW.

The annual fall show of this society was held in the Town Hall, October 26 and 27. The numerous classes for fruits, flowers and vegetables were well filled with produce of the highest quality. One of the most notable features was the fine and extensive display of orchids; each year sees an increase in the number of exhibitors of these favorites. In the large group class, A. N. Cooley, Pittsfield, was first, with an artistic arrangement which contained many rare and valuable hybrids. A very effective arrangement on a round table won first prize for W. H. Walker of Great Barrington, who also won in the class for six *Cattelya labiata* and six distinct kinds. Both in quantity and quality Roses and Carnations surpassed anything staged at previous exhibitions. Mrs. Parsons, W. E. S. Griswold and Elm Court Farm were the leading winners in these classes. Mr. Cooley won the society's cup for a vase of 10 blooms of Chrysanthemums, and was first in the class



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for 24 distinct varieties. Giraud Foster had the best vase of 24 blooms and was first for 24 distinct. Mrs. Parsons showed the best singles and large specimen plants. Elm Court Farm arranged a large circular group of foliage and flowering plants and specimen foliage plants and ferns were well shown by Charles Lauier and M. Salisbury. Mrs. Parsons was first for white Grapes, and Giraud Foster had the best black. Vegetables and salads were as usual extensively shown and were of very high quality. Mrs. Winthrop, Count de Heredia and Giraud Foster took the lead in the principal classes. There was a large attendance on both days.

J. H. F., Ass't Sec'y.

#### CONNECTICUT HORTICULTURAL SOCIETY SHOW.

The annual exhibition of Chrysanthemums under the auspices of the Connecticut Horticultural Society held at the County building, Friday evening, surpassed anything given in previous years. The specimens were remarkable for size, color, stem and foliage.

Alfred Cebelius, head gardener for Professor M. W. Jacobus, exhibited a standard, G. Piteber, bearing 275 blooms and measuring five feet in diameter. The blooms were yellow and will bloom up to Christmas.

John F. Huss and Francis Roulier, both masters in the floral field, commended Mr. Cebelius on the remarkable growth and expertness in producing so wonderful an exhibit. Another specimen of the white quilled variety, Rien du Japon, had 250 blooms. In the collection were some large 'mums of great size and color.

John F. Huss, superintendent for Mrs. James J. Goodwin, had an unusually fine collection of large Mums. William Turner, white, attracted much attention on account of size. It was a wonderful specimen. Mrs. Stevens, orange colored; Lady Hopetoun, pink; G. P. Wallace, Mrs. Gibson, Nacota, Odessa, Mease, La Griswold, Kitty Lawrence, Ramapoc, Glenview, El Rosseau, and Lady Ludwig came in for their share of admiration by the audience.

Warren S. Mason, superintendent of the A. A. Pope estate at Farmington, exhibited twenty-two varieties of large Mums and twenty-three of pompons and singles.



A. N. Pierson, Inc., of Cromwell, had a very fine collection of large Chrysanthemums and Pompons, also of seedlings and singles. The yellow William Turner was a perfect specimen, lemon tint hue. One of the new yellow cactus Mums was the R. M. Morgan. A beautiful yellow and heavy producer was the Harvest Moon. In the collection were some forty other varieties, each having its peculiar characteristics.

H. R. Hurd, of the Beach Estate, West Hartford, exhibited seven large varieties and thirteen Pompons, using good taste in staging his exhibit.

Howard Semf, J. Vidbourne, and A. Righenzi were named to judge the exhibits. The exhibits of Alfred Celchius, also those of John F. Huss and A. N. Pierson, Inc., were awarded first class certificates. The exhibits of Warren S. Mason and H. R. Hurd certificates of merit.

ALFRED DIXON, Secretary.

#### RIVERDALE HORT. SOCIETY SHOW.

The first annual flower show of the Riverdale Horticultural Society was held at the Neighborhood House, Riverdale, N. Y., October 28-29. The show was a grand success. Eight hundred people visited the show in the two days. The society promises for next year a more extended show with better arrangements. Mrs. Pauline Boettger, of Riverdale, R. Heidkamp, superintendent, received the prize for the most prizes won at the show. Mr. Geo. Perkins and Mr. Cleveland Dodge were also large prize winners. Several of the smaller private places were in competition, and carried away a good many prizes.

Prizes were awarded as follows: Group of foliage and flowering plants, space 25 square feet—First, G. Perkins, A. Millard, superintendent; second, Cleveland Dodge, G. Norris, superintendent.

One specimen Chrysanthemum plant—First Mrs. P. Boettger (R. Heidkamp, superintendent); second, Cleveland Dodge (T. Norris, superintendent).

On specimen fern—First, Mrs. P. Boettger. One specimen palm—First, Mrs. P. Boettger. One flowering plant—First, Mrs. P. Boettger; second, Geo. W. Perkins. One foliage plant—First, Geo. W. Perkins; second, Mrs. P. Boettger.

One orchid plant—First, Mrs. P. Boettger. Vase of 12 single stem chrysanthemums for effect—First, Cleveland Dodge; second, Mrs. P. Boettger.

Six varieties of single chrysanthemums, three sprays to each variety—First, Geo. W. Perkins; second, Mrs. P. Boettger.

One vase of six anemone chrysanthemums—First, Mr. A. Douglas, H. Hamilton, superintendent; second, Mrs. P. Boettger.

One vase of 12 sprays of single chrysanthemums for effect—First, Geo. W. Perkins; second, Mrs. P. Boettger.

Three vases of three varieties of pompons—First, Mrs. P. Boettger. One vase of six disbudded single chrysanthemums—First, Geo. W. Perkins. Vase of six disbudded L. Dottys—First, Geo. W. Perkins; second, Cleveland Dodge.

Smaller classes of single stem chrysanthemums, three blooms, one of each variety, were won by Cleveland Dodge, P. Boettger and F. Aliens.

The society cup for the largest chrysanthemum bloom in the show was awarded to Mrs. P. Boettger, R. Heidkamp, superintendent.

Twenty-five roses arranged for effect—First, Mrs. P. Boettger; second, Geo. W. Perkins. Twenty-five carnations for effect—First, Mrs. P. Boettger; second, Geo. W. Perkins. Several other prizes for carnations and roses were awarded.

Twelve varieties of vegetables—First,

Cleveland Dodge; second, A. Douglas; third, Mrs. P. Boettger. Six varieties of vegetables—First, Mrs. High, H. Scheafer, superintendent; second, F. Aliens, H. Brunger, superintendent; third, J. B. Carse, G. Johnson, superintendent. Table center-piece—First, Mrs. P. Boettger; second, Geo. W. Perkins.

D. P. Kingsley, Oscar Carlson, superintendent, won first prize for vase of cosmos; Mrs. High, second, and Geo. W. Perkins, third. Miss Webb, of Riverdale, also was awarded a special prize for a vase of double cosmos.

Albert Millard, superintendent for Geo. W. Perkins, showed a very nice collection of dahlias, among them being one seedling which was a great attraction and which will without a doubt be named Mrs. Geo. Perkins. There was also a good competition in corsage bouquets—First, Frank Swenson; second, William Morrison; third, F. Batterman.

#### NEW BEDFORD (MASS.) CHRYSANTHEMUM SHOW.

The annual chrysanthemum show of the New Bedford Horticultural Society, held November 2 and 3, was a marked advance over previous exhibitions. Row upon row of mammoth flowers arranged in line do not appeal to the public as a rule, and this condition was largely remedied this year.

Several groups of mums interspersed with foliage plants relieved the monotony and increased the beauty of the show to a marked degree. Local florists helped in this respect more than they ever did before, Murray, Jahn, Garthly and Woodhouse putting up groups which were a credit to each. James Garthly produced the finest effect with the smallest number of plants and flowers, due, no doubt, to the delicate touch of a female hand, his wife taking charge of this part of the display. The displays of mums and foliage plants covering 40 square feet were magnificent. Mr. Roy, superintendent for H. E. Converse, winning the cup, while Mr. Griffin, superintendent for Galen Stone, was a very close second; in fact so close the decision was hard to

make. A group of six plants in 8-inch pots, six flowers to each, made one of the most attractive exhibits.

As usual Mr. Roy captured most of the prizes, although hard pressed by Mr. Griffin, especially in the class for 18 blooms and in the group arranged for effect. In the former class it looked as though Mr. Griffin might win over his old-time rival, but the judges decided otherwise, and their opinion seemed to meet with the approval of the public.

Personally, I considered the awards very good in all classes provided for in the schedule, but for some exhibits not classified their awards seemed lamentable, following the custom so often applied among the minor horticultural societies of passing out certificates of merit promiscuously to displays which had no claim for recognition of any sort. Consolation prizes, as it were. Such awards minimize the value of these certificates of merit, medals and their kind. What value are they to a person who has shown something really meritorious if similar awards are made to inferior exhibits just because there is nothing else provided? Awards of this kind should be frowned upon by the horticultural fraternity.

The finest flowers shown, judged as these mammoth affairs have to be judged, size, form, foliage and color, were the following, ranking in the order given:

Mrs. A. S. Watt, Melton, Master Rese, Earl Kitchener, Onunda, Lady Hopetown, Mrs. Boggs, Mrs. G. Drabble, Daily Mail, Mrs. Mitchell.

Other exhibits worthy of special mention were a vase of six blooms of H. E. Converse shown by Mr. Griffin, and vases of three flowers, white, yellow, pink, and any other color shown by Mr. Roy.

Louis Macy, an enterprising amateur, had a small table very tastefully arranged with hardy mums, roses, violets and autumn leaves, making a very pretty effect.

F. G. Tripp put up an unusual display for this time of the year, showing upwards of 100 dahlia blooms in prime condition.

Taken as a whole the committee have every right to be pleased.

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**SEWICKLEY HORT. SOCIETY SHOW.**

The chrysanthemum show of the Sewickley Horticultural Society, held in the school pavilion, November 2-4, was a great success in every way, being favored with splendid weather. The attendance taxed the capacity of the hall to the utmost for the three days of the show, and a larger hall would have shown off the exhibits to better advantage.

Chas. H. Totty, of Madison, N. J., staged a fine exhibit of chrysanthemums, including White Doty, fine flowers of Wm. H. Waite, a fine gold and reddish flower similar to Mary Mason, but larger, Louise Pockett, a large incurved white, and Golden Champion, an immense flower on the Rose Pockett color, altogether a well named flower. E. D. Smith & Co., of Adrian, Mich., also sent a fine display, including some novelties, with fine flowers of Miss Wright, Calumet and Smith's Sensation. The exhibit of the Pittsburgh Cut Flower Co. was a great attraction, outstanding being five vases of Ophelia, J. L. Mock, Richmond and My Maryland roses. They also showed a fine collection of singles and pompons. The Valley Greenhouses exhibited fine specimens of Snapdragon Helen Walker. Mr. Allen, of Homewood cemetery, had on view a brownish sport of Lillian Doty. The judges were Jas. Wiseman, Fred Burki and A. C. Davidson, and their work was beyond criticism. Farmhill estate displayed stove and flowering plants.

The following were among the principal prize winners: Mrs. E. M. Horne (M. Curran, Gr.), H. L. Mason (J. Murphy, Gr.), H. J. Heinz (A. A. Leach, Gr.), Dixman Hospital (Carl Beeherer, Gr.), Mrs. W. P. Snyder (Wm. Thomson, Gr.), R. B. Mellon (Ernest Guter, Gr.), Mrs. A. Laughlin, Jr. (T. Sturgis, Gr.), Mrs. Wm. Thaw (John Jones, Gr.), R. N. Boggs (R. Taylor, Gr.), H. C. Frick (Jas. Fraser, Gr.), Watson estate (Herman Rapp, Gr.), C. D. Armstrong (T. E. Tyler, Gr.), Mrs. J. F. Byers (A. E. Bousey, Gr.), T. B. Oliver (John Reis, Gr.).

**MENLO PARK HORT. SOCIETY'S SHOW.**

The fall flower show of the Menlo Park Horticultural Society was held in Foresters' Hall, Redwood City, Cal., October 27-29. The society surpassed all its former efforts and the feature proved an unqualified success—socially, artistically and financially.

The center of the large hall was devoted to pot plants—palms, crotons, orchids, ferns and flowering plants. The cut blooms of chrysanthemums were arranged on benches, which ran the entire length of the hall. The rose and carnation exhibits were on benches against the wall of the building. On the second and third days and evenings, the hall on the second floor was given over to the table decorations, baskets, bouquets and other floral arrangements.

As usual, David Bassett, gardener to Louis Stern, carried off first prize with his great showing of decorative plants arranged for effect. This group captured the Lord & Burnham silver cup. He also won the society's silver cup for the best collection of 24 blooms of chrysanthemums and also the gold medal offered by the Lynch Nursery Company, of Menlo Park, for a collection of chrysanthemums. He also won the National Association of Gardeners' medal for 12 blooms,—all of which is some record for one show.

The Fleis-hacker collection of orchids was a splendid one and reflects great credit on the grower, Walter Ellington, who in such a short space of time has worked up such a grand lot of plants. Some remarkable specimens of vandas in variety were shown. The cattleyas also were superb.

John M. Daly, gardener to J. Leroy



PROPOSED HORTICULTURAL HALL, MANCHESTER, MASS.

Nickel, was easily first with fruit grown under glass; his grapes, figs and pears being wonderful. This exhibit, as usual, was one of the most attractive displays in the hall.

Percy Copp won the silver cup for the best miniature garden. Dave Patterson was a close second. A. M. McDonald showed a splendid garden but it was not for competition, having arrived too late for judging. The silver cup offered for the best table decoration went to Percy Copp with a beautiful arrangement of Primula Forbesii.

G. N.

**NASSAU COUNTY HORTICULTURAL SOCIETY.**

The regular monthly meeting of the Nassau County Horticultural Society was held in Glen Cove on Wednesday evening, November 9, President James McDonald presiding. The principal feature of the evening was the competition by assistant gardeners for the best table decoration for prizes offered by Robert Jones. James Holloway, Samuel Trepan and Daniel Coughlin were appointed as judges, and they awarded first prize to James Waite, second to George Ford, and third to Arnold Gottiker.

Cut chrysanthemums comprised the other exhibits of the evening, and for these classes John Johnstone, Joseph Adler and Frank Watson acted as judges. They awarded to James McCarthy first prize for three white chrysanthemums, and first for three yellow, and to John Danbrowski a certificate of culture for a vase of single chrysanthemum Emma, and honorable mention for a vase of a seedling anemone flowered 'mum with the recommendation that it be exhibited again.

After the meeting a most enjoyable smoker was held at which all who were fortunate enough to be present spent an evening full of pleasure. Our next meeting on the second Wednesday in December will be held at 2 o'clock in the afternoon. This will be our annual meeting at which the election of officers will take place, and all members are requested to be present.

JAMES MCCARTHY, Cor. Sec'y.

**NORTH SHORE, MASS., HORT. SOCIETY.**

The above society held its annual business meeting and election of officers on Friday evening, November 3. During the past year the society has moved steadily forward; the building committee report a total of \$17,500 pledged toward the proposed

Horticultural Building, \$2,500 more being needed before work can be commenced.

It was with deep regret that the members learned that our president, Mrs. W. Scott Fitz, declined re-election to that office. Mrs. Fitz has served for two years, and retires with the respect and gratitude of the members, her active interest and influence have contributed in a large degree toward the purchase of land and the project of a permanent home for the society.

Mr. Herbert Shaw was awarded a certificate of merit for collection of early flowering chrysanthemums. At a previous meeting certificates of merit were awarded as follows: Herbert Shaw for apples; Paul Maillard for apples and early Bovee potatoes, and William Till for collection of gladiolus. Mr. Maillard, one of our active members, is leaving Manchester, having accepted the position of superintendent of the Joseph Leiter estates in Virginia and Washington, D. C. The following officers were elected for the year ensuing:

President, Frank P. Knight; vice-president, Eric H. Wetterlow; treasurer, John Jaffray; clerk, Leon W. Carter; librarian, P. J. Gilmore. Executive committee: Alfred E. Parsons, Herbert Shaw, James Salter, Axel Magnuson and Frank Foster.

WILLIAM TILL, Cor. Sec'y.

**LENOX HORTICULTURAL SOCIETY.**

The annual meeting and election of officers of this society was held November 8. The evening was given over entirely to business. Reports were submitted and recommendations made concerning the fall exhibition which proved a big success. It was voted to purchase for the use of the society a die, together with six silver and six bronze medals to be awarded for exhibits of special merit.

The retiring vice-president, E. W. Edwards, superintendent to A. N. Cooley, Pittsfield, was unanimously elected president for the ensuing year. Alex. McLeod, superintendent to A. R. Shattuck, to fill the vice-president's chair. The resignation of the secretary was accepted and H. Heesemans appointed in his place.

Messrs. E. Jenkins, S. Carlquist and A. J. Loveless (treasurer) made a few remarks for the good of the society, recommending a get-together of members to endeavor to make the season's meetings still more interesting and instructive, also to obtain as many new members as possible. Two names were submitted for membership at this meeting. J. H. F., Asst. Sec'y.



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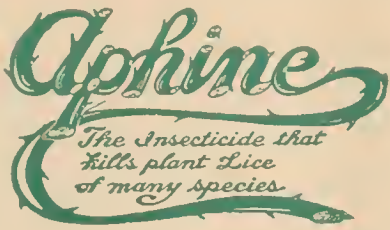
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A new booklet in which has been compiled a mass of extremely valuable information about trees and their needs. Profusely illustrated with a very fine series of photographs, it takes up the major trouble of trees and explains them clearly and explicitly. Free upon request. Write for your copy today.

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(Operating the Davey Institute of Tree Surgery)

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**L**OOK at the location of the workroom and its direct relation to the palm house.  
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# GARDENERS' CHRONICLE

OF AMERICA

A  
HORTICULTURAL DIGEST



PARKS & GARDENS

ILLUSTRATED

# Successful Tree Surgery absolutely must do these four things:



- 1 Allow for tree sway, thus insuring permanence of filling.
- 2 Restore to tree the physical strength destroyed by decay.
- 3 Kill all disease, to stop process of decay.
- 4 Absolutely exclude water. This also prevents further decay.

Photographs 1 and 2, on the left, illustrate a typical case of "tree butchery" by inexperienced, irresponsible tree men, hundreds of whom are imposing themselves on the public today. They fail entirely in the four essentials set forth above. Photographs 3 and 4, on the right, illustrate a typical case of real Davey Tree Surgery. It is perfect in all four essentials.

## "Tree Butchery"

**Filling.** The filling in this tree has gone to pieces and is falling out. It was put in as a solid mass, no allowance having been made for the sway of the tree. No solid filling of any size can withstand this strain.

**Bracing.** Absolutely no bracing was used in this tree. "Tree Butchers" seldom brace trees; they do not seem to understand the necessity for it nor the correct mechanical principles involved (see photograph 2). Proper mechanical bracing is ultra-important.

**The Cavity.** In this case the decay was not even thoroughly removed, and no effort had been made to disinfect the cavity to kill the disease. The result was just what you would expect in a tooth treated in a like manner—an aggravated condition of decay and rapidly increasing weakness.

**Excluding Water.** Water behind a filling hastens and intensifies decay. Therefore, it is vitally important to exclude it. "Tree Butchers" do not seem to take this into account, and have no knowledge of the methods that should be employed. Would you trust the blacksmith to treat your teeth?



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**Filling.** The filling in this tree is standing perfectly in spite of the terrific strains of past storms. Put in by sections, each division forms a ball-and-socket joint, allowing for the sway of the tree. This is a patented Davey method.

**Bracing.** The internal bracing used by Davey Tree Surgeons meets every mechanical need. It restores the physical strength destroyed by decay, and binds the individual sections to each other and to the tree, making a physically perfect unit.

**The Cavity.** All cavities treated by Davey Tree Surgeons are thoroughly cleaned out, no matter how far the decay extends. The entire surface of the cavity is then disinfected and waterproofed. As in dentistry, the greatest care is essential in the preparation of the cavity.

**Excluding Water.** Davey Tree Surgeons use in every cavity a device known as the "water shed," which excludes from the cavity every particle of moisture. By keeping the water out it prevents further decay, and thus the filling becomes a permanent success. The water-shed is a patented feature.



Write for free examination of your trees, and booklet, "When Your Trees Need the Tree Surgeon"

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# Hello, Everybody!

Not going to talk much about business in this issue—just want to wish you all the Compliments of the Season and to tell you our 1917 Catalogue has been mailed you, and if you have not received it drop us a card and another copy will be sent you. Catalogues will go astray in the mail during the 'Xmas rush—and we want to be sure you get a copy, and we do not want to have you think you've been slighted.

**CHARLES H. TOTTY**

**Madison, N. J.**

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will be mailed in December. As usual, we are listing all the good old and tried varieties, and, in addition to these, we are offering the best novelties we have ever introduced. Some of the leaders:

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- JESSICA McMURRAY. Old-rose pink.  
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 ROMAINE WARREN. Orange-yellow Pompon which is very distinct.

## NEW YELLOW ROSE

MME. COLETTE MARTINET. "The rose the gardener has been looking for."

*If you do not receive our catalogue send us your name and address. You will find this list especially interesting.*

A. N. PIERSON INC.  
**CROMWELL GARDENS**  
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December delivery

Spiraeas make excellent plants for Easter and Memorial Day decorations. They should be potted on arrival and be kept in a cool cellar or coldframe till about two months before they are required to flower.

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	Each	Doz.	100
AMERICA. A striking novelty. Elegant flowers of Cattleya-color; lilac-rose with silvery reflex, heretofore unknown in forcing Spiraeas	\$0 30	\$2 00	\$12 00
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25,000 Oriental Planes, 4 to 10 ft. For growing on

500 American Holly 12 to 30 by 12-30, Shapely Plants.

500 Norway Spruce 5 to 7 ft. Will be sold cheap.

All this stock is in perfect condition. Inspection solicited.

Send us list of your wants of the above for special prices.

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 Branch of Jas. Carter & Co., Raynes Park, London, England

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### THOMAS J. GREY COMPANY

THE SEEDSMEN

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Boston, Mass.

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# LILIUMS---SPIREA---LILY OF THE VALLEY

The following bulbs and roots have arrived:

### HARDY LILIUMS

The three best Hardy Lilies for outdoor or indoor growing have arrived. Have you placed your order for your full requirements? They may be planted now in pots and carried over until planting out time next spring.

AURATUM (Golden Banded Lily)		SPECOSUM ALBUM		SPECOSUM MAGNIFICUM	
Doz.	100	Doz.	100	Doz.	100
8 to 9 inch bulbs.....	\$1.00 \$8.00	8 to 9 inch bulbs.....	\$2.25 \$15.00	8 to 9 inch bulbs.....	\$1.00 \$8.00
9 to 11 inch bulbs.....	2.25 15.00	9 to 11 inch bulbs.....	3.50 25.00	9 to 11 inch bulbs.....	2.25 15.00
11 to 13 inch bulbs.....	3.50 25.00	11 to 12 inch bulbs.....	4.50 35.00	11 to 13 inch bulbs.....	3.50 25.00
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### SPIREA (For Easter Forcing)

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Our own introduction of this year. A variety similar in habit to that sterling variety Rubens, but of a livelier pink color. The foliage is of a deep green.

**America.** A very striking novelty; green foliage, elegant lilac-rose flowers; a color heretofore unknown in forcing Spireas. **35 cts. each, \$3 per doz., \$20 per 100.**

**Avalanche.** A new white variety on the order of Gladstone. More compact in habit and a good grower. **35 cts. each, \$3 per doz., \$20 per 100.**

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**Rubens.** A variety of wonderful habit and coloring. A lively pink, the spikes borne well above the foliage. **35 cts. each, \$3 per doz., \$20 per 100.**

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30-32 Barclay Street  
NEW YORK CITY

# GARDENERS' CHRONICLE OF AMERICA

Devoted to the Science of Floriculture and Horticulture

Vol. XX.

DECEMBER, 1916.

No. 12.

May we have in this coming year a new sense of what we are worth to each other because of our common humanity.

May we cherish and be stimulated by every achievement of character in others.

May we value manhood, regarding with reverent sympathy its hopes, its aspirations, its noble purposes.

May we find in these things that which draws out our hearts and binds us as man to man with strong cords. Knowing our own hearts, may the compassion of Christ never fail us; yet constrained by the beauty of righteousness may we constantly demand of ourselves and others the full measure of justice and honor.

LUCIUS H. THAYER.

## *Things and Thoughts of the Garden*

By The Onlooker

WE are now in the early winter period of the year. How quickly, how very quickly, do the seasons roll by! There is a story told of an aged gentleman whose duties kept him busy, who is said to have remarked: "When I was a boy the days seemed to drag along. When I became a man at 21 they began to walk. In middle life they seemed to run. Now they fairly gallop." Well, really, the days and weeks seem to gallop, right enough, and "The Onlooker" isn't yet "an aged gentleman." How many of my friends had I intended to write to this Christmas and send them a message who will certainly go short because I haven't had the time. You're in the same boat, are you not?

\* \* \*

About New Year's the advance guard of the seed catalogs come in. All through November and December the compilers have been busy, and after them the printers. Have you ever thought how much careful study and labor goes into the making of a big seed catalog? Listen. After the seed harvest has been canvassed and closely estimated the responsible partners or principals go over the list of subjects in their previous catalog. They know what stock of seeds they have on hand, what stocks of new-seeds they are sure of, what they can reasonably expect to come in, and others that are short or very doubtful. Beans, onions, peas may be a short crop; short all over the country. Last year, if I remember right, beet was very tight. Spinach, too. The European war has upset calculations and is continuing to, but at any rate, the figuring out has to be done and the pricing is in accordance. The list of newer varieties or of recent novelties calls for special attention. Progressive firms like to maintain and feature a list of meritorious novelties. If one or more of these falls short, necessarily they have to "play up" its neighbor. So far, so good. What of the illustrations? These must be prepared when the plants and crops are growing. Several firms have pho-

tographers and artists attached to their staff. Some employ full-time photographers. Said photographers are the "Johnny on the spot," ready to go out at the psychological moment and get their subject looking its very best. Flower and vegetable photography is a specialty anyway, and a crack portrait photographer, or a photographer of interior decorations might fall far short of the best excellence if he tried to take flower pictures. Then comes the descriptive writer.

\* \* \*

The man who writes descriptions should know his business. He must have several points of view registered in his mind. Nowadays the hifalutin is being exorcised rather than exercised. Glowing descriptions are not wanting; neither are overdrawn pictures, but the best houses strive always to furnish a true account of their varieties and only that. Mind you, a writer has to keep in mind that what he is describing is something new and good. As there are other good things also before the purchaser, it seems called for on his part to go somewhat into niceties and to emphasize them. Comparisons, too, although said to be odious, are advisable in order to bring out the points of development in the novelty. In the realm of flowers the breeders and selectors have made giant strides. Each year sees improvement. Nothing is truer. It happens, therefore, that the newcomer may lay claim to or deserve everything that is said in its favor, although something similar may appear to have been said of other varieties in times past. Our part, as purchasers, is to speculate and test the newcomer. After all, even if we draw a blank or get disappointed, what lots of fun we've had in the expectant watching. Even the seedmen, the most experienced of them, get disappointed over their own pets. Seasons, localities, soils, the aspect of the garden in which the plant is grown, also the cultural treatment that is given, each and all play a part. Too many people sow, plant, or "garden" carelessly or wrongly, and then lay the blame

for the failure or falling short on the firm that sold the seeds (or plants).

\* \* \*

Every page of the seed catalog must pay for itself. Every page costs a certain stated and known sum. This sum is the average of what it costs in men's wages, clerical help, illustrations and cuts, printer's bill, paper, binding, addressing and mailing. Think of the paper account alone. It would stagger some of you—you who perhaps lightly toss the catalog into the waste paper basket. White paper used in catalogs is costing somewhere round 12 cents a pound at this moment. Few catalogs weigh less than half a pound, yet if the catalog runs over 8 ounces, even ever so little, it is charged at pound rates for mailing. This is where some scheming is necessary if the half-pound weight is to be adhered to. Some day the houses may have the sensible privilege of mailing in bulk at pound rates. An edition of a seed or nursery catalog may run to one hundred thousand, which is not unusual, or up to half a million and over, which is the number printed and disseminated by a few of the firms. It is these that have to be most careful to make every page pay for itself. So there we have a few particulars of the catalog or seed list and its preparation before it reaches us. Think of the spelling of the names, the verifying, checking off, the close estimating of the cost of ounces, half ounces, packets; how much the packets should contain, and so on, and then marvel that so few mistakes are made.

So much for these indispensables. They are among the most important of the "literature" of gardening. Give them a good reception.

\* \* \*

It is at this early winter season that we appreciate so much the little greenhouse or attached conservatory. Just as there are few fruit trees in any of the smaller gardens (as we mentioned last month) because it simply has never occurred to the owners to plant them, so there are comparatively few greenhouses in any of the suburbs of our larger cities. Sun parlors are not uncommon, and some plants can be grown here. We would not want to crowd the place with plants and indeed the selection of kinds that would succeed is very limited, but recently I saw a very neat span-roofed greenhouse into which the sun parlor led by way of two or three steps down. The greenhouse was in keeping with the rest of the house and a similar one at small cost could be made part of the general plan of many properties. The greenhouse builders would be willing to advise on such a matter, and indeed they would or should be called in anyway. Think of the bright selection of flowers you could have here through the autumn and winter, and good and early tomatoes in the summer, followed by first-class melons, if that were desired. We would, however, vote for keeping such a greenhouse purely for ornamental plants.

\* \* \*

The common bay, or English broad-leaved laurel, is so handsome an evergreen that it well deserves being taken care of in the winter so that its large, glossy, bright green, oval-oblong leaves may be enjoyed in the summer. Near the sea in the vicinity of New York it comes through the winter without shelter, and it is used sometimes for the filling of window-boxes. It will grow into a small branching tree 15 feet high under the best conditions and also makes a fine hedge.

At Christmas we will be seeing quantities of little ericas—heathers, as they are called by the florists. These little plants in 3-inch and 4-inch pots are from tiny cuttings put into the sand just one year ago. Erica melanthera is easy to handle, roots readily and grows freely. The bushy plants reach 6 inches to 9 inches in

height, being grown in frames or out of doors in the summer. It requires a little forcing along to get them in flower now, and they object to a warm house. Of course it takes a year or two to get large plants.

\* \* \*

What a fine fern *Pteris argyrea* is for decorative uses. In the florists' made-up pans at Christmas it is one of the most distinctive and graceful. These pans contain such plants as *Dracaenas* (terminalis type in bright colors), *Croton punctata*, *Cocos Weddelliana*, *Kentia palms*, *Marantas*, *Abutilons vexillarium*, *A. Savitzii*, *Pteris serulata*, *Cyrtomium falcatum*, *Asparagus plumosus* and such plants as *dracaenas* (terminalis type in bright color) with small ferns and *tradescantia* go well.

\* \* \*

*Poinsettias*—these glorious scarlet floral subjects are the kings of the spurge family—are seen everywhere at Christmas either as pot plants or in a cut state. When cut the ends of the stems should be put immediately in scalding water until the milky juice becomes coagulated. After that, don't cut the stem again. Some of the florists plug the hole in the stem with a piece of stick. Others cauterize the end. If bleeding is prevented the plants or flowers last three times as long and do not wilt.

\* \* \*

How are your pansies, English daisies, forget-me-nots, candytuft and *phlox amoena* getting along? A very cool house or even a cold frame is all that they want. Some of the most forward of the pansies are now blooming. Mats and hay or straw should be ready for their protection. If some heated stable manure is at hand it may be lined along the sides of the pits or frames during the hard weather, or rather before the weather becomes severe. Of course where low span houses with raised benches can be afforded, the pansies, at all events, will respond the better.

\* \* \*

Another operation that has demanded attention recently and is still part of our work is getting flowering trees, shrubs, roses and such like lifted from the open and brought into storage before severe frosts arrive. Any frost-proof shed answers. Deep frames are excellent for protecting doubtfully hardy shrubs such as *rhododendron*, pink pearl, English ivy, variegated Japanese *euonymus*, *E. radicans variegata*, etc. Put leaves and hay around the pots and over the plants very lightly, enough to shade them and prevent thawing and freezing but avoid suffocating them. No shrub can stand that.

\* \* \*

In view of the fact that evergreens (conifers and pines) are so scarce in many sections, why not begin to remedy this by propagating a stock? If you have a propagating bench filled with sand in a house with a temperature of 50 degrees, you can insert small cuttings now. These may be parts of tips of side branches or of lateral growths wherever they can be obtained. Trim them to 4½ inches long at the most and insert quite half this depth in the sand, make firm and keep damp. Among the plants that can be taken and rooted now are *Retinispora squarrosa*, *R. pisifera* and its golden form, *Cupressus plicata* and *Biota orientalis*. The much prized golden privet is also in the sand at this time just striking root. Large plants of the evergreen tribe can be lifted and transplanted almost any time, even when frozen, so long as it is practicable to lift with a ball of soil attached. Indeed the cutting around can be done now, and the transplanting may be done later when the ground is hard and clean. It is a common practice, by the way, to cut a circle or take a trench out around trees or large shrubs a year in advance of the time when they

are to be lifted and removed elsewhere. The object of this cutting around is to prepare the subject to meet the check or shock that it will receive, and partly also to cut any thong-like roots and to get a mass of fibrous roots instead.

\* \* \*

In these dark winter days what better occupation once in a while than to plan improvements and developments of the garden. Too many places are far from cosy or inviting. They are naked and require hedges, shrubberies, borders of hardy plants, trellises, arbors, walls and ornamental features.

\* \* \*

Even at this late date it is possible to purchase splendid bulbs—narcissus, tulips, crocuses. Why not box-up a few hundred or even put them in the open ground? The land at this writing is friable and not cold. Late plantings on north borders will give flowers even into the third week in May.

One of the precious factors about gardening is that it never gets worn out. It has a splendid literature—illimitable, and although the grounds are bare and we may not have endless conservatories full of treasures, we can read all about the favorites whose acquaintance we may have met in a call at a neighbor's place, we can look up the meaning of its name, where it hails from, find out what it is related to among the other flowers and get to know its peculiar cultural needs. Your true gardener must have a good library. At this time the garden clubs should also discuss next year's show plans and schedules.

\* \* \*

We cannot all have choice orchids, perhaps not even cyclamen nor lilies nor carnations nor roses, but a bench of the humble geranium in a variety of colors, pink, white, salmon, scarlet, is not to be despised. If properly treated the plants can be had all winter in bloom.

## Roses for the Arbor and Trellis

THE character of the foliage and hardiness should be an important consideration in choosing types of climbing roses for covering arbors, trellises, pergolas, pillars and similar structures. Roses used in this way are usually in conspicuous places and flowers can be depended on for ornamental effects for a relatively short period only during the year. Climbing roses with a poor leaf development or those especially liable to attack by insects and diseases, therefore, make but a poor appearance.

Of the trellis and arbor roses the members of the *Wichuraiana* group are among those most resistant to disease and insect attack. They have foliage pleasing to the eye throughout practically all seasons. The blossoms are white and single. The *Multiflora* climbers flower in clusters. Many of them, however, especially the so-called ramblers, are subject to mildew and insect attacks. They are reasonably hardy in the North. Roses of the *Laevigata* group, represented by the *Cherokee*, on the other hand, require a warm climate. This is true also of the roses of the climbing *Noisette* group represented by the *Marechal Niel* and *Lamarque*. These roses are suitable for culture only in the warmer sections where the Winter temperature seldom falls below 10 degrees F. above zero.

Climbing roses require large quantities of plant food. The body of good soil available should be equal to a mass 3 feet square and 30 inches deep. A hole of this volume should be dug and filled with good garden soil mixed with well-rotted manure. Climbers, like all other roses, require good drainage. No roses will thrive where water stands about their roots. Planting should be done carefully.

Special pruning methods must be employed for climbing roses. These methods are determined by more or less of a compromise between the desire, on the one hand, to force the growth of blossom-bearing, new wood by removing old wood, and, on the other hand, the desire to keep arbors and similar structures at least partially covered. One-half of the wood should be pruned from all the climbers, as from the other types of roses, at planting time. In the case of the established plants the *Wichuraiana* and hardy climbing roses should be pruned just after blooming. At this time young shoots

will have started from the roots. The growth of these shoots should be encouraged, as it is from them that most of the branches are produced that bear the following year's bloom. The best way is to remove all the old wood at this time, so that all the strength will go into the young shoots. Where the roses are trained over a trellis so high that one season's growth will not cover it, the method just described is not practicable. In such cases some of the old shoots should be cut off at the ground, and the others should be shortened from 3 to 6 feet, depending on the amount of growth the vine has been making each year. New shoots should be trained to take the place of those removed. It should be kept constantly in mind that the present year's growth bears next year's flowering branches and that a few vigorous branches are more desirable than many weak ones.

Roses of the hybrid *Noisette* group, of which the *Marechal Niel* is a representative, should be trained to a good strong cane, with the side shoots cut back to about three eyes. The main cane can be renewed occasionally.

The *Cherokee* rose should be treated like the border roses, pruning only dying or crossing branches. Every few years it may be cut back severely and allowed to start again.

It must be kept in mind that roses have no provision for attaching their canes to trellises and arbors as grapevines and other tendriled plants have. Roses, therefore, must be carefully trained, the canes being tied to the desired positions as they grow.

Throughout large sections of the country it is unnecessary to protect climbing roses in Winter. In the northern sections where roses are apt to winterkill, however, some sort of protection is necessary. Wrapping the bushes in straw is effective where the cold is not too great, but is somewhat unsightly. It permits keeping the vines more nearly in their Summer position. A surer method is to lay the vines down, covering them with earth, and after that is frozen adding a layer of straw or manure. This covering must be removed promptly in the Spring as soon as freezing is over.—*United States Department of Agriculture Bulletin.*

# In the Greenhouse Month to Month

By W. R. Fowkes, New York.

THE pot fruit trees, namely, peach and nectarine, which have been stored away in a cool structure can now be brought into the cool department of the glass and slowly started. Low temperatures must be obtained for a month. Never allow higher than 35 degrees Fahr. at night and during the day keep down to as near 45 degrees to 50 degrees as possible.

Other subjects in this house must be grown that will stand this low temperature. Bulbs of all description can be started here, also stock plants or 'mums. Low temperatures must be adhered to and do not excite the trees yet. Examine the roots for water. Although they will not require much for the first few weeks they must never be allowed to become dust dry or failure will result.

If summer pruning, viz:—pinching to five eyes, was properly done they will not require pruning and the beginner who has not grown these subjects before had better not attempt it because the plants will be in first class shape if purchased from a reliable firm of nurserymen.

Wash the pots and spray the trees thoroughly, because scale will be a serious factor if not sprayed at this stage. The bench or floor on which the plants are to be grown should have six inches of rough cinders to stand on, in order to facilitate clear drainage. If angle worms are present in the pots, they must be gotten out. Give each plant room to develop, which will be necessary for their welfare and success.

Birds must be kept out, as well as mice, and a cat is better than any other remedy I know. The plants will need no further attention for a month, but the watchword must be low temperature.

In the warmest department the palms that have to be used in the dwelling house will need a little stimulant to strengthen their leaves and the best fertilizer for this purpose is sulphate of potash. A pinch being all that is necessary. Keep them clean by syringing with the hose.

Crotons and dracaenas should have full sunlight and not be excited to high temperature or undue growth will be made of a weak nature that will spoil the shape and usefulness of the plants. *Pandanus* and its kind will not require syringing much during the dull days that we experience from now on.

Hyacinths and tulips will need plenty of water. The tulips, especially the yellow varieties, will need shading to produce longer spikes of bloom.

Carnations must be kept clean in every way, pick off all decaying leaves and keep clean of weeds. Where the soil is washed away from the roots give a top dressing of half an inch equal parts of loam and cow or sheep manure. Keep temperature even and look to the disbud-ding of the shoots and do not overwater or overfeed with chemicals or a weak unsatisfactory growth will be made.

Carnation cuttings can now be started on their journey. Some people like to cut carnations early in September and to this kind early propagation is necessary. If insufficient space, as pertains to greenhouses at this time of the year, is the usual reason for delaying this work it will be better to buy young plants from the specialists that sell them at a very low rate. The up-to-date people require the latest tried novelties and there are a few tried and true to be found this year.

Be careful with the watering of all subjects now, especially cool subjects. Mignonette must be carefully watered or failure will be the result. Cyclamen should not be fed now that they are in bloom or the color will fade in the blooms.

Cinerarias and calceolarias can be accommodated in the cool atmosphere of the peach house.

Any specimen ferns that are now a little off color will do well to be placed in a lower temperature to rest. This is much better than laying them on their side in a hot house and keeping dry at the roots.

The old 'num plants that are required for cuttings should not be allowed to get dry or buds will form in all the shoots and the best material for next season's plants will be spoiled. Insects must not be allowed to trouble them, but they should receive as good attention as when they were producing flowers. Any varieties that throw up a lot of weak shoots should be thinned out to obtain good stocky shoots. A weak liquid of soot will help to keep them in good condition.

Amaryllis that have finished growth and other late blooming or seedlings that have become dormant should be rested in a cool house. Nerines should be kept cool near the glass and should not receive water until the flower spikes show up.

Lilacs of variety, also prunus and *deutzia gracilis* can be started cool and get ready for early spring work.

Spireas can be soaked in water thoroughly before being potted, and then kept in a cool place on the dry side until well established.

Pinch all short weak buds off the rose bushes and they will come on useful several weeks later and with a longer stem. Do not syringe the plants now so frequently as they should not require it if previous attention to their culture has been given. If black spot shows up pick off the affected leaves and burn them. Spray with Fungine and in connection with this article I wish to state it is a safe one to use. I saw a house the other day completely spoiled for sometime at any rate, by spraying with a much advertised article that I need not mention here. It is necessary to know what these remedies consist of before applying and in Fungine we have a safe remedy. It can be used also on vegetables. Lettuce should have all weeds picked from between them and the soil lightly stirred. Sprinkle air slacked lime under the beds and in all dirty corners and give the fullest light.

Do not syringe more than once a week and then only if a bright sunny morning. Keep the regular weekly spraying up to keep red spider in check.

## THE GOOSE FLOWER.

SOME species of plants, like many human beings, have a strong propensity toward the freakish, the bizarre or the sensational. We all know people of that sort. In dress, in speech or in general conduct they display a constant inclination toward the grotesque. Some of them possess a brilliant oddity of intellect that verges either on genius or insanity; they are merely acting naturally. In other cases the outré performances are part of a persistent, clever scheme of self-advertising. It would be  
(Continued on page 517)

# The Japanese Garden

By John Johnson, Massachusetts.

THROUGH the ages both Japanese and Chinese gardeners have excelled in the novel art of dwarfing trees. The system of training and stunting the growth of various evergreen and deciduous trees involves really more patience than skill; as the whole art of growing pigmy trees lies in checking the sap flow, removing strong growths, and rigorous confinement of the root system. Nevertheless the study is interesting.

On account of much maltreatment the young plants receive and subsequent slow growth made, it is easy to understand that the production of pigmy trees is a protracted business.

The object of this article, however, is not to associate readers with cultural data of these curiosities, since curiosities they become when grown as one often sees them in isolated numbers in either pot or tub. Rather would I attempt to outline an environment giving them justice and assign to these plants a position to which alone they are suited and where instead of being items of mere curiosity they become significant and of more than passing interest.

A Japanese garden suggests itself. Although by no means common in this country this type of garden is now an established feature in the make-up of leading European domains. With the trend of time there is hope of its popularity here.

We seem to have reached the time when equal recognition is given the natural free as the formal layout. Formal gardens have a place and rightly so, and are sometimes more to be desired than the landscape type.

The grounds attached to the residence not always afford scope for good landscape effects. This renders almost imperative a garden of geometrical design made in conformity with the adjacent architecture. But where space allows and surrounding landscape favors there can be no more pleasing layout than a well-planned Japanese garden. This scheme of planning and planting embraces the most enchanting elements possible to conceive in the best of nature's own landscape—a verdure of grassy slopes and trees, and flowers amid ravine, rill and pool bespeaks the true formation. So that reproduced in miniature we have an expanse of landscape beauty.

The species adaptable for such a scheme of planting are legion. In addition to a general line of dwarfed trees to which I have alluded, anything that will thrive in the shrubbery, perennial border, rockery or bog garden will be quite at home in the Japanese garden. With the aid of a natural stream much that is desired may be successfully accomplished. The aesthetic individual is not easy to satisfy, and aptly perhaps is it suggested that much may be accomplished provided this natural facility exist. The stream could be diverted into numerous water channels and these widened in places to make pools for the reception of aquatic plants. Contrary, the course of the stream may be so broken as to form islands in miniature. If the site is a naturally precipitous grade so much the better, as then cascades may be introduced at a nominal cost of labor.

It will be seen that water is fundamental in making a Japanese garden. Of equal importance is a rugged strata. All such conditions are seldom at hand and



*A Well Planned Japanese Garden Ideal in Its General Planting Scheme.*

where the site happens to be a naturally level surface it is comparatively easy to rectify. Even the suggestion of formality would do much to mar the whole effect. It is therefore obvious that level ground must be made uneven to obtain good results.

Here and there along the water edge should be constructed a stratified embankment to represent natural rock formation. Wherever a boulder is allowed to jut into the stream the same should be matched on the opposite side by a recessed rock. Our waterway would suggest that a rapid stream had carved its passage through soft rock for ages, and its course had varied by the hardness of the stone.

A pleasing contrast to the ravine would be marshes. These may be so arranged in part as to represent miniature beaches. A wheelbarrow load or two of pebbles and sand, and for occasional intrusion a huge weather worn boulder placed in position to give the impression of water erosion of the surrounding surface, would make an ideal beach. Nor should beaches and stratified embankment dominate the water scene. Wherever convenient undulated green sward must be allowed to give relief in this particular feature of our scheme, and to mention but one of the many beautiful plants, *Iris Kaemferi*, which is never seen to better advantage than when massed near the water edge, should also be prominent.

The pathways assume much the same character as those suited to rock gardens excepting, perhaps, they be of bolder formation. These should be allowed to cross the stream or streams in various places and in various fashions. Stepping stones render shallow water fordable and are strictly characteristic. Vine covered rustic bridges are desirable where the stream is deep and more torrential. A couple of rectangular stone slabs, each securely cemented somewhat obliquely into the embankment so that they meet at an easy angle over mid-stream, make an inexpensive and unique type of bridge. Similarly, slabs may be horizontally laid, not exactly opposite each other but parallel, so that the end of one overreaches the other sufficiently to make the bridge passable.

This latter construction requires a central supporting pier.

Having already suggested a rocky formation as part of the water scheme, it will then be obvious that the entire garden should be studded with outcropping boulders to give the impression of a natural rock strata. It is not necessary to employ this formation so extensively as to appear aggressive, but rather with a view to its harmonizing with the surrounding landscape. A few outcropping boulders set in the grassy slope, or appearing above ground as one would expect to see them in stratum would answer the purpose. These boulders need not essentially be massive of themselves, judiciously disposed they can be made suggestive of many times their real bulk. It is important, however, that which appears above ground should be weatherworn. Where the rockery appears in bold formation numerous fissures are provided for the reception of alpine plants. In and around the rockwork too may be planted numerous low growing shrubs, and admirably adapted for this purpose are the pigmy trees.

In gardens of more formal layout overwrought architectural adornment is not an uncommon tendency. Often the glare of marble pillars and statuary or other masonry is so overpowering as to render somewhat insignificant the planting scheme. In Japanese gardens of ideal type even though ornaments are necessary to give character, one can introduce them to advantage and without likelihood of their appearing obtrusive. Stone lanterns, pagodas, well-heads and tea-house are ornaments usually

of neutral coloring which fit the scheme of planting.

Bold masses of the various subjects employed in the planting are to be recommended, with of course an occasional exception to meet certain requirements. Azaleas, ibex of the *coenata* type, andromedas, buddleia, ceanothus, spireas both shrubby and herbaceous, anemone, lilliums, acers, *cypripedium spectabile*, eulalias, funkia, heuchera, hypericum, megaseas and althea are the names of but a few shrubs and perennials which occur to mind and which are suitable for massing. A host of climbing vines such as *aristolochia*, *wistaria*, *ahobia*, *lonicera* and *vitis* may be introduced as well as innumerable low growing alpine. A few shade trees on the verge of decrepitude, having a scanty growth and their branches much warped are particularly fascinating employed here, whereas in isolation they would be worse than eyesores. Where space allowed, a sunset planting would be of interest.

A well-grouped planting of berried shrubs or such as have intensely colored foliage would give us this pleasing element. Suitable for the purpose would be, to name a very few, Japanese maples, *viburnums*, *rosa rugosa*, purple *berberis* and *prunus*, golden alder and golden privet.

Planting as a whole may be done largely to suit individual taste, but suggestions thus far observed are essential as dealing with true characteristics. It is a comparatively easy matter to make in itself picturesque a garden such as this I have attempted to describe but less easy to blend it with garden scenery so that all is picturesque. It should never be made to appear a too abrupt intrusion into the garden landscape but should have as a near neighbor either shrubbery, rockery, woodland, or wild garden.



ANOTHER year confronts us and opens the door to new opportunities and larger responsibilities. What shall be its objective? Shall we urge

unusual acts of self-denial, remarkable achievements, and consecrate our life to the many movements so desirable this new year? ¶ We trust we may, and in so doing have a part in the progress of the world about us. ¶ But with it all there comes a longing for a stronger and sweeter personal life standard. What is the new idea, do you ask? It is simply the ideal of Jesus, of Luther, of Jefferson, Phillips and Lincoln—carried in industrial life. ¶ It is liberty, self-government and union, democracy and brother-love. The strength of workers and the mastery of employers is to give way to the brighter self-interest—the egotistic to the altruistic. The love of money is to give place to the love of man. ¶ Such is the great ideal that is molding the present into the coming age.

—From *The Coming Age*.



## January's Work in the Garden

By Henry Gibson, Pennsylvania

AS these notes are the first in the calendar of another year, it may not be amiss to remind our readers that New Year's resolutions are in order. Let every member of the profession hereby record his determination to accomplish something, better and nearer the ideal in at least one phase of horticulture than ever before. If everyone will take upon themselves this obligation, what a wonderful degree of progress can be reported ere another New Year is ushered in.

One has only to turn up the pages of one's notebook to find the record of such crops and plants that did not come up to expectations during the past season. It is these that should be selected for special attention during the coming season.

Perhaps the results of spraying the hardy fruit trees were not all that was expected. Why this was so, is something worth while trying to solve.

It may be that the material was not strong enough or it may have been applied too late, as in the case of spraying for the coddling moth; or you may have omitted applying the later spraying for the second hatching of this pest, and the apples suffered in consequence. Again the combinations of sprays used may have been the source of your trouble, as in the case of Bordeaux, and arsenate, the Bordeaux we believe to be the cause of russetting in apples.

But whatever the cause, now is the time to consider the spraying campaign for 1917.

The clearing away of large tracts of forest trees, on which many of the insect pests that attack fruit trees, have hitherto lived, has caused spraying to become an economic necessity. It is no longer necessary to put up an argument in favor of spraying, since few if any doubt the effectiveness of it. It is a form of insurance that should be practised whether insects are present or not.

On the commercial fruit farms in Canada the first question a fruit buyer asks is not, "has the fruit been sorted, or is it hand picked," but "did you spray in due season?" Fruit dealers are alive to the value of spraying, so why should not the gardener be, who grows for home consumption?

There is plenty of information to be had on the subject. Books, pamphlets and bulletins have been published galore, and afford very instructive reading. But to our way of thinking they instruct and tell too much. The writers thinking no doubt to do full justice to the subject, seem unable to omit even the slightest detail, and find a different spray for every pest. One has not to read far before being appalled by the vastness of the subject. The whole world seems to be swarming with legions of insects which have but one purpose in life, and that to destroy the fruit trees. The only salvation is mixing a score or more different concoctions and applying them every day in the year. To say the least, this literary conglomeration of insects and mixtures is confusing and disheartening.

Few gardeners have had experience with half the insect pests or fungi mentioned in the literature on the subject, nor with half the mixtures.

There are, however, certain troubles that are more or less prevalent everywhere, and if we will endeavor to control these it will be a long step in the right direction.

Fortunately commercial mixtures are now on the market in highly concentrated form, and only need to be diluted with water to be ready for use.

It is of course necessary to know just a little about the habits of the insects in order to know just when to spray and what with.

Our space is too limited to give even a brief resumé of these here, but we hope to be able to go more into detail at some future time.

### GRAPE VINES OUTDOORS.

For some reason upknown to the writer, pruning of outdoor grapes is nearly always done during the month of January. Any other time after the leaves have fallen, and before the buds swell in spring would, we contend, be just as good. The only thing that we see in it is that there is perhaps more time during January than any other month to attend to it.

Grapes are strong growers, many canes in one season averaging over 20 feet in length, and as the bearing wood springs from new canes it follows that fruit will be produced further from the main stem each season. Anyone who has observed the habit of the wild vine understands what it would mean if the cultivated grape vines were allowed to go untrimmed year after year. Not infrequently the wild vines have climbed so high over old trees and buildings that the fruit being produced on the youngest wood is far out of reach.

Several systems of training are in vogue, some growers even practising the spur system that is adopted in indoor grape culture.

What are considered the two best systems, and which are most generally practised are known as the "Upright" and Kniffen systems.

In the Upright system the main stem of the vine is allowed to extend to the first wire of the trellis only. Then two canes are carried along the wire, one each way, like a pair of outstretched arms, to the limit of the space the vine is to occupy. The Kniffen system allows the trunk or main stem to be carried to the top wire of the trellis, and the arms, or laterals, are carried along the wire the same as in the Upright system.

The bearing wood then hangs down the trellis instead of being tied upright. One of the advantages claimed for the Kniffen system over the Upright is that no tying is necessary during the summer. Each system has its adherents and no doubt certain varieties do better under one system than the other.

In pruning, certain principles are to be considered. First that a vine produces the best fruit on wood of the current season, which have their origin on wood of the previous season. Second, a vine should only be allowed to carry a certain quantity of fruit. Third, the bearing wood should be kept as near the main stem or trunk as possible.

In carrying out the first principle it will be necessary to tie out as arms wood of the past season's growth; from the buds of which will arise the wood that will carry the fruit. Next season these arms will be cut away and others of this season's growth will take their place and so on.

How much fruit a vine should be allowed to carry will depend upon the variety of grape, the age and vigor

of the vine, the condition of the soil, and the distance apart the vines are planted, all factors that must be decided by the operator. A bearing shoot has its clusters near the base; beyond this the shoot grows into a leafy cane. An average of two clusters to a shoot is a fair estimate. Thus if a vine is considered strong enough to bear 60 clusters, 30 good buds may be allowed when the annual pruning is done.

When the year old wood is sending out its bearing shoots, other shoots will arise from or in close proximity to the old stem, which should be preserved for bearing wood another season.

To sum up the general principle of pruning outdoor grape vines is to provide for a renewal of wood each season, no matter what system is practised.

### THE PEONY.

EVERY one loves the Peony. Those who can recall the enthusiasm of their grandmothers over the old garden "Pineys" may well imagine the raptures of those old people were they to be brought in contact with the splendid Peonies of today. The old-fashioned Piney, Peony *Officinalis*, a native of Southern Europe, is rich in color, but of small size, fleeting duration and offensive odor. The early history of this Peony extends back many centuries, intricately woven into a haze of superstition, allegory and myth.

In China, it is said, the Tree Peony has been their chief pride and glory for 1400 years, prized by their emperors for the beauty and fragrance of the flowers and for more than a thousand years a record of the new introductions, their characters, qualities and parentage has been kept.

The Japanese, too, are largely instrumental in producing our finest varieties of Tree Peonies, of which there are now a dozen or more choice varieties offered for sale. The blooms are large and keep well either on the plant or when cut and placed in water. They should be grown more extensively. They can be propagated from soft wood cutting but because of their slow growth they are usually grafted. Great care must be taken that shoots do not develop from the roots when grafted plants are used, lest the variety be lost and only a wild variety take its place.

The modern Peony of today or Peony *Sinensis*, the species we have before us tonight, the most popular, has only been cultivated in Europe a little more than a half century. It is descended from Peony *Albiflora*, a native of Siberia.

The modern Peony is an aristocrat whose birth was among the nobility of France, for it was under the care of M. Jacques, gardener for King Louis Philippe, that some of the first of the fine varieties of today were originated. There were also Comte de Cussy, the Prince De Salm Dyck, and Modeste Guerin, all enthusiastic amateurs who secured the best varieties from Japan and China about the middle of the last century, and from these began to raise seedlings that have given us some of our present magnificent varieties.

Another enthusiastic French amateur was M. Nechin, whose grandson, M. A. Dessert, succeeds him, and is considered one of the greatest living authorities on Peonies.

In America, three amateurs have been especially prominent in the production of new Peonies, namely: John Richardson of Dorchester, Mass.; H. A. Terry of Crescent, Ia., and George H. Hollis of South Weymouth, Mass.

In the propagation of Peonies or the raising of seedlings there is no road to quick results. It takes

four to six years before blooms may be had from seed, and from thousands of seedlings less than one per cent will merit the distinction of a name for introduction as a new variety. It takes many more years to increase the stock by the slow process of division sufficiently to be able to offer it to the trade. The plants may be divided by three every three or four years. Is it any wonder that good new varieties are listed for \$5 to \$25 each? New varieties are mostly introduced by amateurs. The professional florist or nurseryman can scarcely afford to wait so long for results, except where they have been raised for the love for something new and the fascination of watching them grow.

It is to be regretted that in a collection of Peonies contributed from nearly all over the world, containing nearly 3,000 names, there are less than 300 distinct varieties, the other names all being duplicate or inferior varieties that cannot be traced to any known origin. The nomenclature committee of the American Peony Society was formed for the purpose of trying to straighten out this mess. *Edules Supurba*, that splendid variety, nearly always in bloom for Memorial Day, was masquerading under some thirty different names, and so on.

For twenty-three successive Junes, I have studied and lived among Peonies, but a hundred years is far too short to know them as I would wish. A glance through the various catalogs of today proves the fact that varieties introduced 100 or more years ago are still among the rarest and most high priced sorts, due to their slow multiplication and strong demand.

Peonies may be planted any time from August until late in the Fall or early Spring. September is the best time, however, as they will make a root growth before Winter sets in and they will bloom the following Spring. Not until the third year after they are planted will they produce perfect flowers. They require less care after planting than other flowers. They will grow and thrive for years without being disturbed. I have seen them grow without any care whatever, but they will abundantly repay good care and nourishment. They should be planted 3½ feet to 4 feet apart in good garden soil and be surface mulched with manure in the Fall. They may be used in excellent taste among shrubbery or among other hardy perennials, as single clumps or large beds in the lawn, bordering drives or broad landscape effects, thriving everywhere whether in full sun or partial shade. As a cut flower nothing is more suitable for weddings, church decorations and social functions. Without the Peony we would be at a great loss on Memorial Day, just as we would be without Chrysanthemums at Thanksgiving.

I will endeavor to name a few of the most popular varieties: Red and Crimson—M. Martin Cohuzae, Cherry Hill, Plutarch, Adolphe Rosseau, Decandolle, Rubra Suburba, Mme. Bawuet, Edouard Andra, Atrosanguinea, George Washington, Liberty.

Pink and Rose Varieties—Clair Dubois, Mme. Balot, M. Jules Elie, Lamartine, Eugene Verdier, Gloire de Gombault, Lady Beresford, Lady Lenora Bramwell, Gorgiana, Shaylor, Alexandre Dumas, Albert Crousse, Cameron, La Coquette, Wilhelmina, Souv. de l'Exposition de Lille, Princess Beatrice, Edules Suburba, Felix Crousse.

White and Delicate Tinted Varieties—Festiva Maxima, Couronne d'Or, Duchess de Nemours, Albatra, Duc de Wellington, La Tulipe, Mme. Calot, Mme. Crousse, Mme. Emile Lemoine, Queen Victoria, Solfatare, Golden Harvest, Marie Lemoine.

Most of the above varieties are suitable for cut flowers and a portion of which will bloom early, midseason and late.—Read Before Lancaster County Florists' Club.

*Pepita.**Bronze Titian Beauty.**Yellow Prince.*

## The Japanese Anemone Chrysanthemums

THE twelve varieties of novelty Japanese Anemones, known as the "Tuxedo Collection," which are to be distributed next year were raised by Mr. Carl D. Schaeffer, of Tuxedo Park, N. Y. Mr. Schaeffer, for many years has made a study of this type of chrysanthemum and he reached "the goal of success" in this wonderful collection—which was the sensation of the shows in New York, Philadelphia and Tuxedo this fall. Their colors are marvelous—the center tuft of quilled petals, which is the characteristic mark of the Anemone type—differing from the outer or ray petals in every variety so as to make a splendid combination which immediately attracts everyone's attention. Mr. Schaeffer set his plants out in the bench in early May and allowed three shoots—consequently three flowers to each plant. Everyone who saw them on exhibition will agree that when grown in this manner they left nothing to be desired in either size or finish.

Japanese Anemone 'Mums will be the leading type in this flower for the next three or four years—since they are "something different" than people have been growing and very attractive in the finished flower.

The collection is as follows:

*Innocencia*—Pure white with the tufted petals flushed pale pink and edged light yellow. An exquisite variety.

*Old Rose*—As its name implies—old-rose in color on the outer petals with a shading of gold over the top of the center tuft. The combination of colors in this variety is fascinating.

*Wilfreda*—The ray petals are pale-yellow; the center petals bronze tipped maize-yellow. The outer petals stand straight out from the center and the growth is very stiff.

*Graf von Fleming*—Outer petals, purest pale-lavender with a deep lavender tufted center, edged creamy-white. The outer petals of this variety—as well as the center

*Wee Wah.**Graf Von Oriola.**Juno.*

petals—are tubular until they reach the tips where they open and turn back, giving the whole flower a novel appearance.

11. J. Heinze—The largest of the set; light canary-yellow on outer petals with a very fluffy, deep-orange raised center. This is another variety where the outer as well as the center petals are tubular.

Clemencia—Deep pink with a very much deeper pink center-cluster. The center-tuft is very compact in this variety also very large, reaching across the flower about four inches. Looks very much like a flower made of crepe-paper. Very showy.

Titian Beauty—The most beautifully colored of the entire collection. Deep rich-bronze on outer petals shading to almost crimson in the center tuft. The outer petals reflex considerably and show the center to charming advantage. This flower in contrast with the bright green foliage of the variety cannot fail to attract attention.

Pepita—Pale-pink on outer petals with an orange-yellow center. This variety can be used as a market-variety to good advantage since the strong texture of its outer petals will permit of its being shipped any distance.

Yellow Prince—Well named, since it is a "Prince" in its color which is maize-yellow on the outer petals with a brilliant yellow loose-tufted center. A very airy and graceful sort.

Wee Wah—This is a georgiously-colored variety; terra-cotta shading to bronze-yellow; generally described as "flame-color." Outer petals very brilliant and distinct appearing as tho' gold-dust was powdered over their crimson-yellow surface. A dwarf and handsome grower.

Graf von Oriola—Strongest grower of the set; pure rose-pink with deep pink tufted-center, tipped with gold; ends of the outer petals incurve slightly making a bold and striking flower.

It is impossible to do justice in describing these Anemones. Suffice to say, they are the "greatest break" we have had in chrysanthemums for a good many years. Mr. Schaeffer deserves the praise and compliments of all chrysanthemum growers for his achievement.

He has done more than any other one man to bring these Anemone 'Mums to their present high state of perfection and has the reward of seeing his work in this direction recognized by other professional horticulturists.

Each individual variety in this "Tuxedo Collection" was awarded a certificate, and a special diploma awarded the entire collection in the New York Show, by the Committee of the Chrysanthemum Society of America.

### ALPINE FLOWERS UNDER GLASS.

A PHASE of gardening that has not been much considered is the growing of alpine plants under glass. Of course, one prefers to see them in the rock garden, the aubrietia draping the stones with purple and the alyssum making clouds of yellow during the spring months. But early in the year, when cold winds whistle through the tree tops, making a visit to the rock garden unpleasant, one may enjoy these alpine gems in comfort under glass. I believe this way of bringing the flowers closer to one's self originated in the Royal Gardens, Kew, the alpine house there being the home of many rare species and varieties.

As Mrs. Davidson mentions in her excellent book, "The Unheated Greenhouse," the simplest form of this type of house is to be found at Kew. It is nothing more than a low span-roofed glass house 40 feet long by 9 feet wide,

with flat stages on each side of a narrow gangway, and has no heating apparatus of any kind. It is provided, however, with shading to temper sunheat, should it prove too powerful, as it often does in early spring. There, throughout the winter and spring months, a succession of low-growing plants and bulbs indigenous to the alpine districts of all parts of the globe may be seen in happier circumstances and in better flower than would be possible out of doors in our changeable climate. A large proportion of such plants perfect their growth rapidly during the short but strong summer heat of their native habitats, and are almost ready to burst into flower again when their progress is arrested, sometimes quite early in autumn, by a thick fall of snow, which tucks them up safely for their long winter sleep. Anyone who has had experience, for example, of a Canadian spring will understand the sudden transformation from the winter shroud of snow to gay, green woods and plains studded with flowers. Transplant the denizens of such climates to our sea-girt Britain, and, so far from being happier, they are sorely bewildered and tried beyond endurance by the alternations of mildness and rigor to which they are subjected; and we who try to cultivate rare and beautiful species under these altered conditions too often meet with disappointment.

Under the protection of a simple glass roof, however, the want of the snow coverlet is not so much felt, and such plants can go on, without any check from wind or weather, to perfect their pure, stainless flowers. It is a rare delight to see the flowers in their freshness under glass. I well remember a wintry day when a keen easterly wind was blowing, but with the flowers as company the unpleasant weather was forgotten. There were panfuls of the little hardy cyclamens—*C. ibericum*, *C. Coum* and others, *Hyacinthus azureus*, the winter aconites (*Eranthis hyemalis* and *E. cilicium*), *Adonis amurensis*, and one of the earliest and most beautiful of the rock-foils (*Saxifraga Burseriana*) and its larger-flowered form called major. Both of the last mentioned are easily grown in pans, the dense tufts snowed over with white flowers, which seem whiter still through the soft pink color of the stems. The smaller saxifrages are a sheet anchor to those who "garden" under glass. The primrose-colored flowers of *S. apiculata* are a sweet foil to those of *S. Burseriana*, and there are the snowdrops, daffodils, windflowers or anemones, the varied-colored *A. blanda* in particular, and the irises.

The scent of violets seems to fill the house; it comes from potfuls of *Iris reticulata*, also known as the netted iris, a flower as deep in color as the wayside wilding that breathes its fragrance into the spring winds. Most of the early irises are beautiful and interesting—*I. Heldreichii*, *Histrio*, *histrioides*, *bakeriana*, *Danfordiæ* and *Tauri*. I was once shown a potful of *Iris reticulata* that had been grown throughout in a cottage window, and the majority of the same class are as amenable. No more fascinating branch could be taken up than the furnishing of an alpine house for six months of the year, from November till May, providing occupation for the summer and enjoyment for the winter. The form of it, besides, may be varied, for another arrangement which can be adopted for the alpine house is a permanent rock garden under glass, the lights being so put together that they may be entirely removed during the summer. Evergreen ferns of low stature, some of the dwarf vacciniums and gaultheria, and other suitable greenery might here be grouped, intervening spaces being left with a view to the introduction of plants in flower in their season from outside frames. Such an alpine house, which may be larger or smaller according to circumstances, would make as charming a winter garden as could well be devised.—*The Gardener*, English.

# Dahlia Classification

**I**N all groups of cultivated plants, especially those in which new varieties easily and quickly arise, confusion of names is almost certain to occur. This confusion it is the province of a nomenclature committee to prevent or to rectify; and the earlier in the development of the group the work of such a committee can begin the greater the share of its energies it can devote to prevention of confusion, the less time need it spend in rectification, and the more satisfactory will be the final result of its efforts.

With the Dahlia—according to the *Bulletin of the American Dahlia Society*—this important work has been almost overlooked for what is now nearly a century of growth of the flower in America; so that the elimination of incorrect and unnecessary names for Dahlia varieties (and the weeding out of unworthy kinds that should accompany nomenclatural work), is now an almost impossible task. However, much can be done if all the members of the society will aid by furnishing suggestions and information.

The first step taken by the committee has been to propose a scheme of classification of Dahlias, by which the broad groups of flower forms, into which the horticultural species divides, are defined and named. This scheme has been accepted, with slight modifications, by the executive committee of the society, and is now presented to the members for criticism and suggestion. It is the hope of the members of both committees that this scheme, in its final form, may be adopted by all Dahlia growers in America for their catalogues and by show authorities for their prize lists; so that the broad terms, "single," "duplex," "show," "pompon," "decorative," "cactus," "pæony-flowered," and the like, as applied to Dahlias, may acquire a definiteness and fixity that will make a little more certain than has been the case in the past the use of these terms in Dahlia literature.

But the real work of the nomenclature committee has hardly yet begun; which is the attempt to insure, so far as possible, that each name given a Dahlia variety shall represent a definite idea. Then two persons, reasonably familiar with Dahlias, will be able to feel some confidence, when either speaks or writes of a variety, that the other will have in mind the same flower. Now, hundreds of chances for confusion exist.

These nomenclatural ambiguities originate in many ways; but are always peculiarly liable to be numerous in a group like that of the Dahlia, developing simultaneously along quite similar lines in so many different countries, with quite rapid interchange of varieties, but with no central agency for interchanging or checking names.

The Dahlia well deserves its most commonly applied specific name, *variabilis*; since hundreds of thousands of Dahlia seedlings may be produced in a single season, each slightly different from every other, and each a potential variety liable to christening should its producer, alone, see fit; and capable of being widely disseminated in from three to five years.

It is said that one breeder in England has grown 65,000 seedlings in a year. Fortunately, he has been wiser than many other breeders on a small scale who look with fond parental eyes on almost any variant among their seedlings; for of the 65,000 probably not more than 50 were even carried into the second season.

Under such conditions exceedingly similar, if not identical varieties originate in different places each year, of which some pairs are named, differently, of course, pass into commerce, and may be quite widely disseminated before their essential identity is brought to light by some grower who tries them side by side. Such apparently duplicate varieties are Cuban Giant and Dr. J. P. Kirtland, Mary D. Hallock and Queen Victoria, Lucifer (German) and Ami Barillet (French), Bon Maza and Uncertainty, Harold Peerman (English) and Tante Blanche (French?).

There are undoubtedly dozens, if not hundreds, of other pairs so nearly alike that one name should suffice for the joint stock of both varieties, or of which one is enough better than the other to warrant discarding the inferior form and releasing the name for a better variety.

In some cases, however, so-called "improvements" on old varieties lose their apparent superiority when grown elsewhere than on the grounds of their originators. The dissemination of such improved (?) varieties should be discouraged until thorough testing under diverse conditions has proved the added floriferousness, greater size, etc., to be due to something more than the first impetus of cross-breeding.

Again, a breeder may originate a variety, name, and disseminate it, wholly unconscious that another has already selected the same name for an entirely distinct variety and given it some permanence by distributing stock. The society, guided by its nomenclature committee, should, in future demand that the baptismal record of a new variety introduced or handled exclusively by its members should be filed with it and approved before the new flower-child be considered legally entitled to presentation to the world. Had such a system been adopted twenty-five years ago, especially with an arrangement for international name-exchange, we would not now have quite so many Queen Marys, Monarchs, Meteors, Dandys, Comets, Charms, and Sunshines, nor duplications of such uncommon appellations as Blushing Bride and Safrano.

Another frequent cause of duplication of names is the introduction of varieties with foreign names by different importers. One retains the original name, the other translates it into the English form or drops the foreign name entirely and substitutes for it another of his own choosing. So we have listed in American catalogues Rulm von Baarn, a pæony-flowered Dahlia so named by its Dutch originator; Gloire de Baarn, the same flower after it had passed through France or Belgium on its way to us; and Glory of Baarn, the Anglicised name for the variety. Here the last part of the name gives a clue to the essential identity of the variety under the three names, but should we apply the same rule to Souvenir de Franz Liszt and Andenken von Franz Liszt, which express an identical idea in French and German, we would be in error, for the varieties under these two names are apparently wholly distinct.

Four names in three languages, all found in American or English lists, are Sneeuwwitje, Schneewittchen, Snow White, and Snow Queen—Dutch, German, and English name, translation or mistranslation of the name for one beautiful white Dahlia. To make the confusion complete some other introducer should apply the true translation, Snow Butterfly, for one of these forms.

Occasionally, also, a grower loses the name of a variety of which he has only a small stock, renames it temporarily, hoping soon to re-establish its identity, but before he

can or does find the true name, distributes some stock under the false one, and so gives this name a standing in the Dahlia world to which it has no right.

It is even suggested that some Dahlia growers, more pushing than scrupulous, have thought that, since "A rose by any other name would smell as sweet," it could do the flower no harm and might aid in working off the stock of some languishing variety if the old name were dropped and one a little more attractive selected.

Sometimes names are duplicated purely by accident, as Kielia, written hastily, looks very like Kulia, and so has appeared in this way in print or in written lists. So, also Meravigalla has masqueraded as Merongalla, Bessie Palisser as Bessie Palsifer, and Indianerin as Inderianna; while Prince of Denmark, abbreviated as Pr. of Denmark, has finally passed into pretty good Dahlia society as Prof. Denmark.

These are a few of the ways in which the list of Dahlia names has become unnecessarily burdened and their application made uncertain. As the first step toward reform the Nomenclature Committee would be glad to know of all instances of these or similar errors; so that they may be included in a complete list of current Dahlia names now in preparation. With this list as a basis and with some opportunity for the members of the committee to study most of these varieties collected in a few places for comparison, it is believed that the number of names could be profitably cut from the 5,000 or more now listed to one-third or one-fourth of this number. Certainly that number of varieties would give ample opportunity to gratify every taste. Only united, hearty support by the individual members of the society will make such reduction possible.—*The Gardeners' Magazine* (English.).

MICHAELMAS DAISIES

I OFFER no apology for referring to this beautiful class of plants, as, when properly treated and the most desirable varieties cultivated, I know of no hardy plants which give more pleasure during the closing days of summer and the early days of autumn. My first love for them, which is now many ears since, has never waned in the slightest, but, on the other hand, increased year by year writes Edwin Beckett in *The Garden* (English).

I was first impressed by them by seeing a collection which was formed by the late Mr. J. Gray in his garden, now known as The Firs, Claygate, and which was well grown by the late Mr. J. Child, his gardener. He had practically, then, all the best species and varieties, and a narrow border was devoted to them. I came to the conclusion that there were great possibilities for their future, and I was determined to do my best to effect an improvement by crossing and hybridizing the many varieties and species. I think I can claim to have done something in this direction, with many others who have also had this object in view.

To see these at their best, a border or piece of ground should be devoted to them, and having once decided on the site, they may be successfully grown on the same spot for an indefinite number of years, provided they are taken up, parted and replanted annually, early spring being the best time for this operation. The ground should be deeply tilled and a liberal supply of half-decayed manure incorporated at the time. Any aspect will suit them, and, so far as I know, they will thrive well in any locality and in any soil. The place we selected for them here at Aldenham is facing east, and we have grown them in the same position for nearly thirty years.

A certain amount of care should be exercised in arranging the heights and colors of the various species and varieties, and by so doing one is able to produce a different effect each season.

The plants should be staked out, and the growths not required thinned out in the early season, especially with the more vigorous-growing varieties, and, except attending to the necessary tying and hoeing, very little further attention is required except during spells of very dry weather, when the plants should be copiously watered and the growths damped over during the evening after very hot days.

Some of the more delicate varieties, such as the cordifolius section, should be taken up, potted and placed in a cold frame during the winter months, and planted out in the spring. Over-crowding should be avoided. We allow a distance of 4 feet from plant to plant and 3 feet 6 inches between the rows. By so doing, the varieties are given full opportunity of displaying their habits, many of which are most graceful and beautiful.

Hybridizing and raising new seedlings is a very interesting study, but care should always be taken to eradicate all which show no signs of improvement on existing varieties.

For the guidance of intending cultivators I append a list of the most desirable varieties grown here, with their approximate heights and colors. The Amellus section, of which there are many beautiful varieties, should be grown apart from the main collection, as should also acris, which is a very beautiful early flowering variety.

Variety.	Color.	Height. Ft. In.
*Tradesant	White	4 6
King Edward VII.	Bright mauve	3 6
Comeliness	Azure blue	4 0
Grey Dawn	Grey blue	3 0
Decorator	Small white	3 6
Lovely	Pale mauve	2 6
Esther	Pale pink	2 6
Vimineus Elfin	Pale lavender	4 0
Aldebaran	Bright blue	3 6
Cinderella	Pale blue	4 0
Desire	White	3 6
Little Boy Blue	Blue	4 0
Little Bo-Peep	Blue	4 0
Starshower	Small white	3 6
Delight	White, changing to pink	3 6
Paragon	Deep lavender	4 6
Bianca	White	4 0
White Diana	Lilac	4 0
Goldfinch	Creamy white	4 0
Twilight	Bluish white	3 6
Lady Lloyd	Very deep pink	4 0
†Daydream	Pale lavender	4 0
‡Sirius	Bright pink	5 0
Blue Beard	Blue	6 0
Grace	Greenish white	4 6
Turbinellus albus	Grey white	5 0
§Glory of Colwall	Lavender	5 0
Climax	Blue	6 0
Hon. Edith Gibbs	Lavender	5 6
Avalanche	White	5 6
Iouvaïn	Pink	6 0
Mrs. F. Rayner	Crimson	6 0
Amethyst	Blue	5 6
Lil Pardell	Crimson	6 0
Purple Prince	Purple	6 0
William Bowman	Purple	6 0
Queen of the Belgians	Dark blue	6 6
Cordifolius nanus	Blue	4 0
† Brightest and Best	Magenta	5 6
Edwin Beckett	Blue	4 6
* King of the Belgians	Pale blue	6 0
‡ Peggy Ballard	Rosy lilac	3 0

\* Very late flowering variety. † Early flowering variety. ‡ Semi-double. § Double. || New semi-double. ¶ New.

OUR COVER ILLUSTRATION.

The subject of our cover illustration is the orchid group arranged by William Kleinheinz, gardener to the P. A. B. Widener Estate, at the annual exhibition of the Pennsylvania Horticultural Society in Philadelphia last month. This group proved the main attraction of the show and was much admired by the visitors. In addition to the first prize, a gold medal was awarded it.

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## CLEVELAND ANNOUNCES A BIG FLOWER SHOW FOR 1917

A DELEGATION of Clevelanders arrived in Philadelphia on the morning of November 7 for the purpose of attending the annual meeting of the Chrysanthemum Society of America. They circulated during it very freely and were glad to meet all C. S. A. members. Result: The meeting voted unanimously to hold the November, 1917, meeting in Cleveland.

Word now reaches us that meetings have already been started to work on plans for this big flower show which is one complete year in advance of the dates. During the present month various committees will be appointed and all the details will be under way according to the statement made by H. P. Knoble who is to serve as the general chairman of the show. The planning of a preliminary premium list is now in process and is expected to be ready for mailing early in January.

M. A. Vinson who managed the first big flower show in November, 1915, has been engaged to attend to the active managing of the coming show. Mr. Vinson states: "We expect to make this three shows in one. We have already secured the Chrysanthemum Society of America and have every reason to believe that we will be able to announce an official fall meeting and fall show of the American Rose Society and also, for the first time in its history, an official show and meeting of the American Carnation Society. Invitations have been extended to both of these prominent organizations and we have every reason to believe that they will be secured. The committee in charge of planning the premium list will be very glad to receive suggestions from both private and commercial growers that will aid them in any way in making the list satisfactory to all and by doing so, be able to stage a show that will surpass the event held one year ago."

All those desiring premium lists address M. A. Vinson, manager Cleveland Flower Show, 402 Leader-News building, Cleveland.

## WHITE MEDAL AWARD

THE trustees of the Massachusetts Horticultural Society have awarded the George Robert White Medal of Honor for the year 1916 to William Robinson of Gravetye Manor, Sussex, England.

This is the eighth award of this medal made by the society in recognition of eminent service in the advancement of horticulture. Previous awards have been made to Prof. C. S. Sargent of the Arnold Arboretum; Jackson T. Dawson, Victor Lemoine, of Nancy, France; Michael H. Walsh, the rose specialist of Woods Hole, Mass., Park Commission of the City of Rochester, N. Y.; Sir Harry J. Veitch, of London, and Ernest H. Wilson.



The George Robert White Medal of Honor Awarded to William Robinson, England.

William Robinson, to whom the medal is now awarded, has done much, especially through his writings in horticultural literature, as an exponent of the natural style of flower gardening as opposed to the formal carpet bedding and ribbon borders of former years.

He founded the journals, *Garden Illustrated* and *Flora and Sylva*, and is the author of numerous volumes treating of many subjects of horticultural interest.

A Merry Christmas  
and  
A Happy New Year

## ASPLENIUMS AS INDOOR PLANTS.

AMONG the plants of an evergreen nature which are used for the decoration of the dwelling-house the several species of *Asplenium*, which are natives of Australia and New Zealand, as also a few of their varieties which owe their origin to cultivation, are among the most appreciated, and justly so, as they are not fastidious, and, provided they are allowed a regular supply of moisture at the roots, they do not object to the comparatively dry atmosphere of the room. Being, when fully developed, of various dimensions, from the dainty, dwarf, compact-growing *A. Colensoi*, the fronds of which seldom exceed 9 inches in length, to the large-growing *A. flaccidum*, whose fronds frequently reach 3 feet in length, they are suitable for almost any decoration where great height is not required.



*Asplenium Diversifolium*

**CULTURE.**—*Aspleniums* are not difficult to grow, succeeding admirably under good greenhouse treatment with intermediate temperature and in a compost of fibrous loam, peat, or leaf-mould, and sand in about equal proportions. Their propagation is readily effected by the layering or pegging down of the young plants produced on the upper surface of their fronds. A great point in favor of the cultivation of *Aspleniums* for room decoration lies in the fact that all of them are practically free from the attacks of thrips, green-fly, and other insects which are so troublesome in the case of many other decorative plants.

**A. DIVERSIFOLIUM.**—The subject of our illustration, which in commerce is known under the various names of *A. dimorphum*, *diversifolium*, *biforme*, *divaricatum*, and probably some other names, is one of the most elegant, as well as one of the most accommodating, members of the genus. It is a native of Norfolk Island, producing in abundance gracefully arching fronds, each 24 inches to 30 inches long. The illustration shows that while some parts of the leafy portion of the fronds are provided with narrow leaflets only, other parts, and in some cases the entire fronds, bear leaflets of a much broader character. These fronds, in fact, are so totally different in appearance that unless one sees the plant growing it is difficult to reconcile the two as belonging to the one and the same plant.

**A. BULBIFERUM** is a handsome species of somewhat smaller dimensions. Its fronds, which never vary in character, and are of a pleasing pale-green color, seldom reach more than 2 feet in height and 10 inches in breadth. Though of a naturally erect and somewhat stiff habit, they frequently become more or less drooping through the

weight of the young plants with which their upper surface is covered, and at some time of the year these young plants are so fully developed that they are provided with half-a-dozen fronds each. It is a native of Australia and New Zealand and may be noted as one of the best known ferns to withstand the dry atmosphere of the dwelling-room.

**A. COLENSOI** is, so far as we know at present, the smallest grower in this section of ferns. It is a native of New Zealand, with very pretty, dainty fronds of a particularly soft, pleasing color. These are produced in great abundance from a thick, fleshy crown, and seldom attain more than 9 inches in length and 4 inches in width. They are very prolific, being, when fully developed, literally covered with young plants all over their upper surface. On account of its small size, and of its neat and compact habit, this species is particularly well adapted for growing in very small fancy pots for table decoration.

**A. DECORUM**, which also forms the subject of our illustration, is of a very graceful and compact habit, of medium dimensions, with fronds 12 inches to 15 inches long, partaking of the characteristics peculiar to *A. diversifolium*, from which it is issue. This is a home product, being a seedling raised from that species. It also shares in the viviparous character of the other *Aspleniums* previously described and is readily propagated from the young plants produced on the upper surface of its somewhat more finely divided fronds.



*Asplenium Decorum*

**A. LAXUM PUMILUM.**—This is a form of *A. bulbiferum*, from which it differs essentially not only in the peculiarly dark-green color of its foliage, the sub-divisions of which are so narrow as to make the spore masses appear as if marginal, but also by the crowded disposition in which it is produced from a crown which, instead of having, like in the other *Aspleniums*, the appearance of a shuttlecock, is always well filled with partly developed fronds which, when fully grown, are seldom more than 15 inches long and 8 inches broad. As these are three times divided half-way to the midrib, of a slender nature, and invariably falling outward, they form a very compact and decorative plant.

Several other *Aspleniums*, such as *A. Belangeri*, *Fabianum*, *cicutatum*, *flaccidum* and *viviparum*, may also be grown, but those described above are undoubtedly the most suitable for indoor decoration and are all of easy culture.—*The Garden* (English).



# The Trend of the Playground Movement

By L. H. Weir.\*

THE Playground and Recreation Association of America is the pushing, promoting, organizing body behind the playground and recreation movement in America today. This organization was brought into being in 1906, just ten years ago. In 1906, there were only forty cities in America that had made any provision, in any form whatsoever, for play for the children. According to the statistics which we gathered, up to November, 1915, there were in America four hundred and thirty-two (432) cities that had made some very definite provision for the play of the children and for the recreation of their people.

The American association, itself, in 1910, had only a general secretary, a stenographer and a bookkeeper. In 1910, the first field secretary was appointed. We have today twelve field secretaries, a general secretary, and a staff of thirty office helpers, with offices in Chicago, New York and, until recently, and, perhaps yet (I don't happen to know exactly) in one of the southern cities.

In 1906, the budget of the American association was only ten or twelve thousand dollars. The people of America who are interested in this movement today are putting into the hands of the national association a budget amounting to nearly one hundred thousand dollars (\$100,000) for the promotion of this work.

During the two years ending November, 1915, about one thousand (1,000) new playgrounds were given to the children of American cities.

Now, what is the meaning of this thing, and what relation does it bear to the particular institution which you gentlemen are representing here in this convention today?

The movement known as the playgrounds and recreation movement in America is concerned or is involved in providing opportunities for the use of the leisure time of the people, and in providing a certain amount of guidance and direction of the people in the use of the facilities provided.

A concrete example! The city of New Orleans probably has about four hundred thousands (400,000) of people. At a very conservative estimate, we shall say that every man, woman and child in New Orleans has, on an average, thirty-five (35) hours a week which they can call leisure. You can readily see that, in one single week in this city, there is given to the people of the city, twelve thousand (12,000) hours of time, upon that basis of estimation, that they are going to use in some form or fashion. In one year that will amount to the stupendous sum of seventy-eight millions (78,000,000) of hours. Now, what does that mean? In a little city in the East not long ago I looked into the records of the municipal jails, and I found that, in one year, there were confined in these jails, men whose total commitments amounted to eleven thousand (11,000) days of working time. And yet, there were factories and mills in that city that were running only partly because they did not have hands to man them. I looked into the records of the Juvenile Court, and I found that in one single year, from that little city of fifty-seven thousand (57,000) people, they had sent to girls and boys reform schools, boys and girls whose total commitments amounted, in one year, to one hundred and twenty-eight (128) years of time.

That, ladies and gentlemen, is just one phase of the problem of the wrong use of leisure time.

Now, the playground and recreation movement in America is nothing more than an attempt to bring to the people of America something of the significance of leisure, and to see that it is used in such a way that it will become a civic asset instead of a civic liability.

Now, the significant fact in relation to that matter today is this, that leisure is constantly on the increase. I believe that I can safely say, without contradiction, that it will matter little to the people of America, or of any nation in this world, how much money they pile up, or how much material possessions they pile up, if they do not learn, at the same time, how to use the leisure which their money or their possessions give them.

Child labor laws—laws regulating the employment of men and women—minimum wage laws—new inventions and the better organization of business and other factors—all these are giving the people of America greater and greater leisure than were ever possessed in the history of this country, or by any people in the history of the world.

Aside from that is the feasibility and possibility of forestalling a pathological condition—adult and infant immortality and crime, etc. It is in the hours of leisure that men and women are at liberty to develop those higher qualities of mind and heart—literature, culture and a better social relationship. It is also in the field of leisure that we are going to be able to insure that the boys and girls of America are going to grow up with a strength of heart and of lung and of nerve that will enable them to carry on the great and tremendous material work that we are engaged in in this country today.

So much for that phase of the matter, and it is significant in relation to social life in America.

Now, in working out a program or system of utilizing the leisure hours of the people in wholesome ways, so that it will be an asset instead of a liability to community life, and we can shape our material facilities somewhat by knowing what the fundamental interests of people are. I have set down here some of these.

First, the physical interest—the big muscle activities—things that concern primarily children and grown people—gymnastic games, swimming, bicycle riding and all the other kinds of activities such as are provided in parks, and in other ways for the expression of those big muscle activities.

Second, manual activity. Every child, and I think, every one of you, and every woman and man in this country have a desire for that—this expression of child life through various manual activities provided—to make kites and boats in play grounds and self-propelled automobiles and flying machines, and everything that represents constructive interest. I suppose, if you look back to your childhood, you will think of many things that you carved with your jack knife, or put together with hammer and nails, etc.

Third, such activities as hikes, excursions, picnic games and things of that sort.

In playgrounds, we work it out through excursions through the great parks, to our museums, libraries, etc.

Then, linguistic activity, having to do with the mother tongue, like stories, etc., and rhythm expressed through dancing and music of every sort—such things as Mr. Ridgeway has done so successfully in Minneapolis.

Finally, the social feature which runs through and binds the people together in all kinds of activities.

Knowing these interests of the people, we can begin to have some philosophy and some practical basis for

\*An address delivered at the New Orleans convention of the American Association of Park Superintendents.

providing the material facilities necessary for the people to express those activities. We will not be going far wrong when we base our material facilities upon those large known interests of the people.

Now, having that philosophy as a basis for providing the material facilities, the next question that confronts us in this work—in this movement—is by what agencies are we going to work out the problem of providing facilities, and attracting the people to the use of those facilities.

First of all I might say that we believe that it is a duty and responsibility that these things should be provided by the people and supported by the municipal funds, raised by taxation and other methods of finance, and bond issues, etc.

Therefore, first of all, comes the public library, which is the one big public institution that makes for the linguistic activity—linguistic needs of the people, providing reading and stories and other means of activities, and many public libraries today are beginning to organize clubs and other activities of that sort.

Next we have the little public schools—one of the most important agencies in this field.

Next, the Park Department, and finally we have a new institution that has come into existence very recently in American towns and cities, namely, the playground or recreation commission. What I want to say in relation to this problem is this, that no single public institution in any American city today can possibly hope to function fully in providing adequate opportunities for the right use of the leisure time of the people. I think we can lay that down as a fundamental principle.

Then, if that be true, what is the next principle involved? It is the principle of co-operation.

Now, in Minneapolis, where there were three public institutions running and developed upon an extraordinary high plane of efficiency, namely, the public library, public school system and public park department, in dealing with that question with Mr. Wirth and other members of the department, we simply said that each one of these institutions should function to the highest possible degree of efficiency within the limits of its material facilities, and within the limits of its financial resources, without any direct economic relation between them.

Duplication—the overlapping of expense and duplication in the matter of grounds and buildings, etc., shall be prevented by a central committee representative of the School Board, of the Library Board, and of the Park Board, together with the administration officers from each one of those agencies. That is working out, I think, very successfully, and will be one of the ways in which this problem will be met.

There are many other forms in which that has been expressed in other American towns and cities, representing many different agencies in this field. But I believe that some one public agency in every American community should specialize in the field of recreation; I mean, opportunities for the employment of the leisure time of the people. I believe that the Park Departments of America should be this special agent.

Now, I know that there are many of you who will not agree with me on that at all, but I am the more firmly convinced of that after six years of studying and work upon this problem, and also further convinced of it because it has been my pleasure to be associated with some park departments in this country which have functioned very fully in all of the ways that we could possibly hope for them to function.

Now, the reason why I say that I believe that the park departments of America should be this special agent is, this is largely in contrast to the creation of a special

recreation commission. These park departments are primarily recreational institutions.

Now, I suppose some of you will take exception to that, but the park departments, with all of its properties, will have absolutely no function to play in the community except in relation to the life of the people of that community and the use of the properties, whether it be in the form of landscape, or whether it be in the form of athletic schools and playgrounds or school houses, will have to take place largely within the leisure time of the people, and in that sense I say a park department is primarily a recreational institution, providing many different sorts and kinds of recreation.

I would like to say in this connection that we playground and recreation workers believe fully in providing amply for that form of recreation which is characteristic, namely, beautiful landscape, lawns, flower beds, shrubbery, trees and all those sorts of things that bring to the city dweller opportunities for enjoying something of the natural conditions that the country dweller enjoys. And we are emphasizing more and more today the necessity of making the environment of every playground, no matter how tiny, as beautiful as the landscape artists can make it, and landscape architects are employed today to do that sort of thing.

Second, park departments are already established under city or state charters and laws, so that it is not necessary to go to the legislature or to have the charter of any given city amended in order to bring into being a new agency that is going to exercise similar functions to park departments.

Third, co-operative work with other agencies is already established. As, for example, in the city of Louisville, the Park Department co-operates with private institutions like settlements and orphan asylums and with public institutions like the public library and, particularly, with a public institution like the public school. It co-operates with private individuals for private playgrounds for the children of the city. It co-operates with private corporations that supply music to the city, and many of the concerts in Louisville this year were given by private organizations.

Fourth, the park departments have much of the fundamental material properties necessary. Now, I do not mean by that, only lands, but I mean also the development of property—tools, equipment, etc., of many different sorts.

A special recreation commission, when it comes into being, is confronted immediately with problems of construction and with the problem of maintenance. It is necessary, therefore, for the recreation commission to go to work and build up a dual organization of equipment—construction equipment—in the developing of its properties. The park departments of the different cities have already all that at hand.

Fifth, the administration machinery is already present. It is not necessary to cause much violence to the administrative machinery of the modern park department, to introduce the one thing that characterizes particularly the recreation movement, which is instructional instead of custodial supervision.

The park department of Louisville has a supervisor of recreation. Minneapolis has a supervisor of recreation, and so in Spokane and in Seattle. The various park departments in Chicago, and in numerous other cities, small and large, in America today, also have them.

Sixth. It prevents duplication of administrative machinery. By using the park department's facilities in this field it is not necessary to create a new clerical force, to create a new engineering force, a new construction force, or to create new forces of guards, etc.

Finally, it lessens the possible number of friction points. Whenever we bring into any American municipality a new commission of any sort that has to work in co-operation with other agencies in the community, it takes a long time, generally, to establish those points of contact that make for harmony in the working out of the machine. Most park departments in this country have been co-operating to a greater or less degree, with those other agencies, like the library or school board, so that it is not necessary to build up a new standard of relationship that is usually necessary when you bring in a new commission into this field.

I believe also that the park department should function in this field as a special agent because, through these commissions the people are given a greater return for the money invested in the properties which the park departments possess.

It also enables the park departments sometimes to secure, from the use of other public properties, service that represents a larger return for the money invested in those properties. So that it is an economical proposition from that standpoint. I believe that that has been the history of park departments, in recent years, particularly.

In one little Southern city last year, I went and took up the problem of the development of some spot for all the year round recreation. They said a park department was an impossible institution. I went over and saw this gentleman and had a little talk with him and called upon the members of the park board and talked about this commission to them, and in just one week from that day that park board took action on that matter, and made provision for the employment of a supervisor of recreation the year round, and decided that the providing of recreational facilities for the children of that city would be the permanent policy of that park board. This year that park department has a number of playgrounds, with a special playground for colored children, and one day I was there recently, and they voted to establish a park for colored people elsewhere in the city. They have put workers in there so that they would have a properly equipped playground, and all sorts of things.

This shows the possibilities of a park department when it rises to its opportunities and to its responsibilities.

Now, how is this affecting the modern park department? It is very easy to see that. It is affecting modern park departments from the standpoint of further development. It is affecting modern park departments from the standpoint of administrative machinery. It means the introduction into that machinery of a new type of worker—the playground and recreation leader. It means that we are going to have more money and that is one thing that the American Playgrounds and Recreation Association is willing to get behind you in, to try to educate the people of America to the necessity of providing better and more adequate appropriations for the carrying on of modern park departments, from this standpoint. It means, finally, that the viewpoint of modern park departments is changed. Instead of being merely landscape art and construction engineering, the modern park departments become social organizing and directing institutions, and take rank along with the public schools in ministering to the higher and finer development of the life of the people of the communities in which they work. It means that park executives are going to become more and more students of social problems.

I was very much interested when I stepped into the office of the St. Louis Park Department the other day to find there one of the officials bending over a map, which was a very detailed analysis of the distribution of the population in that city. He was working that out by blocks, knowing the number of children in every block,

the number of young people, and the number of adults in every block. That represents one of the new phases of modern park development from that standpoint.

I would like to say, also, that the St. Louis Park Department, through the union of the old recreation commission, or park department, and through the building up of that splendidly organized administration, surely represents to my mind one of the finest developments by modern park departments along the lines not only of the old ideals of the park departments, but also of the new modern ideals represented in the Playgrounds and Recreation Association of America.

### THE GOOSE FLOWER.

(Continued from page 504.)

easy, but dangerous, to cite a few well-known examples of these spectacular self-boomers. And this weary old world, satiated with the commonplace, welcomes or at least tolerates most of these queer specimens of humanity.

Among plants there are few that are more consistently freakish in their behavior than the aristolochias. Consequently many of them are cultivated chiefly on account of the extraordinary forms of their flowers and in spite of their defects, such as the disagreeable odor of some of them—an odor which would not be called fragrance even by the flowers' stanchest friends.

As is well known, several species of aristolochia are named after oddly shaped objects, animate or inanimate, which they resemble. Probably the most familiar instance of this is *Aristolochia macrophylla* or *A. Siphon*, the Dutchman's pipe. This plant, however, really owes its popularity to its genuine, unquestioned merits as a vine, rather than to its flowers, which, though curiously formed, are not especially conspicuous. Other examples of the fantastic among these plants are: *Aristolochia cymbifera*, boat-shaped; *A. ornithocephala*, bird's head, and *A. tricaudata*, three-tailed. One variety has even been named *A. ridicula*; among its appendages are two long lobes which are said to "reminde one of a donkey's ears."



*Aristolochias Grandiflora Sturtevanti—The Goose Flower.*

Perhaps the most striking of all the aristolochias, however, is *A. grandiflora Sturtevanti*, the goose flower, and looking, indeed, remarkably like a pet bird with a sleepy disposition and an absurdly long, slender tail. The tail reminds one of Euclid's definition of a line, "length without breadth." The goose flower has other common names, such as swan, duck and pelican flower.

The goose flower should be grown under glass, and one writer naively suggests that it is "most suitable for large structures," owing to its pronounced odor. It is easily propagated by means of cuttings taken from well matured wood in early Spring. It should be planted in a bed of good soil, in a warm house where it can be conveniently trained up pillars, rafters or a trellis. It is not well adapted for pot culture.—*Review.*

# American Association of Park Superintendents

OFFICIAL COMMUNICATIONS

JOHN F. WALSH, Jr., President, New York.

R. W. COTTERILL, Sec.-Treas., Seattle, Washington.

## A PARTIAL PROGRAMME OF ACTIVITIES OF THE AMERICAN ASSOCIATION OF PARK SUPERINTENDENTS FOR THE COMING YEAR, MAPPED OUT BY THE PRESIDENT, SO THAT ALL MEMBERS MAY TAKE AN ACTIVE PART IN MAKING THIS ONE OF THE MOST PROGRESSIVE YEARS IN THE HISTORY OF THE ASSOCIATION.

First The first matter of importance, and I may say the greatest, is in regard to increasing the membership of the association. This can best be accomplished by the individual members personally appealing or corresponding with some friend who is connected with park work. This will also help out the secretary, who will send individual invitations to every one whom he thinks will be interested in becoming a member. While I know he has done this before, I am going to ask him to make another and stronger appeal which I have no doubt will finally become successful in obtaining a member from every city containing a park system, regardless of its size, in the United States and Canada.

You will find that there are several of the first class and a large number of the smaller cities not represented in the association.

If we take pains to place before the officials responsible for the parks in the various municipalities, who have no representation in the association, by the members and also through the medium of the official organ, the Chronicle, of the benefits to be derived by having a representative attend the convention, sharing in its discussions, debates and general exchange of views on every phase of park management and work, which is discussed both formally and informally among the members from most every section of the United States and Canada, who are familiar with every condition of park work and have had to solve the problems which crop up now and then in every park system and have passed the solution on to some other member who is welcome to take advantage of the other fellow's hard work and make it easier for himself.

If our absent friends could be made to realize that no matter what task may come up before any park board or set of commissioners, whether it pertained to engineering problems of road building in cities or mountains, building of swimming pools in the heart of a city, bath houses on shores of oceans, lakes or rivers, latest improved methods of building tennis courts, athletic fields or play grounds, constructing and maintaining golf links, skating ponds, lawns, landscape planting and care of trees in city streets or forests, and various other activities too numerous to mention here. There will be found members in the association who are experts in the lines above mentioned, who stand ready at all times to give the necessary advice and help our fellow members require.

It is doubtless a lack of knowledge of this association in a great many of the cities which causes us to lose the valuable membership of numerous park officials and it is up to each and every member to give as wide publicity to the benefits to be derived from membership as it is possible to do.

Second—A larger Governmental and State interest in the association should be advocated by every member.

As this is a national body, every State should have a representative in our organization. Also the Government should have a member from every national park and reservation in the country.

A committee will be appointed in the near future to devise ways and means to bring the association in closer touch with both Government and State officials who have jurisdiction over such matters and this committee should from time to time let the members know how they are progressing.

Third—This association should get behind the good roads movement now in full swing, to aid and confer with the various officials in regard to ways and means, not only to have good park roads, but to improve all roads in the vicinity of the parks, as good roads above everything else are essential to the bringing of people to the parks.

A committee will be appointed to take up this matter and let the members know from time to time what progress they are making.

Such National Good Roads Movements as the Lincoln and Dixie highways should be of special interest to members.

Fourth—One of the topics discussed at the last convention in an informal way was a work standard to be adopted at the next meeting in St. Louis in 1917.

At present there is a great deal of confusion as to the amount of work which should be required as a standard day's work. While I appreciate that conditions vary to a great extent in regard to location and volume, still if every member will treat his system as a unit, a good standard can be arrived at. As this is of very great importance and will be in demand by municipalities throughout the country, care should be taken to arrive at as accurate a figure as possible.

A good guide would be acres of lawn cut by hand, horses, or motor, yards of concrete, square yards of road—macadam, asphalt or otherwise—laid in a day, and the various other matters that come up in the course of a day's work.

Results when arrived at should be forwarded to the secretary, who will compile and have them ready at the next convention.

Fifth—The members are requested to contribute to the official organ, the Chronicle, each month something of interest in park work, which they have accomplished and any other news which may be of benefit to the members.

Suggestions will be welcome from every member which would be of advantage or interest to the association. All such communications may be sent to me direct or to the secretary who will forward same.

I take advantage of this opportunity to wish all the members A MERRY CHRISTMAS AND PROSPEROUS NEW YEAR.

JOHN F. WALSH, JR., President.

## ASSOCIATION NOTES

At the beginning of the new association year, the officers wish to make a special appeal to the members to contribute articles for our department in this magazine, our official organ. When the question of official organ was discussed at the New Orleans convention, there were some who thought we had not received sufficient attention in the columns of this magazine, but it was made plain that it was not the fault of the publishers, but because our members failed to come through with contributions.

Our secretary does the best he can to make these columns of some interest with such news items and personals as he can gather from members who correspond with him, but special articles on pertinent subjects could and should be furnished by members. Every member is therefore invited to submit contributions for this department, not a local descriptive article which is without general value except as a "booster" article, but something along technical or special lines, which will be helpful to the membership at large. We can secure all the space we want for such articles, so it is entirely up to the membership as to whether we avail ourselves of it.

If you have some special construction features under way or completed, which would interest other members, write an article about it and send it in with a photo or two. This also applies to any subject which would be of general interest. Send contributions and photos either direct to Editor Ebel at Madison, N. J., or to the secretary. If you can't help in this way, why write the secretary once in a while and tell him something about what you are doing, so that he may have something from which to make up his notes.

The association has discontinued its advertisement in a municipal magazine offering to furnish names of eligibles for positions as park executives to municipalities. The Executive Committee ordered this because many cities and individuals gathered the impression that we were operating an employment agency. Now it is up to the membership as to whether we can be of service to fellow members along this line. Members who are out of employment or who anticipate or desire a change, invariably write of this fact to the secretary and he has a list of such on hand all the time, some of which must necessarily be handled in a confidential way.

Now in order to render any service in this direction, any member who knows of an opening or prospective opening for a fellow member, should communicate that fact to the secretary and secure list of available men or have him notify them of the possible opening. The secretary is anxious to serve as a clearing house for matters of this kind if the members will just give him something to work on.

What's the matter with dear old New England and the Association? We have thirty-six members in the states of Massachusetts, Connecticut and Rhode Island and only two of them were present at our New Orleans convention, Keruan of Lowell and Green of Providence. In Boston, the birthplace of our Association, we have ten members and at Hartford, the home of the "Father of the Association," Geo. A. Parker, we have six members and yet not a soul from either of these cities has attended the last two conventions.

It is indeed unfortunate that this section of the country, which is the home of so many of the "old guard" of the Association, should be so poorly represented, numerically, at our annual sessions.

The new certificates of membership have been issued and are being sent to members whose dues for the current year are paid. They are very attractive and no doubt will adorn the wall of the office of each member who has one, giving prestige both to the member and the Association.

Park Commissioner A. Goodman of Memphis writes that a handsome souvenir of the great cotton terminals, visited by our convention party in October, will be sent to each member of the party in the near future.

J. L. Phillips has succeeded A. A. Bieschjold as superintendent at Chisholm, Minn. Mr. Bieschjold is one of our members and is on the lookout for another assignment. His retirement was purely for political reasons.

O. D. Arp, who early in the year resigned as superintendent at Sioux City, Ia., to go into the nursery business at Mobile, Ala., is back on the job again at Sioux City, having decided that the South was no place for him.

J. M. Paige, superintendent at Pomona, sends in his regrets at inability to attend the New Orleans convention and promises to be on hand at St. Louis. Mr. Paige reports that his little city will spend \$20,000 on its six parks this year and is developing a unique feature in the way of a Greek Theatre, constructed on the site of an old gravel pit.

Hon. Cabot Ward, president of the New York Park Commission, sends his greetings to the Association and states that they were glad to be able to send Messrs. Miller and Walsh to the convention as their representatives.

Louis Kettig, superintendent at Louisville, is in the midst of a fight to retain his position, the local commission being disposed to employ a new Supervisor of Recreation at an advanced salary. Local civic bodies have come to the support of Mr. Kettig, however, and no change has been made as yet.

As many members who did not attend the New Orleans convention are curious about the Ancient and Effervescent Order of Yellow Dogs, it may be said that Illustrious Cur L. M. De Sausierre of Memphis has promised to be on hand next September at St. Louis and confer the degree on any novices.

For the first time in many years, Council Bluffs was not represented at the last convention, but the date came at a time when they could not get away. We have three members at Council Bluffs, Commissioners Graham and McGee and Secretary Huntington, and all are loyal members of the Association.

Mr. Graham has the distinction of having been connected with the Council Bluffs park system for 39 consecutive years, a record of continuous service at one place which is unequalled as far as we know.

Theodore Wirth, of Minneapolis, addressed the joint session of the St. Paul and Minneapolis Florists' Club and the Minnesota Horticultural Society recently, and told them all about our New Orleans convention.

The position of superintendent of Arnold Arboretum at Boston, made vacant by the death of Jackson Dawson, has been filled by the appointment of Assistant Superintendent Van der Voet.

John D. McEwen, formerly of the New York Park Department, is now secretary of the Fifth Avenue Committee, a civic organization engaged in preventing the commercial invasion of Fifth Avenue, and seeking to preserve its attractiveness and promote its beautification.

David F. Roy, manager of "The Moorings," of Marion, Mass., was unable to attend the convention on account of pending construction work, but says he will plan differently next year. John Henderson, of Montreal, writes in a similar vein.

Chas. Hauser, of St. Paul, attained quite a reputation as a diamond merchant at New Orleans, and his Arlington diamonds created quite a sensation. We certainly hope the St. Paul delegation will be on hand at St. Louis, as they surely did prove themselves as good fellows.

The St. Louis delegation, Messrs. Strehle, Jenson and Koenig, are at work on plans for next year's convention, and have submitted tentative plans which indicate that it will be one grand time. The date will be September 11.

### NEW PRESIDENT CHRYSANTHEMUM SOCIETY OF AMERICA.

THE newly elected president of the Chrysanthemum Society of America, William W. Vert, to which office he was elected at the November meeting of the society in Philadelphia, belongs to the younger class of gardeners of this country. The honor which has come to him is another example of the many opportunities that are awaiting the ambitious and progressive younger men following the profession of gardening in the States.



William W. Vert

Mr. Vert was born at Audley End Gardens, Saffron Walden, England, August 18, 1884, being the third son of James Vert who was in charge there for many years and is now at Chirk Castle, North Wales.

Mr. Vert received his early training under his father and was later at Luton Hoo, Luton, Bedfordshire, under Mr. A. W. Metcalfe. He came to this country in 1906 and took a position on the estate of Howard Gould, at Castlegould, Port Washington, N. Y., as an assistant gardener, from which position he has advanced to head gardener. Mr. Vert is well known as a chrysanthemum grower and has achieved some notable successes at the principal shows throughout the country. He was married in 1911 and is the proud father of a four-year-old daughter.

In 1915 Mr. Vert was elected to the Vice-Presidency of the society of which he is now president. He is also a member of the National Association of Gardeners and other horticultural bodies.

# NATIONAL ASSOCIATION OF GARDENERS

WILLIAM N. CRAIG, President,  
Brookline, Mass.

OFFICIAL COMMUNICATIONS

M. C. EBEL, Secretary,  
Madison, N. J.

A representative attendance, the marked interest in the business sessions, the cordial hospitality of our Washington friends and ideal weather made the 1916 convention of the National Association of Gardeners one of the most successful in its history.

Although it was originally planned to hold the business sessions in the lecture hall of the Smithsonian Institute, the arrangements of the local hosts, which provided for activity during every minute of the visitors' presence in Washington, except the hours required for sleep, made it necessary to somewhat modify the original program. Accordingly, the offer of the management of the New Ebbitt House, the headquarters of the association, to provide accommodations for holding the meetings in the hotel, was accepted.

Promptly at nine o'clock on Tuesday morning, December 5, the convention came to order in the meeting hall of the New Ebbitt House, with William F. Gude, Washington's representative of the Society of American Florists and Ornamental Horticulturists and ex-president of the Washington Chamber of Commerce, presiding as temporary chairman. In welcoming the convention to the Nation's Capital, Mr. Gude assured his audience it was not simply his own home, but the home of every American citizen, and therefore all must feel truly "at home" in it. Mr. Gude referred to the fact that he and his brother, although not professing to have as much or as varied scientific knowledge of flowers and plants as the gardeners, were still trying in their humble way to grow flowers commercially of a standard the very highest possible. The meeting he understood to be for interchange of ideas for the uplift of floriculture in general. Mr. Gude then detailed the entertainment that he expected to give the visitors. Mr. Gude spoke as representing the Washington Chamber of Commerce and the florists generally of the city. His remarks were enthusiastically received. He then introduced President William N. Craig, who returned the thanks of the association to Mr. Gude, who he characterized as the "silver-tongued" orator of the Capitol City.

## PRESIDENT CRAIG'S MESSAGE

I am very glad that we have an opportunity to meet in the city of Washington, a city very dear to the hearts of every true American. Entirely apart from what we will find here of horticultural interest, there is so much that appeals to the eye that I presume most of you would, like myself, prefer to make our business session as short as circumstances will permit, in order that we may have more time to enjoy the architectural and other features of interest so abundantly spread before us. Having these things in mind I will not weary you with any tedious remarks.

Since our convention in Boston a year ago, which proved to be quite a successful one, in spite of the fact that we were meeting on ground largely untilled so far as our association was concerned, progress has been steady and satisfactory; and while the addition of new members has hardly reached my expectations, all things considered we have done very well and I anticipate a healthy growth during the coming year, for the better we become known, the more additions we will make to our ranks.

We are still a young society and have a big field ahead of us. I trust members will individually do what they can to bring in additions to our ranks; it is a simple matter to carry one or two of our small application blanks in a pocket and just as easy to hand them to the right parties when suitable opportunities present themselves.

It is very gratifying to know that our membership grows more truly national each year. At one time we were looked upon as a purely New York society; that time has passed and members are now being added from all parts of our country; in fact, of late, the West, thanks to energetic work done by our Vice-President, Mr. Theodore Wirth, and one of our Directors, Mr. T. W. Head, has been adding more members than the East, and with our next convention in the West we are bound to add many more members in that section.

Our membership being truly national in character, we should spare no pains to preserve it as such. As our conventions are held only annually, there must naturally be long lapses between the visits to the various centers, and I think some plan might be evolved for the holding of occasional gatherings of members of the N. A. G. in the various centers of horticultural activity. A local secretary might be selected in each of the sections where we are the strongest, who could call quarterly or semi-annual meetings of the local members and where matters pertaining to

the welfare of the Association could be discussed, short reports of each being sent to the official organ. These local secretaries could perhaps collect dues, as well as enroll new members, and in this way relieve our hard-worked secretary in some small measure. These meetings need not in any way conflict with the activities of the local clubs and horticultural societies.

We have during the present year been furnishing practical papers for discussion amongst the thirty-five or more local societies co-operating with us. We would be glad to know from members how far these papers have filled local wants. If they have proven helpful we shall continue them, and in that case we must ask your aid in helping to furnish the necessary quota of practical papers to carry the work along for another year. Every latitude would be given in the preparation of such papers, and if we need them, I hope you will assist us in securing the necessary number.

The Service Bureau of the association, as it becomes better known, is being more largely patronized. We cannot, unfortunately, secure positions for all applicants, but our good secretary has placed a good number and would gladly have helped every one had it been in his power to do so. While there is no charge for this, we need a special fund to work more effectively, and I want to say that if those whom the bureau has benefited would each make a small contribution, it would materially aid us. All are not unappreciative; one good member not long ago donated fifty dollars for services rendered. Is it too much to hope that others will contribute for similar reasons to this fund?

Our annual dues are small, and seem particularly so when our monthly organ is included. I want to commend our magazine to all members of the Association; it is one of the strong links which help to bind us together. Our secretary, hard-worked as he is, and with physical disabilities to handicap him, has labored steadfastly to make our organ helpful and attractive, and has succeeded very well. What he needs, however, and would, I am sure, appreciate, is a little more aid from our members in the way of short practical articles, reports of gardens visited, and other matters of interest. We may not all have literary ability, but surely there are a goodly number, especially amongst our younger men, who could help to make our magazine more valuable.

In conclusion, I am sorry that I have not been able to accomplish more for the interests of the National Association of Gardeners during my tenure of office, but I have done my best to work up an interest in it in New England, and I pledge my unstinted support to my successor; and will continue to give the Association all possible publicity. I ask the co-operation of every member in making 1917 the most successful year, and the National Association of Gardeners one worthy of our noble profession, and one which will command the respect of both gardeners and their employers.

The minutes of the last annual convention, held at Boston, Mass., were read, and on motion duly approved as read.

Mr. Gude at this time announced that he had secured passes to the Senate and House of Representatives galleries, signed by the Vice-President and the Speaker of the House, for each attendant on the convention; also that he had arranged for the convention to go by boat to Mt. Vernon on Wednesday, through the courtesy of the Mt. Vernon authorities.

On motion, it was ordered that the officers of the National Association of Gardeners procure and have placed upon the tomb of George Washington, at Mt. Vernon, a suitable floral offering commemorative of the visit on Wednesday.

In order that the members might accept the invitation to make an auto inspection tour of the city and interesting points adjacent to it, it was moved to suspend the usual order of business until the next session.

On motion of Robert Cameron, seconded by William Kleinheinz, a letter of condolence was sent to William Downs, of Brookline, Mass., who was prevented by illness from attendance on this meeting. Sincere regret was expressed at his unavoidable absence.

Secretary Ebel read and moved the adoption of the following motion, proposed by Mr. Jensen, of St. Louis, Mo.:

WHEREAS: The United States has recently concluded a treaty with Canada for the protection of migratory wild birds;

WHEREAS: It will be necessary to enact further legislation by Congress to give effect to the terms of this treaty and to appropriate funds to carry out its provisions; and

WHEREAS: We, the members of the National Association of

Gardeners, are strongly in favor of the protection of wild birds as provided for in said treaty; therefore,

**BE IT RESOLVED:** That we strongly urge our Representatives and Senators in Congress to vigorously support any measures proposed to carry out the provisions of such treaty, and to support the necessary appropriations for the Department of Agriculture, so that the Department can enforce same.

The resolutions were adopted by unanimous vote.

Secretary Ebel referred to the necessity for suitable representation of the Association at the national capital in case any legislation came up which required attention, and referred to the work that was done last year with reference to the preservation of our national parks. Mr. Ebel suggested that George W. Hess, superintendent of the Botanic Garden, would be an excellent man for Washington representative of the N. A. G., inasmuch as he had a broad knowledge of men and things, and would creditably fill the position. On motion of Mr. Ebel, George W. Hess was unanimously elected Washington representative of the National Association of Gardeners.

It was generally acknowledged that no better selection could have been made.

#### INVITATION FROM CHICAGO FOR 1917.

President Craig recognized T. W. Head, superintendent of the J. Ogden Armour estate, Lake Forest, Ill., who made a strong plea for the holding of the next convention at Chicago, Ill. Mr. Head gave the East full credit for the work done in organizing the association and building it up largely in the East, but declared that now the West was ripe for missionary work and he knew of no better way to extend the work and usefulness of the association at this time than to come West with the convention next year to Chicago. His own employer, Mr. Armour, had expressed to him the warmest interest in the matter of securing this meeting for 1917 in Chicago and had personally offered to interest himself in aid of the convention if held there. Mr. Head gave instances of young men whom he had helped to find positions for in and about Chicago and assured others that might wish to grow up in the West that he and other Western men were ready to extend a helping hand and any deserving young gardener would find it well worth his while to look into opportunities there. Chicago, he said, is a great convention city, and the holding of the 1917 convention there will be a drawing card. He felt that the favorable action of the meeting with reference to this invitation would not only be appreciated by himself personally, but by J. Ogden Armour as well. There is a great field in the West, he said.

Mr. Head's remarks were applauded strongly, and on motion of Past President Everitt, Chicago was selected as the 1917 convention city.

J. Barnett, of Sewickley, Pa., announced that Pittsburgh was a candidate for the 1918 convention.

On motion of Mr. Barnett it was voted to print a list of members of the National Association of Gardeners for use of members and others.

Joseph Manda thought that the National Association was now of sufficient dignity and importance to justify the printing of its Annual Proceedings in special pamphlet form, and so moved; but on account of the present high cost of paper, etc., the motion did not carry, although the opinion was expressed that Mr. Manda's idea was an excellent one and should be followed out as soon as the state of the treasury would permit. Mr. Ebel stated that publication of papers and proceedings of the convention would appear in the official organ, *THE GARDENERS' CHRONICLE*.

On motion of Mr. Kleinheinz, seconded, it was unanimously voted to elect William F. Gude, Washington, D. C., as an Honorary Member of the N. A. G., in recognition of his many courtesies to the visiting gardeners.

The President invited Dr. F. L. Mulford, Horticulturist of the Department of Agriculture, to address the convention, and Mr. Mulford responded as follows:

#### REMARKS BY F. L. MULFORD, DEPARTMENT OF AGRICULTURE

I am very glad of the opportunity to say a word or two to you, especially with respect to a little of the work of the Department along lines in which you are interested. I have had occasion to mention this morning to one of your members some work that we are attempting to do with hardy chrysanthemums at the Arlington Park. I sincerely hope that the program of your automobile trip will be such that you will be able to pass through this farm and see what we are doing there. The Department has some 400 acres there on which they are doing laboratory work, especially in connection with hardy chrysanthemums, which we think are plants that are worthy of culture, particularly on farms and places where little attention can be given to flowers; but, as you know, there are few if any varieties which are satisfactory very far north. We have taken up more or less systematically the work of having them succeed as far north as any of them will grow. It is our intention to improve them and to

give a greater variety to the hardy chrysanthemums in that section.

As some of you no doubt are aware, we are also conducting a rose test garden there in which the American Rose Society is co-operating with us, and we have now some 700 varieties of roses set out there, and we are not going to rest content until we have at least that many more of them. We also have a fine collection of peonies in co-operation with the American Peony Society. We have also quite a large collection of iris. We are also endeavoring to gather together all hardy plants that will succeed in this climate in the way of shrubs and herbaceous plants. Our space will not permit our providing for trees on those grounds; but we are endeavoring to bring together the plants in groups from the landscape viewpoint to improve the surroundings of the laboratory buildings and green-houses, etc.

There are many problems that are constantly arising in connection with these subjects and we would very much like to secure your co-operation to the end that we may learn how various plants are affected by varying climate and temperature conditions that take place the country over. I know that the Department can obtain valuable aid from you in that way that will be of great assistance to us. There are times when we want specific information from some section of the country that will be of the greatest use to us in our researches.

At the conclusion of Dr. Mulford's address a motion was carried to adjourn the meeting until eight o'clock in the evening, following which the convention party entered the automobiles in waiting. After a trip about the city, thence through Potomac Park and Lincoln Memorial, the party crossed the Potomac River and entered Virginia, where the Arlington Farm of the Department of Agriculture is located, and where the various matters referred to by Dr. Mulford in the morning session were pointed out. Arlington Cemetery and the old Lee Mansion, of much historic interest, were next visited. Passing through Fort Meyer, the river was recrossed to old historic Georgetown, thence out to the Bureau of Standards, where a highly interesting demonstration of liquid air was witnessed. From thence the automobiles proceeded through Rock Creek Park, which presented a most beautiful sight in its late autumn dress, and out through the grounds of the National Soldiers' Home, returning to the New Ebbitt House, where the party became the guests of Mr. Gude and fellow Washington florists at luncheon.

After luncheon, the party re-entered the automobiles to visit some of the large commercial growing establishments in and around Washington, returning to the hotel at dusk.

#### EVENING SESSION.

The business session reconvened in the meeting hall of the New Ebbitt House at eight o'clock, with ex-President Kleinheinz presiding. Owing to an important social function which occurred on the estate that President Craig supervises it was necessary for him to return to Massachusetts in the afternoon.

The chairman announced that the regular order of business would be taken up where it was suspended at the morning session and called on the secretary for his report, which follows:

#### SECRETARY'S REPORT.

The National Association of Gardeners has prospered during the year, as its financial condition will indicate, and has been otherwise successful, as is verified by the many new members it has enrolled since the last convention.

Credit is due to President W. N. Craig for considerable of the increase in membership and favorable mention is also due Vice-President Theodore Wirth and Director Thomas W. Head, who were instrumental in bringing a number of new members from the Western States.

The association added two hundred and ninety-seven new members to its roll within the year and four life members were secured, as follows: William N. Craig, Brookline, Mass.; William Kleinheinz, Ogontz, Pa.; Frederick Liston, Erie, Pa.; William J. Collins, Boston, Mass.

It suspended one hundred and thirty-two delinquent members within that time, the executive committee having decided to strictly enforce the provision of the By-Laws for non-payment of dues.

The greatest activity in the secretary's office has been in connection with the Service Bureau, which has become a busy department. Many applications have come to hand from members for positions. There has also been a marked improvement in the number of inquiries received for capable gardeners from estate owners, and the bureau was successful in convincing some of these inquirers that the gardener is worthy of his hire and in having them increase the salaries offered. Quite a number of inquirers were rejected by the bureau, however, where the compensation offered was out of all proportion to the demands of the position and where an increase was refused.

The suggestion has on several occasions been advanced that a fee should be exacted from members deriving benefits from the Service Bureau and the subject is open for discussion at our convention.

Voluntary contributions to the Service Bureau were this year received from James Stuart \$50, Arthur Smith \$15, Harry Cartwright \$5, and Cyril Hayman \$5 for services rendered.

Prompt answers to communications from the secretary's office to officials and members on matters pertaining to the affairs of the association will help much to lighten the secretary's burdens, and he needs them lightened in his present condition.

M. C. EBEL, Secretary.

SECRETARY'S FINANCIAL STATEMENT.

Madison, N. J., December 1, 1916.

Receipts.

Cash on hand December 9, 1915.....	\$ 42.00
Received for 1913 dues .....	6.00
Received for 1914 dues .....	64.00
Received for 1915 dues .....	186.00
Received for 1916 dues .....	1,588.00
Received for 1917 dues .....	82.00
Received for Service Bureau.....	75.00
Received for Life Membership dues.....	100.00
	<hr/>
	\$2,143.00

Payments.

Deposit vouchers to treasurer Nos. 106 to 130..	\$1,983.00
Deposit vouchers to treasurer (Reserve Fund)	
Nos. 6-8.....	100.00
Cash on hand .....	60.00
	<hr/>
	\$2,143.00

Expenditures of the secretary's office for the past year have been as follows:

Stamps .....	\$63.44
Telephone calls .....	13.43
Telegrams .....	2.76
Expressage .....	4.66
Sundries .....	7.92
	<hr/>
Total .....	\$92.21

M. C. EBEL, Secretary.  
Washington, D. C., December 6, 1916.

We have completed our audit of the accounts of your secretary up to December 5, 1916, and are pleased to report that we find the statements as rendered above to be correct.

J. W. EVERITT,  
GEO. W. HESS,  
ROBERT CAMERON,  
Auditing Committee.

The report was adopted on motion. The chairman next called for the annual report of the treasurer, which follows:

TREASURER'S REPORT.

Mamaroneck, N. Y., Dec. 1, 1916.

1915.	<i>Receipts.</i>	
Dec. 8.	Balance in bank (Reserve Fund)....	\$ 96.00
Dec. 8.	Balance in bank (General Fund)....	1,193.89
	Deposit vouchers (Gen'l Fund) Nos. 106 to 130	1,983.00
	Deposit vouchers (Reserve Fund) Nos. 6 to 8.	100.00
	Interest June '15 and '16 (General Fund)....	33.10
	Interest Dec. '15 and '16 (General Fund)....	20.10
	Interest June '15 (Reserve Fund).....	2.48
		<hr/>
	Total receipts .....	\$3,428.57

1915.	<i>Disbursements.</i>	
Dec. 31.	Dieges & Clust. medals.....	\$ 32.00
Jan. 5.	B. Kemelhor, membership book.....	10.00
Jan. 5.	Madison Eagle, printing.....	17.00
Jan. 5.	Dieges & Clust. medal.....	3.50
Jan. 3.	M. C. Ebel, Sec'y, postage and sundries.....	13.03
Jan. 3.	J. C. Chester, appropriation to secretary's asst.	12.50
Jan. 3.	M. C. Ebel, postage (president's appeal)....	19.60
Jan. 3.	M. C. Ebel, postage (bills for dues).....	18.00
Jan. 3.	The Chronicle Press, subscriptions to Jan. 1..	206.25
March 2.	Technical Press, printing essays.....	19.01
March 2.	B. Kemelhor, index for membership book...	1.50
March 2.	Geo. H. Davis, compiling membership book...	15.00
March 2.	M. C. Ebel, Sec'y, postage and sundries.....	10.42
March 2.	M. C. Ebel, Sec'y, postage and sundries.....	14.37
March 2.	Madison Eagle, printing.....	33.47
April 1.	M. C. Ebel, Sec'y, postage and sundries.....	11.90
May 1.	M. C. Ebel, Sec'y, postage and sundries.....	5.60
June 1.	M. C. Ebel, Sec'y, postage and sundries.....	3.50
April 1.	J. C. Chester, appropriation for Sec'y's asst.	12.50
July 1.	Madison Eagle, printing.....	4.50
July 1.	M. C. Ebel, Sec'y, postage and sundries.....	12.90

July 1.	J. C. Chester, appropriation for Sec'y's asst.	12.50
July 1.	Technical Press, Inc., printing essays.....	2.25
July 1.	Chronicle Press, Inc., subscriptions to July 1	753.00
Aug. 1.	Madison Eagle, printing.....	1.75
Aug. 1.	Technical Press, Inc., printing essays.....	5.00
Aug. 1.	M. C. Ebel, Sec'y, postage and sundries.....	2.58
Sept. 1.	M. C. Ebel, Sec'y, postage and sundries.....	5.38
Sept. 1.	Dieges & Clust. medals.....	8.30
Sept. 1.	Madison Eagle, printing.....	18.17
Oct. 1.	Madison Eagle, printing.....	16.92
Oct. 1.	M. C. Ebel, Sec'y, postage and sundries.....	8.32
Oct. 1.	Murray Hill Hotel, room for executive meeting .....	5.00
Oct. 1.	J. C. Chester, appropriation for Sec'y's asst.	12.50
Nov. 1.	M. C. Ebel, Sec'y, postage and sundries.....	4.21
Nov. 1.	Technical Press, printing essays.....	2.25

Total disbursement .....\$1,334.58

Dec. 1.	Balance in bank (General Fund).....	\$1,895.51
Dec. 1.	Balance in bank (Reserve Fund).....	198.48
		<hr/>
		2,093.99
		<hr/>
		\$3,428.57

JAMES STUART, Treasurer.  
Washington, D. C., December 6, 1916.

We have completed our audit of the accounts of your treasurer up to December 5, 1916, and are pleased to report that we find the statements as rendered above to be correct.

J. W. EVERITT,  
GEORGE W. HESS,  
ROBERT CAMERON,  
Auditing Committee.

The report was adopted on motion.

REMARKS BY CHAIRMAN. Gentlemen, it is a great pleasure to me to hear such a creditable report read. I am an old-timer in this association, and I can well recall the time when we had not a dollar in the treasury; yes, when we did not have a cent. It is indeed gratifying to hear that we have over two thousand dollars cash money on hand; and if we will keep on working in that way, which I do not for a minute doubt, this association will be a strong one before long. We have a wide field in which to work, and before long we will get the harvest of the seed sown by our past Presidents.

The next matter in order is the report of standing committees.

Secretary Ebel then read the report of the National Co-operative Committee, at the conclusion of which it was moved, seconded and carried that the report, as read, be adopted.

REPORT OF NATIONAL CO-OPERATIVE COMMITTEE.

The activities of the Co-operative Committee during the past year have not been as progressive as your committee would like to report, due in a large measure to the lack of support from the local co-operative committees of the gardeners' local societies and clubs.

Without the co-operation of the local committees, the usefulness of the national committee becomes much impaired, for the national committee is, to all intent and purposes, a source through which a local committee can disseminate items of interest of the doings of its society which may prove beneficial to other societies and submit the problems that confront the gardener and his society in a community, which in turn can be taken up for discussion by other societies and often times bring forth suggestions which will aid in the solution of such problems.

Such items can be submitted through the official organ of the association, or if at times an issue comes up of a nature that concerns the gardener or his society solely, a special bulletin on the subject in lieu of publication in the official organ can be circulated among the societies participating in the co-operation between the national and local organizations.

Through such means the local societies throughout the country can keep in touch with one another and can keep informed on the progressive methods instituted from time to time among the gardeners and their societies in different communities.

The National Co-operative Committee has been distributing essays monthly during the past year, among fifty odd local societies, which applied for them when this service was offered following the 1915 convention, and, according to reports from time to time received, these essays have been much appreciated. The committee was instructed at the executive meeting held in New York in September last to continue this service.

While there is strength in unity, it requires co-operation with unity to bring about successful organization, and when this is once accomplished among the gardeners they and their profession will derive the benefits therefrom.

Your committee solicits the co-operation of every member in the organization to make it of useful service in furthering the interests of the gardener and his profession in this country.

M. C. EBEL, Secretary to Committee.



**THE CHAIRMAN.** Gentlemen, as Chairman of the Committee on Meritorious Exhibits it is my pleasure to submit the following report:

#### ANNUAL REPORT COMMITTEE ON MERITORIOUS EXHIBITS

Four of the association's silver medals were awarded during the year 1916 by the Committee on Meritorious Exhibits, as follows:

William Kleinheinz, Ogontz, Pa., for the most meritorious exhibit made by a professional gardener at the National Flower Show at Philadelphia, in March.

James Bell, Oyster Bay, N. Y., for the most meritorious exhibit made by a professional gardener at the International Flower Show in New York, in March.

William Kleinheinz, Ogontz, Pa., for best 6 flowers, 6 varieties on long stems, at the American Chrysanthemum Society Show at Philadelphia.

To the Menlow Park Horticultural Society of Redwood City, California, the winner of which has not been reported to the committee.

At the Executive Committee's meeting held in New York in September last, it was voted to offer the association's silver medal to local societies during 1917 for competition at one of their shows or for the highest numbers of points secured through monthly competition at their meetings during the year, the only other stipulation being that the winner must be a member of the National Association of Gardeners. Those societies wishing to avail themselves of this offer should communicate with the chairman of this committee at an early date as possible.

When the Committee on Meritorious Exhibits was first formed, four years ago, it was primarily for the purpose of encouraging the gardener to compete for honors in the production of novelties in flowers or a new or rare plants on which this committee was to pass judgment, for which the association offered its gold medal as its highest award. The committee regrets that it must report that since its existence it has not been called upon to pass judgment on any new floral creation by a gardener.

At the conclusion of the reading of the report it was moved, seconded and carried that the report, as read, be adopted.

Secretary Ebel announced that the Committee on Essays had not submitted a report.

The report of the Committee on Bird Protection and Propagation, as submitted by Chairman L. P. Jensen, of St. Louis, was then read by Secretary Ebel, at the conclusion of which it was moved, seconded and carried that the report be received and placed on file, with a vote of thanks to Mr. Jensen.

#### REPORT OF THE COMMITTEE ON BIRD PROTECTION AND PROPAGATION

Your Committee on Bird Protection and Propagation, working in co-operation with the similar committee of the American Association of Park Superintendents, beg to report as follows:

Owing to lack of sufficient material we have been compelled to discontinue our monthly department of ornithology, previously conducted in our official organ. This is very unfortunate, as we still believe that the matter of protection and propagation of our useful native birds is of the utmost importance to the gardener and park superintendent. There is no doubt but that many of our members would be able to send us notes and observations of value, and we are still hoping to have the members respond to our appeal in this respect.

Through the effort of this joint committee several large cities, in this country and Canada, have been induced to start a campaign for bird protection, in their public parks, by developing a systematic method of feeding the birds in winter, of protecting them against their enemies, of planting ornamental plants useful for their protection and nesting, as well as berry-bearing plants to serve as food for the birds, and by inducing the school authorities to permit bird boxes to be made by the children in the manual training schools. These boxes are being constructed according to the specifications of the United States Biological Survey, as given in Farmers' Bulletin No. 609, "Bird Houses and How to Build Them." These boxes will in most cases be hung in the presence of the children, by park men who have informed themselves about the proper placing of these houses. Your committee expects to receive some interesting reports from these cities in the near future.

We believe that this committee should be continued, and hope to receive the encouragement and support which is essential to success. The membership of our joint associations are looked upon by the U. S. Biological Survey, the National Association of Audubon Societies, and other important organizations interested in bird protection, as one of the richest fields for this kind of useful work. Let us prove that they are right in their contentions.

Leaving the future of this committee to the pleasure of the members, assembled in convention, we feel that if this committee is continued it should have the pledge of support of each one of the members present.

Secretary Ebel announced that there were no reports of special committees for the consideration of the association.

Secretary Ebel read the following communication from the St. Louis Gardeners' Association:

"The members of the newly organized St. Louis Gardeners' Association desire to have their greetings extended to our brother gardeners at the Washington convention, regretting the fact of not being able to have a representative there, but with assurance of being well represented next year."

#### ELECTION OF OFFICERS FOR 1917.

The next order of business was the nomination and election of officers for 1917, which resulted as follows:

President, Thomas W. Head, Lake Forest, Ill.  
 Vice-President, Theodore Wirth, Minneapolis, Minn.  
 Secretary, Martin C. Ebel, Madison, N. J.  
 Treasurer, James Stuart, Mamaroneck, N. Y.  
 Trustees, William Kleinheinz, John P. Huss, Peter Duff, William Turner, William H. Duckham.

**THE CHAIRMAN.** Gentlemen, your President for 1917 is Mr. Thomas W. Head, of Illinois, and it is a great pleasure for me to congratulate him upon his election and you upon having him for your President. I am sorry that I have the chair only temporarily, as it would be a great pleasure for me, as President, to call Mr. Head my successor. I have known him for years, and I know that you could not have selected a better man; he will do all he possibly can for this association. I call upon Mr. Head. (Applause.)

**MR. HEAD.** Mr. President and Brother Gardeners, I thank you for this great honor you have conferred upon me. I feel that after twenty-five years of hard work among my fellow gardeners, trying to fulfil that Golden Rule, "Do unto others as you would have them do unto you," that I have really reaped a good reward. I consider it a grand reward to be elected amongst such a noble crowd of men as we have in this association, as your representative and President. I can assure you that in 1917, when we meet again in Chicago, your confidence in me will be more than strengthened when you shake hands with so many new members that we will get. We have a very great field in the West, and a fine field; and I can assure you, having left it to me, that I shall do my best to scour that field thoroughly, and you will find when you come to Chicago next year that your confidence in me has not been misplaced. Gentlemen, I thank you. (Applause.)

**THE CHAIRMAN.** Next in order is new business, and under that head I want to say a few words. We know well enough, as I stated in Boston last year, there is one member of this association who pulled the association out of a hole. I do not know who he is, but I have heard about it. There is another man who deserves a great deal of credit for his energy and hard work, and I believe you will agree with me that through his hard work and the putting of his heart and soul into this association we have reached a very creditable financial standing and have built up our membership to the high point where it stands today, and I think that man ought to be rewarded to a certain extent for all his trouble and his work. I refer to our worthy secretary, Mr. Ebel. I recall that some members tried to put a motion through that the secretary should be paid for his work. I was the one who opposed that. I said we could pay him when we had the money, and as long as we did not have any money we would let him do the work without it. Well, he has done it for five years, and maybe longer. Now, gentlemen, we are in better financial standing to-day, having \$2,093 in our treasury, and I do not think it would hurt this association any if we should give our secretary a little reward for his work. I would suggest that, in addition to the \$50 he gets for his stenographer, we should add another hundred dollars or so to it. I do not make this as a motion but lay it before you for discussion. I think every one is worthy of the honor he deserves. (Applause.)

**SECRETARY EBEL.** Gentlemen, the Acting Chairman is putting me on record as being on the job for fifty dollars.

**THE CHAIRMAN.** No, I do not; you are not a fifty dollar man!

**SECRETARY EBEL.** The fifty dollars he refers to is paid to the stenographer in my office and she has a lot of work to do in connection with this association; she looks after the records and the sending out of notices, and gives her time willingly. I think, in the present condition of the organization, it would not be too much to increase that gratuity to \$100 a year. I know it will please her; the difference is not much, but I think she will accept it as an appreciation of what she has to do. I think we can afford to do that.

**THE CHAIRMAN.** Gentlemen, the matter is open for discussion.

**MR. STEWART.** I move that the secretary's stenographer's gratuity be increased from fifty to one hundred dollars a year, and that you appoint a committee of three members, yourself included, to award a present to our secretary.

**SECRETARY EBEL.** Gentlemen, I think the latter is uncalled for; it is not necessary.

**THE CHAIRMAN.** Gentlemen, it is moved and seconded that the salary, or contribution, for Mr. Ebel's stenographer be increased from fifty to one hundred dollars a year; also that a committee of three be appointed to reward in some way the effort and work of our secretary, which he has given for the benefit of this association. (The question being put, was unanimously carried.)

**THE CHAIRMAN.** Gentlemen, have you any matters to bring up for general discussion? If so, the floor is now tendered to you.

**MR. HEAD.** There is one matter I would like to bring up at this time, and that is the date of meeting. For instance, you are now meeting here in December, and I really think December would be a little too late for Chicago. I only would like to get the feeling of the members here. It seems to me that some time in October would be a better time for all of us for our annual convention. I merely want to get the sentiment of the members on this.

**SECRETARY EBEL.** We had our meetings earlier at first; we met during the flower shows, early in November, and we found it was not successful, as we could not get the members to the meetings. It was then suggested that October would probably be a better time to hold the convention; but the gardeners found that they were too busy getting things ready for the winter, and they could not get away; they felt there was no better time than the first part of December, when things were stored up and all could get away for the meetings. Then some of the members said, "Now, you are butting in on the annual meeting of our societies, and that is the reason we do not come. So you see, there are excuses to be encountered at all seasons."

**THE CHAIRMAN.** I want to give you an illustration regarding these meeting days: I am a director of a bank in Philadelphia, and last night between 8 and 9 we had a stockholders' meeting and election; to-day we have our yearly meeting of the directors, but I thought this meeting here was more important than that bank meeting, which I attend as regularly as possible. If every one says we have such and such a society meeting to-morrow, and another the day after to-morrow, then you will never get the convention together. You have just got to break away from them once a year. Do not thrash things out to extreme points; do not change your meeting time on account of having a meeting of some local society; these local societies can meet once a year without you, and if they do not get a quorum together they can let their meeting lay over until the next month. This is a national body and ought to have our first attendance. (Applause.)

**MR. BAUER.** I think every gardener has the spare time to attend this convention, especially in December. October is a very poor month, as everybody knows; we are all of us more or less connected with shows and our time is taken up. After the shows are over, about the middle of November, we are retiring to our winter quarters, and I think then every gardener is able to get out and attend these conventions. I think the time should not be changed. It is the proper time for our annual convention, wherever it is going to be held.

**MR. POPP.** I disagree with Mr. Bauer. The first week in October I think would be the logical time to have the convention. It is too early for the shows, and it does not take over a week to get over the effects of the convention; and I think the first week in October would be pleasanter.

**THE CHAIRMAN.** I will come back to the remarks of Secretary Ebel. We have tried to have this convention held earlier in the year. We had all kinds of objections from the members, some said they could not get away in September, because their folks were coming home; others said they could not get away for the meeting if held in October because "the chrysanthemums were just ready to start in to show"; others that "we have got to get our bulbs in, and the place cleaned off." I finally came to the conclusion that they all had the same feeling as I had, that the first week in December was about the proper time for our meeting. I do not for one moment wish to influence you through anything I have said to change the meeting date; I simply give you my opinion and my experience.

**SECRETARY EBEL.** Mr. Chairman, in order to bring this to a conclusion, I make a motion that the date of the 1917 convention be left in the hands of the Executive Committee. We shall have a meeting early in the year, and if at that time we decide, through investigation, we should change the date so as to have the meeting in October, we can call a meeting of the association some time during the summer and have the necessary resolution passed. I think this matter can safely be left to the Executive Committee, and we will have the opportunity of investigating and learning how the members feel about it. I make this in the form of a motion. The motion was put and carried.

#### DR. MULFORD INVITES CO-OPERATION.

**DR. MULFORD.** Mr. Chairman, my time was so short this morning that I did not have the opportunity to bring to your attention one or two matters I had in mind. I did not extend a very cordial invitation, or for that matter any invitation at all, to the members of this association to visit the Department of Agriculture and witness its activities while you are here. I wish to state now that

the force of the Department will be more than glad to welcome any or all of you, and to enlighten you upon any points in which you have any interest; or, if you desire, come over and get a little idea of what we are trying to do over there. As you may possibly realize, there is a very large organization, and the men are gathered together in small groups—a few men working on one line in one place and a few working on another line in another place; so that there are so many of us, if you try to find any particular line, do not be discouraged if you are sent from place to place. And rest assured that the workers will all be glad to see you and will be glad to help you with any problems you have, not only while you are here, but afterwards. If you have any difficulties of any kind they will be glad to help you solve them.

The question has been put to me once or twice as to some of the methods where co-operation between this association and the department might be handled to advantage. I want to mention just two in connection with my work. I have the work in connection with the ornamental horticultural division, and as you can realize, it is a pretty large proposition; too large for one person to be familiar with all the parts, but we are hoping for the time to come when we can have some more specialists on some of the lines. But I am specially interested with the matter of the plant distribution, where the plants are succeeded in the different parts of the United States. We realize that some of our native plants have a certain distribution and that they are cultivated with more or less success. We realize, also, that the imported plants are, many of them, cultivated over extensive areas, while others are only in very limited areas. I do not think there is any one who knows the limits of any one plant, even as to what are its limits of successful cultivation.

Those of you who move from place to place feel doubly the need of that information. The method in which we are getting the information indirectly now is by asking the co-operation of as many people as possible. We have a blank form showing the time the buds swell; buds bursting; the leaves becoming full size; the blossoms opening; when they become open; when in full bloom, and so on through the season to the coloring and dropping of the leaves, and we would very much like the co-operation of any who feel they can give us some of this data, or if they can give us the data on only one or two points every season, or any items of that kind, we would very much like to have the co-operation; and we would appreciate it if they would drop us a line stating the facts. Personally, I feel that only tells half the story. The cards that come in indicate to me the plants that are being grown in the different parts of the country; and if we get a large number of cards referring to one plant, we think we can reasonably conclude that that plant is fairly successful in that part of the country. Although it does not appear on the surface, I think we are getting other data than that actually called for, and it is another point of co-operation.

Often the Department wants specific information as to a particular locality, or certain region, and if we know of reliable men interested in such lines with whom we can communicate, it is a great help.

A hearty vote of thanks was tendered Dr. Mulford at the conclusion of his remarks.

**SECRETARY EBEL.** I have a communication I received just before I left Madison. In the absence of any report from our Essay Committee I think it might be well to bring this up now.

This communication came owing to the postponement of the Essay Contest for Assistant Gardeners. President Craig, as you know, offered three prizes, one of \$25, one of \$15 and one of \$10. There were so few essays submitted, and those of such a low standard, we did not think they were worthy of the prizes, and that the contest should be postponed until the first of February. This man asks, and I think it is only fair, that he be given an opportunity to improve his essay. He refers to the Royal Horticultural Society and to their form of competition. I am not familiar with the conditions under which that competition is conducted. The communication follows:

Secretary National Association of Gardeners:

I trust I am well in order to write you on the essay contest for assistant gardeners. As a contestant I much regret noticing that only a few took the opportunity to prepare essays. That the committee wisely acted in giving added time to those desirous of competing cannot be doubted, but, Mr. Secretary, do you consider it justice to those "few" who have already handed their essays in? Surely they should have the same privilege, viz.:—the winter months to reconsider, improve, or perhaps change their subject. It must be remembered those papers were prepared in the busy season, and a most undesirable period too are the summer months for studying, especially to those who lack a college training.

Here lies the fact why so few assistants competed, they realize in such an open contest their chances are small compared to their more fortunate fellow members, whose education in special institutions gives them a decided advantage. I feel sure many would respond if given a fair opportunity on the same lines, or perhaps similar to the Royal Horticultural Society of England as they conduct their competitions. Many men in the association must be

familiar with the idea carried out by that society; this being so, I am wondering why they are not adopted.

Such a course would, without doubt, be successful in bringing out the best material within the ranks of the association, thereby stimulating greater enthusiasm among young gardeners which every year horticulture is proving more and more necessary.

"A MEMBER."

MR. PIPER. The Royal Horticultural Society delivers to the contestants a copy containing about eight questions, so that each man has the same questions to answer; it gives them all a fair chance and on the same terms; and you can judge better as to what they know about the different plants. It makes it easier for the men, and they know just what they have to do.

MR. CAMERON. I think the man who has written this letter has a just cause for complaint. This looks to me like a man competing at a flower show; after he has entered for the prize that is offered, you can not say to that man, "We will delay the thing and put it up at another time." You are throwing this man right out and giving the other members a chance. If you do not want this man to get the prize, you ought to say that there is to be no competition, return his essay, and say these prizes are to be competed for another year. You could not do that if you offered a prize at a flower show; you could not treat a man that way; and I think it is very unjust that the man who did write is not to have the same privilege as the men who are going to have a longer time to prepare their essays.

SECRETARY EBEL. In other words, we could disqualify these essays and return them, and tell the contestants to try again?

Last year the Essay Committee did not return them. We were to have the essays for the convention day at Boston, but there were so few the contest was postponed, I think, until February. In that case there was not the question of the essays not being up to standard. The essays that came in first were among those that won the contest. In this case I think the essays ought to be returned to each one of the gardeners, and they be advised if they want to improve them or rewrite them, they will have that privilege.

MR. CAMERON. I move that the views of the secretary prevail regarding the essays, and that they all have a chance to rewrite them or improve them, as they please.

(It was moved and carried that the essays submitted should be returned to the contestants; that they be given a chance to write another essay if they desire to do so.)

MR. HEAD. Mr. Chairman, we all know that we are greatly indebted to the Gude Brothers, to Mr. Hess, the Florists' Club of Washington, and also to the officers of the Bureau of Standards, for their kindness and hospitality, therefore, I would like to ask at this time that a committee of three be appointed to draw up a resolution tendering them our sincere thanks.

(It was moved and carried that the chairman appoint a committee of three to draw up a suitable resolution, the chairman appointing Messrs. Head, Everitt and Bauer.)

MR. STEWART. I think it was rather unfortunate that our retiring president had to leave before this meeting. I think we ought to give some recognition to the work he has done this year. I therefore move that a unanimous vote of thanks be extended to our retiring president, Mr. Craig, for the wonderful work he has done for the benefit of this association and that the secretary notify him accordingly.

(Mr. Stewart's motion was carried)

An animated discussion followed on the adoption of an official button for the association and there was much argument for and against it. Some of the members thought the association should have a button which could be procured by those desiring to purchase it; others argued that the association should furnish a button on the payment of dues. In opposition to the first suggestion it was brought out that the association four years ago at the solicitation of some members inquired through THE GARDENERS' CHRONICLE how many members desired a button at an approximate cost of seventy-five cents, but this brought forth no satisfactory response, so the matter was dropped. In opposition to the suggestion that the association furnish a button free, Treasurer Stewart stated that the surplus in the treasury was only secured through the strictest of economy by the management of the organization, that out of the two dollars dues paid, one dollar goes towards the subscription of the official organ and one dollar into the association's treasury. If the association is to furnish buttons, he argued, there would be little left for accumulation. Treasurer Stewart concluded that if it were the wish of the members that the association furnish special printed reports of the proceedings of the meetings and buttons, in order to keep the association in sound financial condition, it would first be necessary to increase the dues, for there is now no money to spend for anything but necessary expenditures.

Mr. Kleinheinz responded that while the raising of dues did not affect him, as he is a Life Member, he did not believe the time opportune to increase them; that he believed that after hearing the reports of the secretary and treasurer all will agree with him

that the items of expenditure have been kept very low and that if this can be continued for a couple of years the surplus should reach the five thousand dollar mark. Then, he said, we will be in a position to consider other expenses. The discussion of the adoption of a button was finally dropped without any definite action being taken on the same.

There being no further business to transact, on motion duly seconded and carried, the chairman announced that the annual convention of the National Association of Gardeners stood adjourned *sine die*.

A message sent to the convention by Vice-President Theodore Wirth was, through oversight, not delivered by the hotel management in time to be presented at the meeting. In this message Mr. Wirth expressed his regrets at not being able to be present and submitted several recommendations which could be adopted with much profit, by the organization.

Previous to the evening session an executive meeting of the trustees and directors attendant at the convention was held.

#### WEDNESDAY'S PROGRAM.

Early on Wednesday the convention party went to the United States Botanic Gardens, where it was received by Superintendent George W. Hess, and escorted about the grounds and conservatory, where much of horticultural interest was found. After completing the inspection of the gardens the party proceeded to the wharf of the Mt. Vernon Steamboat Company and boarded a steamer for Mt. Vernon; arriving there Washington's tomb was first visited and the wreath placed in the tomb by ex-President Kleinheinz. The grounds were next inspected, the old-fashioned gardens visited and the home of George Washington, where the party was photographed. As a memorial of the visit of the members of the National Association of Gardeners to Washington's home an English Yew, to be donated by one of the members, will be planted in front of Washington's family vault. A committee consisting of William N. Craig, Wm. F. Gude, and George Hess was appointed to revisit Mt. Vernon and plant the yew, and an invitation will be tendered to all members to be present at the time of the planting of this memorial tree.

On the return from Mt. Vernon to Washington the United States Senate, House of Representatives, and United States Supreme Court were visited, which had been previously arranged by Messrs. Gude and Hess. From the Capitol the party proceeded to the Department of Agriculture, where the greenhouses and other departments were visited. This concluded the official program of the convention, although many members remained over the following day to take in other points of interest.

#### REPORT OF COMMITTEE ON FINAL RESOLUTIONS.

RESOLVED, that a hearty vote of thanks and appreciations from the members of the National Association of Gardeners be tendered to Mr. William F. Gude, of Washington, D. C., for the many courtesies he extended to those attending the annual convention of the National Association of Gardeners, held in Washington, D. C., December 5 and 6, 1916, and for the cordial hospitality enjoyed by the visitors, due to his untiring efforts.

To Mr. George W. Hess, director of the association, who so ably arranged the entertainment and affairs of the convention.

To the Bureau of Standards and Measures, the Smithsonian Institute, the Mt. Vernon authorities, the Mt. Vernon Steamboat Company, the Department of Agriculture, and the New Ebbitt Hotel management for the many courtesies extended the members of the National Association of Gardeners during their stay in Washington.

THOMAS W. HEAD,  
JOHN W. EVERITT,  
ANTON BAUER.

Committee on Final Resolutions.

#### RAISING THE GARDENER'S STANDARD.

Mr. Ebel, secretary: I should like to ask through the columns of the Gardeners' Chronicle how you expect to raise the standard of the gardener when on the payment of \$2 any untrained laborer may become a member of the N. A. G.?

ENQUIRER.

Newport, R. I.

That the National Association of Gardeners has in a very few years established a most creditable reputation for itself will not be disputed in reliable horticultural circles, and it is only necessary to refer to the proceedings of the association's convention held recently in Washington (published elsewhere in these columns) to observe its progress. Therein will be found that one of the wealthiest private estate owners of the west sent his gardener to the convention to urge the association to come to Chicago in 1917; that the United States Department of Agriculture sent a representative to the meetings to urge co-operation between the association and the department; that

(Continued on page 529.)

# DIRECTORY

NATIONAL ASSOCIATIONS, LOCAL SOCIETIES  
AND GARDEN CLUBS WILL BE FOUND IN  
JANUARY, APRIL, JULY, OCTOBER, NUMBERS.

## HORTICULTURAL EVENTS

International Flower Show, Grand Central Palace, New York, N. Y., March 15-22, 1917.

St. Louis Spring Flower Show in the Coliseum, April 6 to 15, 1916.

Cleveland Fall Flower Show, Cleveland, O., November, 1917.

## LAKE GENEVA, WIS., SHOW.

The Twelfth Annual Chrysanthemum Exhibition of the Lake Geneva Gardeners' Association held at Horticultural Hall, November 10, 11, 12, was a great success, the quality and arrangement of the subjects staged, being of the best and the attendance very satisfactory.

In the main hall the Queen of Autumn reigned supreme; huge exhibition blooms, graceful singles, dainty pompons, and anemones were all here in bewildering display, and in the class for large groups these four types were blended with palms and ferns into one artistic whole.

The prize winners here were Mr. J. J. Mitchell, gardener A. J. Smith, first; Mrs. F. T. A. Junkin, gardener A. Johnson, second; Mrs. N. W. Harris, gardener A. Montgomery, third. Mr. F. D. Countiss, gardener A. Martini, had an arrangement differing slightly from the others. This evidently had not met with the judge's favor.

In the class for group of singles, Mrs. A. C. Allerton (gardener, R. Blackwood) took premier honors, Mr. C. L. Hutchinson (gardener, W. P. Longland) being second. The latter exhibitor was first for group of Pompons. A special prize was awarded Mr. Wrigley, Jr. (gardener, C. Lockwood) for a group composed of both these types (cut blooms).

In the class for 12 Wm. Turner, A. J. Smith led with very fine examples, being closely followed by A. Johnson and R. Blackwood.

For 12 Yellows, A. J. Smith again won with Col. Appleton.

For 12 Pink, R. Blackwood was first with Elberon; C. Lockwood, second; A. J. Smith, third.

For 12 Crimson, R. Blackwood and A. J. Smith won in the order named, showing F. T. Quittenton and Crimson Pockett. For 12 blooms, any other color, A. J. Smith won with Mad. L. Rousseau; whilst for 12 blooms, four varieties, R. Blackwood and C. Lockwood took first and second, respectively.

The class for 10 blooms, 10 varieties, brought three competitors, R. Blackwood leading; A. J. Smith, second; C. Lockwood, third.

For 6 blooms of "Turner," R. Blackwood was again to the fore; whilst 6 any other white was annexed by Mrs. Boissot (gardener, J. Balsdon).

For 6 blooms, 1 variety, incurved, Odessa was the winning flower, being exhibited by R. Blackwood; A. Johnson, second; C. Lockwood, third. For 6 blooms, pink, A. Johnson led with Well's late pink; C. Lockwood and R. Blackwood following in the order named. The same order was maintained in the class calling for 6 crimson. R. Blackwood scored again with 6 bronze, using Bronze Bright-hurst.

Special mention must be made of the very fine specimen plants exhibited by R. Blackwood, A. J. Smith and A. Johnson, the former exhibitor's plant

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of "Anna" being awarded a Certificate of Merit. Other fine varieties were Greystone, Nellie Pockett and Klondyke

For singles in 6-inch pots, A. Johnson and W. Wahlstedt (gardener to Mrs. H. H. Porter) were the respective winners.

A. J. Smith led for single stems in the same size pots.

This exhibitor won for group of Palms, using Kentias, Latania and Phoenix in good condition.

A. Montgomery won for group of foliage plants, using Cronton's Pandanus, Dracaenas, etc.

For specimen fern, A. J. Smith won with a fine piece of Polypodium Mandaianum; while for three ferns A. Martini won with good examples of Nephrolepis Adiantum and Polypodium.

For 6 Begonias, A. Johnson led with Mrs. Peterson; C. Lockwood, second, with Lorraine; J. Balsdon, third, with B. fuschoides. Single plants, A. Johnson with Cincinnati.

For basket of plants, Wm. Wahlstedt scored. Anything not scheduled was won by A. J. Smith with vase of Lilium giganteum.

Roses and Carnations—These were staged in the meeting room and were exceptionally fine in quality.

For 18 blooms of American Beauty, A. J. Smith was awarded a Certificate of Merit. In the class for 12 Ophelia, C. Lockwood, R. Blackwood and A. Johnson were the respective winners.

For 12 white, R. Blackwood and A. Johnson won in the order named, both using Kaiserin Augusta Victoria.

My Maryland produced three competitors; R. Blackwood, first; Mr. Ed. Swift (gardener, R. J. Sampson), second; C. Lockwood, third.

R. Blackwood won from A. Johnson for vase of yellow, both using Sunburst. This he repeated

with Hoosier Beauty. C. Lockwood being second. Mr. Chas. Russell produced but one entry, Mr. A. Johnson, with nice flowers.

In the class for 12 white Carnations, A. J. Smith led, A. Johnson and C. Lockwood being second and third.

For light pink, Sensation, shown by A. Johnson, took the honors, A. J. Smith following with Philadelphia.

In dark pink this order was reversed, the varieties being Northport Beauty and Seeding 1912.

In the class for crimson, A. J. Smith won from C. Lockwood, both using Princess Dagmar.

Twenty-five blooms, mixed, brought three entries; A. J. Smith, A. Johnson and J. Balsdon winning in the order named.

Vase of cut flowers other than Chrysanthemums was won by R. Blackwood, using Roses; A. Johnson, second, with Lilium Melpomene and Asparagus elongatum; C. Lockwood, third, with a mixed vase of Browallia speciosa, Cuphea platycentra and Stevia.

## VEGETABLES AND FRUIT

Of these there was not an extensive display, but the quality was of the best. A. Martini, A. Johnson, R. J. Niles, J. Balsdon, A. Montgomery and C. Ackerson were the prize winners in the different classes.

The judging was efficiently carried out by Messrs. Head, McNaughton and Francis of Lake Forest, Ill.

F. W. SPARKS.

**T**HOSE who wish to place orders for tubers of the magnificent WINTER-FLOWERING BEGONIAS that were displayed by us at the Chrysanthemum Show in the Museum of Natural History, and for which we were awarded the Society's GOLD MEDAL, will please communicate with us at once as stock is limited. A pamphlet describing these wonderful Begonias and their history, also containing instructions as to the way they should be handled and grown, as well as the most recommendable varieties, will be sent upon application.

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**LAKE FOREST, ILL., FLOWER SHOW.**

The first chrysanthemum exhibition of the North Shore Horticultural Society, held in Durand Art Institute, Lake Forest, Ill., proved to be a most successful affair, surpassing all expectations of those who had the show in charge. The stock displayed was all of very fine quality, the exhibits numerous and well staged and the large hall was well filled.

In the class for group of chrysanthemum plants to occupy a space of 50 square feet, arranged for effect with palms and ferns, there were three splendid entries, Chas. H. Scheweppe (H. Zakes, Gr.) being first with a fine display, closely contested by J. Ogden Armour (T. W. Head, Gr.), second, and Louis F. Swift (J. H. Francis, Gr.), third. The Swift entries captured the handsome silver cup offered by the First National Bank in the sweepstakes class. The classes for cut blooms and plants were 60 in number and fruit and vegetable awards were made in 40 divisions. John Tiplady was exhibition manager and Joseph Kruppa and James Livingston officiated as judges. The following were among the principal prize winners: J. Ogden Armour, Louis F. Swift, A. B. Dick (Frank Kuehne, Gr.), E. L. Ryerson (P. Back, Gr.), D. Mark Cummings (K. Loeman, Gr.), W. O. Lindley, (O. Pearson, Gr.), Miss Prentice L. Coonley (R. L. Chalmers, Gr.), H. C. Chatfield, Taylor (C. Geppert, Gr.) F. L. Moore (D. McNaughton, Gr.), B. L. Smith, (E. Bollinger, Gr.), Chas. H. Scheweppe, Clayton Mark (G. Schaeffer, Gr.), B. A. Eckhardt (R. Seifert, Gr.), Harold McCormick (A. Jackson, Gr.), J. W. Thorne (O. Strassenburg, Gr.), and Mrs. R. H. McElwee (John Newbore, Gr.).

**WESTCHESTER AND FAIRFIELD SOCIETY.**

There was a very fine display on the exhibition tables and an exceptionally good attendance at the annual meeting of the Westchester and Fairfield Horticultural Society, held in the society's rooms in Hubbard Hall, Greenwich, Conn., Friday evening December 8, President W. J. Sealey in the chair. The secretary's report and the financial statement rendered by the treasurer were highly satisfactory, showing the society to be in high standing, with a very healthy balance in the treasury. The principal business of the meeting was the annual election of officers. There was keen competition for the offices, which is always a very healthy sign. The choice of the majority of the members resulted in the election of Wm. Whitton, president; John Andrew, vice-president; Robt. Williamson, treasurer; J. B. McArdle, secretary; Alex. Clarkson, corresponding secretary, all of Greenwich, Conn. The executive committee elected was: Wm. Graham, Robt. Grunnhert, also of Greenwich, and James Linane, of Rye, N. Y. The newly elected officers are all "live" ones and we predict great results for the year 1917. The retiring officers were accorded a hearty vote of thanks for their painstaking efforts in behalf of the society. A large number of new members were enrolled during the past year, and our members are identified with every progressive step in horticulture. During recess the members were entertained by Messrs. James Stuart and P. W. Popp, by a description of their recent trip to Washington, D. C., in connection with the annual meeting of the National Association of Gardeners of America. These annual meetings of the N. A. G. are yearly becoming more interesting and we predict that in a very few years this annual meeting of the National Association will be the chief horticultural event of the year. For the exhibits of the

evening the judges made the following awards: Cultural certificate for a fine display of carnations from Robt. Grunnhert. High commendation to Jas. Foster for seedling single type "mums." Honorable mention to James Stuart for a fine vase of *Erlangea tomentosa*. This new winter flowering plant is a welcome addition to our lists. High commendation to Robt. Johnson for a fine display of antirrhinum. The thanks of the society was accorded to P. W. Popp for *Crinum Amabile*; Jas. Foster for "mums" and oranges; potatoes from Owen A. Huuwick; lettuce from Paul Dwenger. After the general routine was disposed of a social session was held and light refreshments served. The retiring secretary extends to all a Merry Christmas and a happy and prosperous New Year. The next meeting January 12, 1917.—P. W. Popp, Corresponding Secretary.

**CONNECTICUT HORTICULTURAL SOCIETY.**

The annual meeting of the Connecticut Horticultural Society was held in its rooms in the County Building on Friday evening, December 8, at 8 o'clock. After the general routine business had been taken care of and the auditing committee had reported the books of the treasurer and secretary O. K., the nominating committee announced that they were in favor of electing the officers who served during 1916 to succeed themselves for 1917, the secretary being instructed to cast one ballot, as follows:

President—G. H. Hollister, Hartford.

First Vice-President—Frank Roulier, Hartford.

Second Vice-President—Fred Boss, Hartford.

Third Vice-President—Oscar F. Gritzmaier, New Britain.

Treasurer—W. W. Hunt, Hartford.

Secretary—Alfred Dixon, Wethersfield.

Librarian—William T. Hall.

Botanist—J. Vidbourne.

Pomologist—C. H. Sierman.

President Hollister introduced the matter of flower shows to be held next year, and plans are contemplated of giving Hartford three exhibitions, viz.: a June Flower Show, a Dahlia Show in October, and a Chrysanthemum Show in November. After much discussion over the advisability of holding three exhibitions, it was finally voted to lay the matter on the table until the meeting in January.

Inasmuch as the next meeting would be held the Friday before Christmas, it was voted to omit that meeting.

ALFRED DIXON, Secretary.

Wethersfield, Conn.

**SEWICKLEY HORTICULTURAL SOCIETY.**

The regular monthly meeting of the Sewickley, Pa., Horticultural Society was held Dec. 12 in the Odd Fellows' Hall, Broad St., Sewickley, vice president R. Boxel presiding. The secretary reported attending a meeting of the Ladies' Garden Club Committee and gave an account of some new classes added to the schedule of the big June Flower Show. Mr. Curran resigned his office of secretary. The new office-bearers for 1917 were elected as follows: President, John Barnett; vice president, A. E. Bousey; treasurer, Wm. Thomson, Jr.; secretary, John Carman (care of Col. Schoonmaker, Sewickley, Pa.). Executive Committee: Ab. Davidson, Wm. Thomson, Sr., Chas. Patton, R. Boxel and Wm. Gillies. John Barnett and A. E. Bousey gave an interesting account of their trip to Washington, D. C., to the N. A. G. Convention, stating the hospitality and arrangements



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were all that could be desired, and also that there were prospects of the 1918 convention coming to Pittsburgh. The secretary read his annual report, showing the society to be in a flourishing condition. Owing probably to the severe weather the exhibits were very few and it is to be hoped the members will attend to this important part of the proceedings better in future. Twenty-one new members were elected and 8 applications filed.

M. CURRAN.

**HORTICULTURAL SOCIETY OF WESTERN PENNSYLVANIA.**

The first anniversary of the Horticultural Society of Western Pennsylvania will be celebrated at the next meeting, when the election of officers for the coming year will be also held.

President David Fraser presided at the last session of the organization, which was devoted mainly to the subject and exhibition of chrysanthemums. Thomas Edward Tyler had a display of thirty-two varieties of pompons, while William Thompson, Jr., and Anthony A. Leach each had a fine showing of late specimen blooms, cultural certificates being awarded to each. Mr. Leach contributed an interesting talk on the culture of the plants, which called forth considerable discussion. Some time was also devoted to initiative plans for the society's participation in the June Flower Show of the Garden Club of Allegheny County. M. Curran and Mr. Barnett, representing the Sewickley Horticultural Society, were also present as a committee of inquiry as to the Western Pennsylvania organization holding a chrysanthemum show next autumn. In case it does, the Sewickley "boys" will cooperate; otherwise, they will plan to hold one, as was done this year. E. E. S.

**OYSTER BAY, N. Y.**

The regular meeting of the Oyster Bay Horticultural Society was held in Firemen's Hall, November 22, President Walker presiding. The committee having in charge the fifth annual dinner of the society made its report. It was generally agreed to hold the feast at the Oyster Bay Inn, December 12, at 7:30 sharp. D. Beaton, James Duckham and John Sorosick acted as judges of the exhibits and awarded the society's blue ribbon to Joseph Robinson, for fifty violets. A. Andrews, Robert Wright, George Hale, William Eccles and John McCulloch were elected to membership. Applications were received from William Ford, Jr., and F. F. Ayer.

Several members addressed the society on timely and instructive subjects. Exhibits scheduled for the next meeting are: Six poinsettias, twelve sweet peas and twelve narcissi. The steward sprung a surprise on the crowd in the form of eats, drinks and smokes.

JOHN T. INGRAM, Secy.

**HOLYOKE AND NORTHAMPTON FLORISTS' AND GARDENERS' CLUB.**


The regular meeting was held December 5 at Gallinan Bros. greenhouses, Smiths Ferry. President Butler presided over a good attendance of members and a lively meeting was held, several interesting topics coming up for discussion. Chief interest centered in the election of officers for the coming year. George Strugnell was elected president and H. E. Downer vice-president. James Whiting was re-elected secretary for his fourth term. His report showed the club to be in a healthy condition and it is satisfactory to note a steady progress from year to year. Messrs. K. B. Ullman, F. D. Keyes and D. J. Sullivan were elected

as the executive committee. Three new members were elected. H. E. D.

**NASSAU COUNTY HORTICULTURAL SOCIETY.**

The annual meeting of the above society was held in the Pembroke Hall, Glen Cove, on Wednesday afternoon, Dec. 13th at 2 o'clock, President James McDonald presiding, the principal business being the election of officers for the ensuing year. The judges for the monthly exhibits were James Bell, Stephen Drombrowski and Thomas Twigg, and their awards were as follows: first, Peter McDonald with a fine vase of mixed carnations; first, John W. Everitt with 50 single violets and honorable mention to Harry Goodband for a vase of chrysanthemums, cosmos pink. Mrs. Payne Whitney was elected an honorary member of this society, and three applications for active membership were received.

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The president presented the silver and glass trophies that were won at the recent exhibitions to the winners. Treasurer Ernest J. Brown ably read his annual report, showing this society to be in a splendid condi-



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tion financially. The balloting and installation of officers were well conducted with James Duthie in the chair, with the following officers elected: For president, James McCarthy; vice president, James Gladstone; secretary, Ernst Westlake; corresponding secretary, Harry Goodband; treasurer, Ernst J. Brown; executive committee, Robt. Jones, Joseph Adler, George Ford, John F. Johnson, Arthur Cook, Archie Traie, Frank Watson; trustee for 3 years, James McDonald; trustee for 2 years, James Holloway. Our next monthly meeting will be held on Wednesday, January 10th, at 2 o'clock. Monthly competition: 12 freesias, 1 pot or pan primula malacoides, and 3 poinsettias. It was decided to hold our annual dinner on Tuesday, Jan. 23, 1917.

HARRY GOODBAND,  
Corresponding Secretary.

**RAISING THE GARDENER'S STANDARD.**  
(Continued from page 525.)

greater courtesies could not be tendered the members of any organization than were those tendered the members of the National Association of Gardeners by the business men of the capital city.

The same mail that brought the above communication to the secretary's office also brought a communication from one of the largest universities in the west stating that it had been referred to the gardeners' national association to secure a competent gardener to take charge of its ground, and asked that one be recommended. At about the same time, over the long distance telephone, the owner of a modern country estate sought the assistance of the Service Bureau to solve his problem with the gardener and thus prevent his abandoning country life. After learning of his experience he was advised that his only remedy was to replace the garden laborer with an efficient gardener by recognizing that every man is worthy of his hire, and that if he would do this his sorrow would soon be turned into joy. He is considering the advice.

What has been cited is simply to indicate the high standing of the association, which in turn cannot fail to elevate the standard of those engaged in the profession it represents.

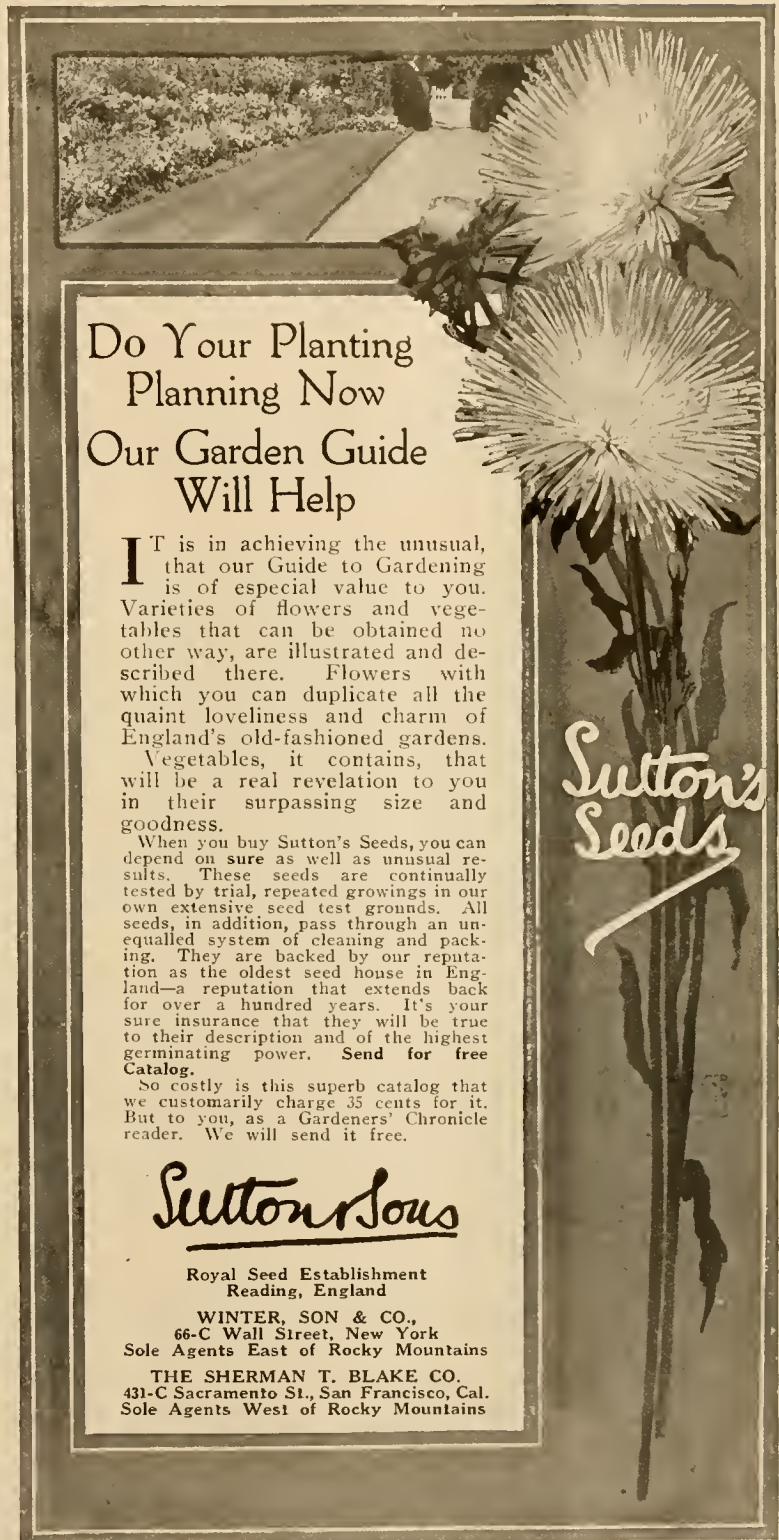
If there are any laborers or men not entitled to the calling of gardener enrolled in the active membership of the association it is contrary to its by-laws, and it should be the duty of every member to promptly notify the secretary's office of the name and address of any one at any time found wrongfully admitted. Under the present regulations the secretary must accept the applications endorsed by a member, and has no means of personally investigating whether an applicant professing to be a gardener, is entitled to such calling or not. If he is not, he, however, can certainly gain nothing through affiliating with the gardeners' association.

The National Association of Gardeners is still in its infancy and weak in spots, and it will take time to attain perfection in its organization, but this can be hurried by a united effort on the part of all interested in its progress and by sharing just a little in its development.

M. C. EBEL, secretary.

**SEWICKLEY HORTICULTURAL SOCIETY.**

The monthly meeting of the Sewickley Horticultural Society was held November 14 with Vice-President R. Boxel in the chair. The various committees of the Chrysanthemum Show made their reports, showing that



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all did their share in making it the success it proved to be. A vote of thanks was extended to all of the committee members. J. Barnet read a communication from the secretary of the National Association of Gardeners regarding the coming convention of that organization, which will be held at Washington, D. C., December 5-6 and announcing the appointment of Mr. Barnet as chairman of publicity for this district. His remarks were well received and as the members are in sympathy with the work of the N. A. G., there should be a good attendance at the Washington meeting. Nominations for officers for 1917 being in order, the following

were proposed: For president—John Barnet, R. Boxel, A. E. Bonsey, and J. Carman. Vice-president—A. Davidson, and Robt. Taylor. Secretary—Manus Curran. Treasurer—Wm. Thompson, Jr. Executive committee—Wm. Gillies, Wm. Thompson, A. E. Bonsey, A. Davidson, R. Boxel, J. Carman, J. Barnet, Wm. Beeler, and T. Jones.

Manus Curran and T. Barnet were appointed a committee to attend the next meetings of the Pittsburgh Florists' and Gardeners' Club and the Western Pennsylvania Horticultural Society and get things started for the proposed show for 1917.

MANUS CURRAN, Sec'y.

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