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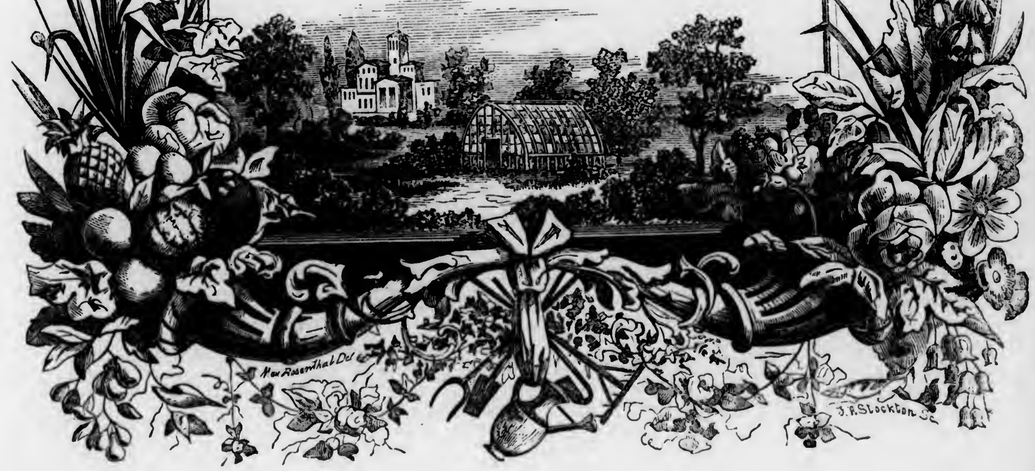

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Yours, truly
Thos Nuttall

Drawn on Stone Expressly for the Gardeners Monthly

L.N. Rosenthal Lith. Phila.

THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, Editor. JANUARY, 1860. VOL. II.---NO. 1.

Hints for January.

FLOWER GARDEN AND PLEASURE GROUND.

There is very little to be done in this department of the year, except prepare for the busy season soon to approach. Hedges that have not had their winter dressing, should be attended to. If the remarks we have before made on hedges have been attended to through the summer, there will be very little now to do. We have said that pruning in summer weakens a plant, while pruning in winter strengthens it; and so, as hedges naturally get spoiled by growing vigorously at the top, and weakly at the sides, they should be severely summer pruned at the apex, and winter pruned near the base. Now will be the time to see to the latter, taking care not to make it too narrow. A good hedge should be nearly four feet wide at the base, and be cut into a point at the top.

Mice are very destructive to some osage orange hedges when newly planted. They should be watched occasionally, and some of the many well known methods of destroying them, employed. Weeds and rubbish, when suffered to lie about the roots of a hedge, often induce mice to harbor, and many good hedge growers believe that they are never troublesome except under such circumstances. At any rate cleanliness is much in the hedges favor.

The remarks on pruning hedges are applicable to all kinds of trees and shrubs. Wherever any part of a tree does not grow freely, pruning of such weak growth, at this season, will induce it to push more freely next year. All scars made by pruning off large branches, should be painted or tarred over, to keep out the rain. Many fruit trees become hollow or fall into premature decay, through the rain penetrating through old saw cuts made in pruning. Also the branches shonld be cut off close to the trunk, so that no dead stumps shall be produced on the tree, and the bark will readily grow over. Many persons cut off branches of trees in midsummer, in order that the returning sap may speedily clothe the wound with new bark, but the loss of so much foliage in the summer injures the tree, and besides, painting the scar removes all danger of rotting at the wound.

The manure heap is one of those items that can receive attention at this season to advantage. Without a good pile of rich compost, very little success can be hoped for in any kind of gardening affairs. Leaves and litter of every description should be collected whenever possible, and stored in suitable places where they will not be offensive by their littery appearance. For flowers, generally leaf mould from the woods is very acceptable; not the half rotted leaves that are immediately on the surface, but such as has been powdered by age, and amongst which the roots of the trees have already penetrated, and rendered of a spongy consistence. We like all manures to be thoroughly decomposed before using, if the garden soil is already light and friable, and to this purpose the manure heap should be occasionally turned over and lightened to assist fermentation. This also is aided by watering the heap with a solution of potash, and which also gives additional value to the manure.

It is a very good practice to cover lawns with manure at this season. Two good results flow from this course. The frost is prevented from penetrating so deeply, and the ground being warmed much sooner in spring, is green and cheerful some time before unprotected lawns, and then the grass itself is strengthened, and its color brightened by the operation. But stable manure has the objection of introducing many coarse kinds of weeds that would not otherwise exist on the lawn, and so, where the grass grows poorly, and strength and luxuriousness is desired, guano and the phosphates are preferred. Many use bone dust, ashes, etc., but the mowers are apt to feel somewhat indignant in mowing-time, through this material taking the edge off their scythes.

Manure for flower beds, borders, etc., may be hauled convenient to where it is likely to be wanted in spring; many spread it on at once; but if the soil

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is frozen very thick, it prevents the early thawing of the soil in the spring, and so, no time is gained.

Very small plants in borders or on the lawn, or larger plants that may have been set out the past season, should be mulched with anything that will prevent the ground thawing, and so, the plant "drawing out." Most readers have done this in the fall, but there is good to be done by it yet by those who have neglected it till now. Keep a sharp lookout for mice under the litter, however, where it is wise from the value of the specimen to run no risks; brown paper, afterwards tarred, may be wrapped around the stems as far as the litter covers them.

A great deal of trenching and subsoiling can be done through the winter if manure be thrown over the surface before it is frozen too deep; a little snow even, dug in will not injure the operation, as we find in our own experience.

VEGETABLE GARDEN.

Beyond what we have said in our flower garden hints, there is little that can be added to this department. It is customary to advise at this time to look after tools, implements, poles, sticks, and everything likely to be wanted when the busy season arrives, and to arrange a method and system for everything; and this we are sure no one of our readers will neglect.

Towards the latter end of the month, however, in the Southern States, there will be little time for study; spring will be opening, and hard work will be the order of the day. Peas and potatoes must be planted as early as the season will admit. Even here in Pennsylvania we have planted peas to advantage during a favorable "spell" in the first week in February. In sowing peas, a common error is to sow them too thick: each pea should be nearly two inches apart if the soil is rich, in order to have a very satisfactory crop of large pods. We hate to see the best half of mankind, namely, womankind, imposed upon by those gardeners who grow plenty of pods with no peas in them for the dear creatures to "shell."

Asparagus beds may have the soil raked off them a little, if it was thrown up from the alley way in the fall. It allows the sun to get to the roots earlier, and the crop is forwarded thereby. If the beds are poor they may have a dressing of guano, or superphosphate, which has been found very beneficial to this crop. It has become almost a stereotyped recommendation to have "salt applied," but there is a good deal of the humbug about it. In dry, sandy soils it does a little good, and a little in whatever manure is applied is acceptable to them, but more has been made of the salt theory with asparagus than it deserves. Asparagus beds may be got ready as soon as the ground is sufficiently dry to admit of working. A deep soil is all important, two feet at least, and a situation should be chosen that is warm, and yet, not too dry. The roots should be set about four inches under the surface, twenty inches or two feet from each other, and the rows, eighteen or twenty inches apart. Large, fine asparagus cannot be obtained by crowding the plants; strong two and three year old plants are the best; although in good rich soil, one year old plants will often bear a good crop the year after planting. The length of time asparagus requires to come into bearing depends much on the soil. It is useless to attempt raising it in poor ground.

Rhubarb also is one of the roots requiring early attention, and requires a very rich and deep soil, of a claycy nature to bring it to perfection. They need be set but a few inches under the surface, and should have a clear space of about two feet each way to develope themselves properly. There have been so many improvements made in the varieties of rhubarb now, that there can be a good selection of kinds for different circumstances:

Prince Albert and Tobolsk for earliness; Magnum bonum, Victoria, and Cahoon's Mammoth, for size and productiveness; Linnæus, for size and quality; and Prince of Wales, and Crimson Perfection for beauty of color, are amongst the most popular. In planting, use off-setts; seedlings do not reproduce the same kinds.

WINDOW PLANTS.

These suffer much at this season from the high and dry temperatures at which it is necessary for human comfort to keep our dwellings. Air can seldom be admitted from the lowness of the external temperature. Saucers of water under the plants do much to remedy the aridity from which room plants suffer. In such cases, however, so much water must not be given to the plants as to those without saucers. The water is drawn up into the soil by attraction, and though the surface will appear dry, they will be wet enough just beneath. The more freely a plant is growing, the more water will it require; and the more it grows, the more sun and light will it need. In all cases, those which seem to grow the fastest should be placed nearest the light. The best aspect for room plants is the south-east. They seem like animals in their affection for the morning sun. The first morning ray is worth a dozen in the evening. Should any of our fair readers find her plants, by some unlucky miscalculation, frozen in the morning, do not remove them at once to a warm place, but dip them in cold water, and set them in a dark spot, where they will barely escape freezing; sun light will only help the frost's destructive powers.

GREENHOUSE.

In many greenhouses, we have noted lately, more attempts at a tasteful arrangement of the plants, than used fermerly to prevail, when the only object of a greenhouse seemed to be a mere store-place for border flowers during winter. This is very commendable, and might be much more improved on. Every few weeks the plants may be reset, and the houses made to appear quite different. In the end where the lowest plants once were set, now the taller ones may be placed; here a convex group, and there presenting a concave appearance. Drooping plants on elevated shelves, and hanging baskets from the roof, make little paradises of variety in what was once unbearable monotony. Gardeners often wish to know the secret of maintaining a continued interest on the part of their employers, in their handiwork, and this is one of the most potent—continued change and variety in the appearance of everything. Beautiful flowers, graceful ferms, elegant combinations, all developing themselves with a healthy luxuriousness, and everchanging endlessness, will wake up an interest in the most indifferent breast.

The temperature of the greenhouse at this season should be maintained at about 50°, allowing it rise 10 or 15° under the full sun, and sinking 10° or so, in the night. Though many of our practical brethren differ from us, men, for some of whose opinions we entertain the highest respect, we do not recommend a very great difference between night and day temperature, we think 10° ample allowance. It is following nature, no doubt; but we would rather strive to beat nature. She can not make the specimens we do, nor flower them so beautifully or profusely, and in many other respects we think the practical gardener can much improve on her red tape notions, and old fashioned courses.

Many plants will seem to be full of roots, and the temptation to repot will be very great, but if a plant is desired to flower freely, the fuller of roots the pot is the better. Continual pot-*tering* is the bane of plant culture. If the soil is so very much exhausted that the flowers are likely to be small and poor, a half inch of the old soil in the pot, on the surface, may be replaced by a top dressing of rich compost. But watchfulness must be afterwards exercised, or the plant will get over dry, as the loose soil on the top will often appear wet, when in reality all below is as dry as a powder horn.

This, by the way, is often the cause of the flower buds of Camellias falling off. The little dribblings of the water pot, they daily receive, do not penetrate far beneath the surface; the roots at the bottom do not get enough, and the buds drop. Camellias ought to be in such a part of the house, as not to be liable to become often dry; such a spot, for instance, as will admit of one good thorough watering being enough to last for a week.

How we pity the lover of flowers who, at this season, has not a greenhouse. We would not be without the luxury, for all the gold in California; and now that the principles of construction has been so simplified that one hundred dollars will do the work of three hundred in times gone by; there is little excuse on the score of expense.

VINERY AND FORCING HOUSES.

About the first of January, those who have the luxury of forcing houses, will have their slumbers disturbed by visions of early fruit, and will rise in the morning with the determination to begin at once and go right ahead. Those, of course, who are blessed with superior skill and knowledge, have already commenced, and are now under way. At the start it is best to go slowly, or the plants will be like a good pacer, who has not turned his wind in the race. For Strawberries, 55° will be a good point to start with, and indeed, at no time do they require a much higher temperature than 65°. They are the easiest of all fruit to force. They require plenty of water, saucers under them do well; like plenty of light, must be near the glass, and must be carefully watched for the red spider. They well repay the cost and trouble of forcing. All other kinds of fruit may be started at the same temperature, rising it as the buds begin to burst, and the branches proceed to develop themselves. As the flowers expand they must be carefully guarded against excess of moisture, or from becoming too dry. In either case the buds will fall off. Sudden changes of temperature will also produce the same effect, as well as sudden transitions from a moist to a dry atmosphere. There is less danger from a moist atmosphere than a dry one, and water should be strewn plentifully about the paths and shelves, and before giving air, when much of the moisture in the house will escape, as the upper sashes are opened.

While keeping an eye on the success of this year's crop, a glance must occasionally be bestowed on the season that is to follow after, and if any shoot seems to be starting away stronger or more vigorously than the others, pinch it out as soon as such a monstrous tendency is fairly discernible.

Above all things in forcing take care of the leaves; never suffer one to be in the slightest degree injured, if possible to prevent it. Sudden bursts of sun, insects, escape of gas from the flues, very low or high temperature, too much or too little water, any one of them, will come unexpectedly, like a thief in the night, and rob you of all your anticipated fruit, if you only allow them the least chance of a foothold on the leaves.

Communications.

SHALLOW PLANTING OF TREES: MERITS OF THE PRACTICE.

BY WM. BRIGHT, LOGAN NURSERY, PHILADELPHIA.

It has been our custom, for many years, in planting trees of all kinds—evergreens, ornamental and fruit trees—to set them as near the surface of the ground as possible, often exciting much alarm for the safety of the trees in the minds of anxious amateurs, and much contempt on the part of incipient gardeners, for the seeming absurdity of the practice. But having somehow got the idea into our head that this method of planting trees was the *true natural method*, we obstinately persevered in it, and now, after more than ten years' experience in the practice, it has grown into a settled system with us, and we have begun to find out the reasons why it is really the best and most judicious plan of planting trees.

In transplanting good specimens of evergreens, we usually endeavor to lift them with a ball of earth attached to the roots, fifteen or eighteen inches deep, and two feet or more in diameter. For such a tree, we make a hole only four inches deep, setting it, in fact, almost on the surface of the ground. Then we throw about it, one or two cart loads of good loam, working it up into a sort of mound, of a concave or cresent form, sloping off to a distance of six feet from the tree on all sides. After this we mulch the whole mound very heavily with leaf mould, or old litter, and keep it so mulched, winter and summer, for two years. The mulch must be heavy enough to keep the mound constantly moist in summer, and to keep out frost in winter.

Deciduous trees we plant in the same way, as near the surface as possible, and rarely dig a hole over four to six inches deep. If the bottom roots are too long, we shorten them. In setting the tree, we spread out the roots, on every side, so as to form a natural support to the tree, in the same way that the ropes or guys support a derrick. The same rule of planting we apply, as nearly as possible, to fruit trees, though it is often difficult to do this with some of the stock obtained from the common nurseries. A great mistake is made by some nurserymen in working the pear on the quince; they almost always work them too high on the stem. If budded as low as they ought to be, (right down on the crown of the quince root,) they could be planted shallow much more successfully; it would enable us to cover the bud with two or three inches of soil, without being compelled to plunge the roots deep into the cold and sterile subsoil.

And here let us say, that in setting out deciduous ornamental trees, and standard fruit trees, after the method here described, it is necessary to pay particular attention to the fact that the roots must be spread out horizontally, at right angles to the tree, no matter how tough they may be, or how difficult it may seem to do this. If the tree be set with the roots extending perpendicularly downward, as they usually come from the nursery, it will be impossible to plant in shallow holes, as the tree would project too far out of the ground. The tree must not be set in the soil like a broom, but rather with its roots spread out precisely like a chicken's foot with the toes extended at right angles from the leg. In this position it must be held firmly down till it be covered heavily with soil, when it will remain in place. The roots will then have the right direction for extending into the adjacent top soil.

For all kinds of trees we like to have the soil thoroughly and deeply ploughed and subsoiled; but the method of planting here recommended, renders deep trenching, and heavy manuring, and underdraining, in a majority of instances, quite unnecessary. Indeed, if we were to plant a fruit garden and lawn for ourselves, to-day, we would rather have all the trees set only two to four inches deep, in the decently good loam of a tolerably porous soil, (say a fair corn field) which had been subsoiled fifteen inches deep, without a particle of manure, than to have a field trenched three feet deep, and manured at the rate of two hundred horse-loads of manure to the acre, if the trees were to be set in the usual way, in deep holes dug for the purpose, so as to force or invite the main roots two or three feet downwards into the ungenial subsoil.

Our chief reasons for this shallow planting are these: it is nature's own method of growing trees, and experience has proved to us that it is the best ever devised by man. In the forest and field, wherever trees grow naturally, you will always find the largest number of roots just under the surface of the earth, in the top soil. Few or no roots, except the tap roots, extend downwards very deeply, but in the forest they run along for an immense distance just under the *mulching of leaves*, which both feed and protect them. A common loamy soil is only about six or eight inches deep, and this is all the material there really is in a field in a condition to furnish food for trees. Now, if you set a tree very near the surface of the ground, the roots will extend rapidly, freely and widely in the good top soil, and there they find their appropriate nutriment. If the light is excluded by mulching, as is done in the forest by leaves, you have all the conditions necessary for chemical changes in the soil, and *root feeding*, viz.: heat, moisture and darkness; and no crude, cold, sour, uncongenial particles of matter to obstruct or poison the roots. Decomposition is constantly going on in the surface soil, and this is materially aided by *plant-life*, which vegetable physiologists tell us acts like a ferment in dough, or like lime in muck, setting up chemical changes in the soil, which go on afterwards to an almost unlimited extent.

A surface-planted tree is placed in its *natural element*, a well decomposed and rapidly changing soil. Its roots get plenty of air, and if well mulched, are always moist; they become like the body and branches of the tree itself, accustomed to changes of temperature, and in the fall *ripen and harden off their wood* almost in the same way that a grape vine does its branches. But still the roots of a well mulched tree are never so liable to be affected by frost as even a deeply planted tree, for you will frequently find in the forest, under a heavy covering of leaves, in winter, that the frost has only penetrated to the depth of two inches, when in exposed ground the soil is frosted to the depth of four feet.

A surface-planted tree, immediately fed with one or two cart-loads of good loam, placed around the cut ends of its roots, and well mulched, is in a much more favorable condition to live and thrive, than a tree plunged deeply down into a cold, dank cistern of a hole, even if supplied with abundance of manure, and all sorts of special fertilizers. The surface-planted tree can and will send out its roots far and wide in the adjacent surface-soil; but the deeply planted tree finds nothing congenial or inviting in the soil around its roots, even if that soil be so well trenched or sub-soiled that it is able to penetrate it. A very large proportion of all the failures which have been made in growing fruit trees, and especially the pear, are to be attributed, in our opinion, to deep planting and excessive manuring. Nature shows us plainly what to do:—plant shallow, give all manures in light and frequent doses, and protect the roots from sun and frost by mulching.

As evidence of the practical merit of the plan of surface-planting which we advocate, we will take the liberty to refer to the magnificent specimens of Norway Spruce, Austrian Pine, and other evergreens, or the Lawn of J. S. LOVERING, Esq., of Oak Hill, on Old York Road, near Philadelphia, which we planted upon this system. These fine trees were about four feet, and four feet six inches high when planted. They were taken up with balls of earth about eighteen inches deep and two feet in diameter, and set on the surface of the lawn in cavities not more than three or four inches deep; mounds were formed around them with good loam, and they were mulched for two years as before described. They never met with any check or injury; the foliage never suffered in the least; and they are now, when only six years planted, the finest of specimen trees, upwards of eighteen and twenty feet high, the admiration of every beholder competent to judge of their excellence and beauty.

The same may be said of the evergreens which we planted five years ago on the grounds of J. SWIFT, Esq., half a mile north of Mr. Lovering, on the York Road, in a very exposed, bleak situation. Here, where the white Pine deeply planted, turned brown and lost its foliage in winter, the Austrians, shallow-planted, not only endured the fierce north-westers without injury, but always made a fine growth, and retained, under all circumstances, their rich native luxuriance.

There are other lawns in our immediate vicinity, where we have planted evergreens, and all sorts of delicate deciduous trees, in September and November, upon this system of shallow beds, with mounds and mulching, without losing one tree in a thousand, and with a degree of success in the growth and beauty of the trees, which rarely results from the common method of digging holes.

We have now partially under our care, a pear orchard of upwards of one thousand dwarf and standard trees, planted shallow and well mulched, one year ago, according to our advice and direction, without a particle of stable manure under or about them, with a loss of only two trees in a thousand; and a finer pear orchard of the same age and size, we feel assured, has never been seen in Pennsylvania. When this orchard gets into bearing, we intend to give a full description of our entire system of planting, manuring and pruning. We have, this fall, planted in this same orchard, nearly three thousand more pear trees, as shallow as possible, in no instance thrusting the spade in digging the holes for them, into the subsoil. The field has been thoroughly subsoiled, but not trenched or underdrained. The soil is, however, a good one, and the subsoil is gravelly and porous.

As to the propriety, and even necessity of shallow planting in setting out trees, in all cases, to insure the highest degree of success, we have no particle of doubt. We believe it is the only true and natural method.

And now, my dear amateur fruit grower, if you have a poor, sickly, unthrifty tree, deeply planted, which looks stunted and blighty, let me beg of you to try an experiment with it:—just dig the unfortunate tree out of the cold, rank grave in which you planted it, at once; lift it up gently with a large ball of earth attached to its roots, and place it on the good warm, sweet surface soil, in a cavity which you can make with your foot, say two inces deep; throw around it a little good loam, mound up to it and mulch it heavily, cut back the top freely in proportion to the loss of roots, and our word for it, you will see a change in the health and fruitfulness of your tree, in

a few months, which will delight and astonish you.

Subsoil plowing, shallow planting, heavy mulching and surface manuring are the cardinal points in fruit culture. Underdraining may sometimes be necessary in heavy, wet soil, but with shallow planting, this expense, and also that of trenching, may be often avoided. As to the proper manures for fruit trees, grape vines, &c., we shall probably consider these subjects soon, in the pages of the *Gardener's Monthly*, if agreeable to the editor.

[We believe one of the first, if not the very first article we ever wrote, at the suggestion of Mr. A. J. Downing for his *Horticulturist*, many years ago, was on the same subject, and presenting similar views as we have now the pleasure of inserting from the pen of Mr. Bright, and it is therefore needless to say how cordially we agree with him. We are at all times pleased to hear from Mr. Bright on any subject.—Ed.]

DERIVATION OF THE WORD "NOSEGAY."

BY MISS E.

Mr. Meehan:—The following notice may possibly interest some of the young readers of your *Monthly*. If you think so, pray give it a corner.

I found in an old book of queer things, the "Origin of the word 'Nosegay,' and of the 'Judge's Nosegay.'"

"As to the latter part of the word *Nosegay*, it is so transformed in sight and signification, that only such a judicious writer and etymologist as Cleland would have traced it to its original. In his Celtic vocabulary, page 2, he says:—"gay, applied to nosegay, comes from the Erse tongue, in which, *geach* signifies a *bough* or bunch of flowers, which might be held to the nose.

Every judge, every councellor, every sheriff, had his wand, *bough*, staff, or rod of office, which varied in their forms according to the difference of functions. The nosegay, now affected by the judges, is not, as is vulgarly supposed, a mere preservative against the closeness and ill effect of a crowded court, it is the relic of that primitive and ancient custom of the judges holding the *bough* or sceptre of justice in his hand.

It was formerly called *boughet* or *little bough*, whence the French word *bouquet* for *nosegay*."

THE BELLE LUCRATIVE, OR FONDANTE D'AUTOMNE PEAR.

BY JOHN B. EATON.

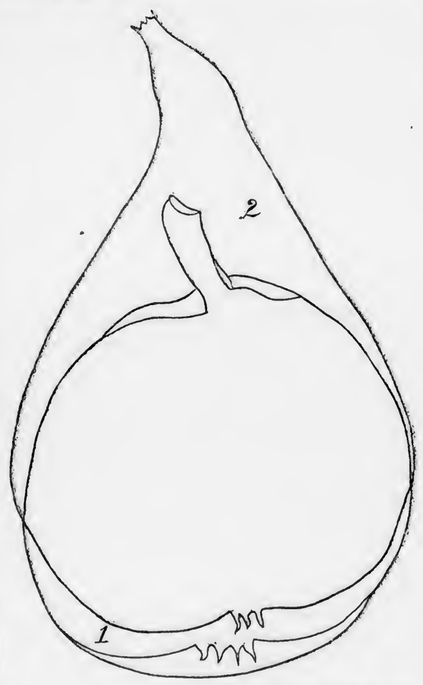
BUFFALO, November 2nd, 1859.

In a former number of your *Monthly*, Mr. Editor, I find an article upon this pear, intended to show that there are two distinct varieties cultivated, under the same name; of which, the one most commonly grown should properly be called Fondante du Bois, and giving, in proof, two dissimilar outlines and descriptions.

Of the latter, as a distinct variety, I have no personal knowledge, having always been accustomed to consider it a synonym, either of the Flemish Beauty, or of another variety, under which it is also placed by Downing.

The Belle Lucrative is my favorite pear, and I have observed its habits and characteristics, with considerable attention. I find that its form varies in the most extraordinary manner, and it is not uncommon to find specimens the most dissimilar, upon the same tree, and which, a person not well acquainted with the variety and its vagaries, would not suspect it to belong to the same sort until tested.

I send several copies of outlines traced from specimens grown by myself, of the unmistakably genuine Belle Lucrative, some of which you will find to vary quite as much as the two accompanying the article in question, and each of which might pass for that of a distinct variety.



I think that a comparatively small proportion of specimens are so much elongated as the outline given by Downing, the more roundish form predominating, and that the figure given by Hovey approaches more nearly to the average shape of the variety.

The Belle Lucrative is not alone in this habit; I could instance several other pears which evince a remarkable fondness for changing their shape. That various forms are assumed by the White Doyenne is well known, but it has the peculiarity that, usually there is a strong resemblance between all the fruits on any one tree, although, of course, there are exceptions, to which is partly owing, the fact that it had so frequently been brought out as a new sort. With the Belle Lucrative, Duchesse d'Angouleme, and some others, on the contrary, it is not unfrequently the case, that many dissimilar forms may be found upon the same tree, if not the same branch.

The former more clearly defined class of variations may arise from various conditions of soil, climate or culture, but the latter would seem to be governed by no fixed laws, and to depend upon influences affecting individual specimens.

For a season or two, I took pains to draw outlines from specimens of an abnormal shape, of several of the varieties which I had the best opportunity of observing, and made quite an extensive collection, which I have preserved as a matter of curiosity, but have not of late, enlarged. Some pages of my book embrace, under the same name, enough diverse forms to constitute a half dozen distinct sorts.

In regard to the color of the Belle Lucrative, I find that neither the green nor yellow tint is constant. The greenish hue is the most common, but I have had specimens of the roundish form quite as yellow as the more elongated ones. It is our present impression that they show more color when *not* gathered early, although the quality may not be so good.

I am not persuaded of the correctness of the theory advanced. If there really are two varieties, distinct in form, flavor, color and habit, grown under the name of Belle Lucrative, or Fondante d'Antomne, I should be much gratified by an opportunity of making a personal investigation of their points of difference, and shall, at all events, require some testimony on this side of the Atlantic to convince me that, of the thousands who have, for years, had this pear under cultivation in this conntry, no one would have, ere this time discovered that there were two sorts under one name, if such were really the case.

REMARKS ON THE IRIS XIPHIOIDES.

BY DANIEL BARKER, WEST MERIDEN, CONN.

Many of the Iris are extremely hand some, and deserve to be much more generally cultivated in our flower gardens than they are. There is an almost infinite diversity of color and markings amongst them, and few herbaceous plants are more attractive.

In an old English Herbal, by Dr. Turner, published in 1568, the Iris of the present day is called the Flower de Luce, and he says "there be many kinds," and adds—"our London gardens are very even stored with every one of them. The Turkish Flower de Luce came from Constantinople, and doth prosper well in my garden, being not planted in over wet gpound."

The kind which the European Florists have taken under their special care, and which they cultivate with so much success, is called the English Iris; and by those who are skilled in the art of hybridization, many very beautiful varieties have been raised, named and exhibited at the grand horticultural exhibitions in France and England, and have received, not only first certificates of merit, but high enconiums from the first florists of the day.

The flowers of the English Iris are much larger and altogether more beautiful than those of the Persian or Spanish varieties. I say varieties, as, after minutely examining a number of the so-called species, and comparing them with these authenticated varieties, I am inclined to consider the greater part of them nothing more than garden varieties; more especially after having been successful in raising a quantity by cross impregnation; and finding that distinctions much more palpable than in many of the kinds published as distinct species occur.

Though we now have many very fine and beautiful varieties of the *Iris Xiphioides;* many of them extraordinary and beautiful colors, the day is not far distant when the persevering hybridist *will produce* varieties much finer in *form, size and color than any we yet possess.*

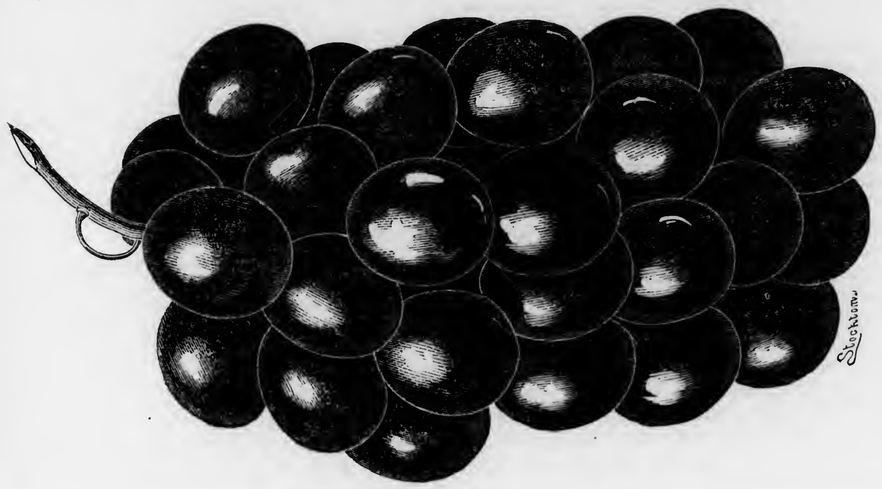
The cultivation of the English Iris differs from the herbaceous or fibrous rooted kinds; the latter are even adapted for the mixed flower borders, where they should occupy a conspicuous position. The English varieties are bulbous plants, and for effect should be grown in masses. The cultivation is very simple; as, in any light, rich soil they will grow and flower to perfection. They should be planted one foot apart, and about four inches deep; where they may remain from three to four years without being removed; covering them in winter with about six inches of old tan bark, or rotten manure, which should be removed the first or second week in April, according to location, &c.

The hybridizing, saving the seed, and raising new varieties must form the subject for another paper, should it be deemed of sufficient interest for the columns of the *Gardener's Monthly.*

[The Iris is a beautiful tribe of plants. Mr. Barker's excellent article will draw attention to them which they richly deserve. The promised article will be very welcome.—Ed.]

THE LABE GRAPE.

Amongst several new varieties of grapes that have come before us this year, and seemed to afford indications of "promising well," the present is one that impressed us favorably. It is a large berry, of a very deep black color; the bunch is oblong, and in shape very distinct from many of the Isabella section, to which it belongs. The flavor is rather sharp, but combined with a peculiar pleasant sweetness.



Understanding that it originated about Lebanon, we wrote to Mr. S. Miller for any account of its history he might possess, and have received the following note:

Friend Meehan:—Some ten years ago, a man by name of Hamilton, was passing along an alley in Lebanon, when he observed a grape vine lying among some weeds and trash over which wagons and carts had been passing. It had been thrown out of a garden, the owner of which, of course, thought it a worthless fox or frost grape seedling. Hamilton handed it over to Mr. Labe, his son-in-law, pressing upon him to plant it, saying he had no place for it. Labe has the vine now; says he has never known any rot or mildew on it, but every year a fine crop; says they are not near so fine this year as sometimes. The above is the account as I get it from the man who owns the original vine.

CALMDALE, October 29th, 1859.

A TRIP TO THE NEW YORK NURSERIES.

BY DR. J. S. H.

From Philadelphia to Rochester, via New York City, and back by way of Elmira, Williamsport, and Reading. That was the route.

At ELIZABETHTOWN, New Jersey, we stopped to see WILLIAM REID'S Nursery, which justly deserves the reputation it enjoys, of being one of the "best kept" establishment of the kind in the Union. It is, indeed, a model of neatness and systematic beauty. Why should nurserymen, whose business it is to dress off other people's places, permit their own (as they sometimes do) to become models of shabbiness? A well-shaped, elegantly dressed tailor, is a walking advertisement of his shop; and a clean, neatly arranged, picturesque nursery is certainly a better card for the proprietor than many advertisements in the newspapers. Indeed, flaming advertisements so often herald ragged and vacant grounds, that it is with some misgivings that we pay our first visit to a place of this kind, made famous by the great art of advertising. But at William Reid's you find such admirable order, neatness and elegance in the arrangement, decoration, and keeping of the grounds, that it is really refreshing to get out of a disorderly world, for a short time, into such an Eden of rural perfection. It was the last week in October. Mr. Reid was as busy as a militia major on review day, getting out and shipping his stock. We wanted some pear

trees. Everybody seemed to be wanting pear trees. The anti-pear writers do not appear to have destroyed the public faith in the pear, or diminished the trade in trees. Here was Mr. Reid marching about amidst files, companies, regiments, and battalions of pear trees, standing "heeled in," in all parts of the grounds, ready for moving off, in numbers truly astonishing. Fine, strong, handsome, healthy "stuff" (in gardener's phrase) it is too. Nobody we think, grows any better pear trees than does Wm. Reid. Few produce them of such uniform excellence. In fact, uniform and universal excellence is the characteristic of the place. We left with the firm determination to make our own little place look better—next year.

——From Elizabethtown to New York City. Cars full of young villains, armed with rifles, styled the "Red Rovers," returning from a pretended target excursion. Sanguinary fellows, in scarlet flannel shirts, with eyelids mostly of the same hue as their garments. What a contrast between the serene beauty of William Reid's garden, and this scene of ruffian rowdyism.

——Went up the banks of the Hudson by railroad; stopped at Peekskill; found the eminent cultivator of new Native Grapes, Dr. C. W. GRANT, of Iona, at the Depot. Boat just ready to start for the Island; only waiting for the Doctor's private mail bag, which is large enough for a respectable country village, and came well filled.

The Doctor is a genial enthusiast in grape growing and fruit culture, full of pleasant gossip and shrewd philosophy. Two stout fellows, "regular water dogs," the Doctor said, rowed us over to the Island where his Vineyards and propagating houses are located—a rough, romantic spot near the west bank of the Hudson, in a sort of gorge of mountains, the queerest spot imaginable for a commercial nursery, but full of interest to a stranger, and no doubt quite the thing after all, for the purpose, as we shall see after going over it. Thirty minutes steady rowing brings us to the Island, and five minutes more to the Doctor's house. Pleasant cottage—signs of taste and comfort—interesting family—the Doctor's wife, an artist in fruits and flowers, as all fruit growers know who have seen his catalogue and colored plates. The Island contains about three hundred acres. Dr. Grant, his family, and workmen are the only residents. If Robison Crusoe had turned grape grower he might have made just such an establishment as this, that is, provided he had been furnished with the materials. In the midst of little sunny sheltered clearings, here and there, cut right out of the forest, are the Doctor's grape houses, vineyards, orchards, &c. No fences are needed, for the neighbors' cows, and the neighbors' boys, never intrude here. Six or eight propagating houses, fifty or sixty feet long, with span roofs, and more going up, first meet the eye. All are brim full of grape vines in pots. How many hundred thousand Delawares, Dianas, Concords, Annas, and Prolifics of all sorts there are, we dare not undertake to say; but not more than the people will want, nor more than the Doctor deserves to make sale of at good prices, in return for his unwearied and hopeful labors to improve our native grapes. Large patches of Delawares, Dianas, &c., grown from layers, and fine, strong, well-ripened wood they are, too,—none better in the country, we are sure. Further on, back through the woods, you come to clearings filled with fruiting vines, pear and apple orchards in bearing. The soil is gravelly, naturally rather poor, but dry, and made rich by deep trenching and heavy dressings of peat compost, and manure. The Doctor has a mine of peat, muck, and alluvial matter, rich, brown, leafy, rooty, unctious material twenty feet deep; acres of it, which it would glad the heart of an amateur compost-maker to look upon. We saw piles of it, five hundred horse loads in a pile, which had been three years composted. The Doctor is a good student in chemistry, geology, and common sense, and knows how to use his "humus" as well as the best of us, and hence the piles of "carbon and salts," which he is now prepared to sell us in the shape of good Delaware vines at $3.00 apiece. If this is not a good specimen of modern alchemy, (turning an uninhabited island and old peat bogs into money) we know not what is.

Now go into the Doctor's business office and library, and see the shelves loaded with costly scientific works, full files of the "*Gardener's Chronicle*," for ten years past, &c. &c.; a library equal to the Philadelphia Horticultural Society—see the American horticultural papers and magazines—see the clerk at work—and you will discover that all this is the result of books, advertising and brains.

We taste the new grapes, and a specimen of wine from the Delaware grape, of delicate and richly-peculiar flavor; leave a small order for vines, and take boat again for the main land.

——Sleeping cars for Syracuse; a capital invention, worth the extra price it costs, to get free of foul air, and neck-breaking efforts to sleep in the common night cars.

——Syracuse. Visited SMITH & HANCHETT'S Nursery, two or three hundred acres in extent, in search of Pear trees. Found what we wanted, good young stock, budded low, well cut back, and grown on good, strong natural soil, well drained, not forced in old garden soil with stimulating manures. Saw tree agents and customers from all parts of the country. Scores of men digging and packing trees. Everything quite up to Rochester. Prices moderate. Messrs. Smith & Hanchett, are intelligent working men. You may look to see them in the foremost rank among tree

dealers, and the first among prize takers at the Horticultural fairs.

——Cars for Rochester; the chief market for Fruit Trees:

Visited Ellwanger & Barry, the most extensive and most successful Nurserymen in the Union. A truly magnificent establishment, in all respects. Elegant buildings, and ornamental grounds; marvellous quantity of stock; hundreds of men at work digging and packing trees,; Mr. Barry, too busy to speak to you, almost, yet polite and attentive as he can be; Mr. Ellwanger checking off the orders as they go out; clerks recording the business; tree agents and customers plenty, looking over catalogues and price lists, making out orders, &c. This is Rochester in the fall shipping season. Nurseries lighted up at night to get off the stock, and even some work must be done on Sunday. One agent shipped thirteen car loads of nursery stock in a single day, so says the *Rochester Democrat.*

Visited Bissell & Salter, well known propagators of the new native grapes. Intelligent, enterprising men, perfectly posted up, in respect to the quality of all the grapes of any value yet presented to the public. They have genuine stock, from original sources, of Delaware, Diana, and all other desirable grapes. Possess practical and scientific skill, and best business qualities. Bought a few layers from the original Delaware Vine. Tasted all sorts of grapes, from worst foxy to "bags of wine," and got much information.

Looking in at Mr. Hooker's, Mr. Frost's, and others. Nurserymen all busy. Wonderful amount of trade. Called at Mr. Dewey's book store, and got an assortment of his beautiful colored plates of fruits, flowers, and ornamental shrubbery. Tree agents everywhere; just returned from all parts of the country to attend to shipping stock.

Took the cars for Corning, Elmira, Williamsport, Reading, and home; arrived, all right, much edified by the trip.

Philadelphia, November, 1859.

THE YOUNG CREATION.

II.

BY JOS. AMRAM.

Mr. Editor, and fellow readers in the *Monthly*, assembled.—Here I am before you, conjured up once more. If, in resuming my task, I feel a little *aspenpoplarly*, I assure you it is no wonder, for there rises to my memory what I felt when, for the first time in life, I saw myself in print in the November *Monthly*. Guilelessly taking up that number, there stared at me out of its pages, my own ghost. I saw myself *in* the paper, in the spirit, and *out* of the paper I looked at myself in the flesh: a second sight; an *idem ego*—a literary egg. But no matter. I march on, and you, if you please, you follow me into my plantation of deciduous trees. You admire those trees, dotted about on the lawn; grouped here in social knots, there in solemn meeting; yonder a pair of exquisite shape, lovingly intertwined, in that corner there a young family circle. "How in the world (I hear voices behind me asking,) can you make trees grow so finely?" Precious little of my doing about it, sir. All I do is—*I plant them young.* One, two, three years old, according to kind, picked carefully from the nursery, taken out with all the roots, rootlets and fibres; a thing easily done with trees so young, sometimes with a "ball," and put in at the right time; some in fall, some in spring, into a bed made large enough for a tree of five times the age, and with an eye to light and air. Then they grow according to their nature's full bent and to your heart's desire. My single trees, (the French garden books call them "*solitaires,*") such as oaks, lindens, chestnuts, etc., gracefully droop their lowest branches towards their mother earth, often sweeping the ground and forming natural bowers, whilst their trunks boldly aspire heavenwards. My beeches, virgin beauties, grow like evergreens from near the ground and so remain.

Can you get older trees to grow the same way? Folly to try it. To make them live at all, you have, when planting, to lop and cut, and mutilate and cripple. "Trimming," some people call that. Trimming, indeed! says Growler, my man.

As a consequence of the *age* of those "fine big trees" of yours, there die the extremities of important branches, often a whole forking branch and what belongs to it, and as a rule, those lowermost branches; in fact, there dies the natural form and beauty of the tree.

You want instances, my fellow readers. Will you please go to the trouble and pay a visit to a known good specimen of tree, say to a good mountain ash, and see how it forks low down near the ground, how fountain-like it rears its branches, there is the joyousness and grace of a young girl in it. Or to a good horse chestnut; look up into it and see the pillared arch of a leafy cathedral. And then please to go and look at your neighbor's mountain ash and horse chestnut. You do not find there the fountain and the gothic arch? Be sure that "fine big trees" were put in, and that those branches which, in the order of nature, build the arch and throw the jet, have succumbed to frosts and heat.

As a consequence of your *trimming*, you may have saved some limbs, but you have sacrificed the head of the tree. And as a substitute for the lopped off members you started—admirable ingenuity of man!—you started a helter skelter growth, an awkward, stubby, unnatural, violent growth, which makes the

Dryads blush. Could you but hear their cries of anguish!

> "Des cieux la tonnerre fondroyante he invites
> to fall on your noddly head,"

says Delville, whom I have not got handy, somewhere in his "complete works."

Do I fancy somebody saying there: "*my* trees were put in large, and you should come and see them in the month of June."?

In the leafy month of June, forsooth? Well, at eighteen, they say, all the girls are pretty, but I do not believe it. Besides, the older they get, the less pretty they get, (the girls) naturally; whilst trees, the older *they* get, the finer should they become. And neither all the girls nor your trees will bear looking at closely even in their month of June. A fine tree is fine at all seasons: in spring, when making toilet for the year; in summer, when full dressed; in fall, when unrobing, and in winter, when nude.

"But, says somebody else there, what am I to do. I have building lots for country residences, two by four, and not a tree on them. Small stuff wont do for me."

I know it, Mr. Somebody Else, you want large stuff, and no nonsense. As you can not get Chinese umbrellas to plant, grafted on ten-foot sticks, which would indeed make fine shade, and can be let down in rainy weather, so you take large cottonwoods, silver maples, etc., top them, and stick them in plentifully. Then comes your citizen, as green as the country he seeks, and you *do* him as he wants to be *done*, (not by.) You do not want *my* advice.

No, Fellow Readers of the *Gardener's Monthly*, and I put my whole soul into this No, do not plant large trees. What satisfaction in young trees! some will even look interesting as babies, just like you and I did, when they will look nothing of the sort when grown up. I instance red cedars, which have been created for the distance, and are the prettiest things when young. Again, the paper mulberry, which had better staid at home in Japan, but as a baby, shows you a most remarkable diversity of leaf, and interests you sufficiently by that. Nearly all evergreens look charming when young, and you can create effects with them; garden scenes, when treated shrubwise, which you can never do when well up, because, then you cannot look down on them. Moreover, the youngest evergreen is as perfect as the oldest; nothing changes with age but the dimensions. Am I right, fellow readers?

You assent, and I get bold and tell you that the beauty of the details of trees can be seen only when they are young, and not above your own height. Go to the young horse chestnut, see how its buds are wrapt up for the winter, and you study Divinity, though not Theology. Go to the same horse chestnut next spring, and see, day by day, hour by hour, how that bud unfolds, what growing, everchanging beauty,—and fall down, student of Divinity, on your knees to worship Him who gave you this delight. Go when the sun has buried his face under the horizon, and the twilight comes at that hour, go and see the accacias going to sleep, a most touching sight, even for a blacksmith. Turn to the tulip tree, and see the transparent nest of leaves, each starting from its predecessor; or in spring time to the black oak to see its wonderful velvet leaves, or to any of those wonders which only young trees will show and teach you.

And these same young trees will grow up and thank you. Those standing isolated will be each a feast to the eyes, heroes and nymphs. Those growing in groups will harmoniously and affectionately bend towards and grow into each other. The wind will agitate their foliage and their trunks, and will but reveal new beauties of form to your enraptured eye. And when winter does come, you will admire them not a whit the less for their showing you their forms unadorned.

But the cry for shade pursues me! Shade, cries the speculator; shade, cries the new country residencer; shade, cries the maid, washing in the sun; shade sounds from all corners.

I cannot give you shade, crying public, I can only give you counsel. Keep cool and wait, and with shade comes beauty too. Or lose patience, stick in "fine big trees," and be shaded. For the washing maid, who is entirely innocent of your perversity to squat on a shadeless spot—it took you, refined citizen, to do that—for her the trellis, the creepers, and the vines.

Amongst those who take to "country seats," there are a few whose minds bear too deep an impression of the long wielded yard stick, and these few cannot be convinced by the force of beauty, they want figures to go by. Let these country sitters compare trees of same kind, planted under same circumstances, one 5, the other 10 years old, and after a four years' growth let them see how comparatively little time there is saved in the rapid growth of a young tree, and the sluggish progress of an older one, and they too will be satisfied rather to set out young trees.

Finally, and with a deep breath, knowing what prejudices I have run counter to, I appeal, before this august audience, to you, Mr. Editor, as to authority. Our community of the *Gardener's Monthly* will thank you, when you speak and our eyes are on you. You have spoken about the old, speak now about the young creation. Jos. Amram.

[Mr. A., looking upon the readers of the *Gardener's Monthly* as a community and an audience, should have challenged anyone in the meeting to get up and refute his doctrine before he appeals to us in our "awful"

capacity. And we would rather first let our readers sit on this case, and hope the right man will take up the glove.—Ed.]

GRAPES AND ROSES.

BY CHEMIST.

PHILADELPHIA, November 9th, 1859.

Dear Sir:—We have queer association of ideas, and in your work you must often have had. When reading your account of the confab on native grapes, poor Kilvington's bouquets came into my mind, and the wisdom displayed in the argument thereon, which, by the by has never been decided for our edification; but in one way it has, by taking the premium from the right owner. But this grape discussion—it ends in the same unsatisfactory way. And no man wanting to buy grape vines could choose which to have from it; he should buy all or stick to the Catawba and Isabella, which still stand No. 1. for all general purposes. I asked you to give us an article from your self. I know, if you do, it will be a reliable one, and the result of your own experience and judgment—opportunities you have had for determining; what we want is hardiness, flavor, and productiveness; with these qualities, white or red, is immaterial, and size of berry is also desirable. A native grape, with all these good qualities has not yet been exhibited, but there is some leaning thereto. Not being a smoker or chewer, I think my taste is rather free from impurities and I have tried some or most of those on exhibition, and if you think it worth anything, I give you my opinion. I would certainly put first the Diana: the bunches are pretty in shape and color, and look handsome on a dish; it is sweet, juicy, and an agreeable aroma, very free from fox and a good grower and prolific and desirable for wine or table.

Concord—a pleasant distinct flavor, good color and size; a desirable grape to make one of a collection, not very prolific, so said.

Herbemont—a small juicy grape, sweet; keeps well on the vine; good color for dark wine, and for wine none better; ripens early.

Delaware—musky, (some would call a little foxy,) a good grape, but to my taste too much praised as to goodness and price, $3; why?

Powel—a large dark grape, good for table but only preferable to Isabella, if earlier; said not very prolific.

Catawissa—a fair, white kind, worth a trial as the color is scarce. (1)

Clara—if native and, hardy promises to give satisfaction as a white variety.

Rebecca—of good promise, a very handsome table grape; its golden shady hue has an inviting look, and reminds one of the foreign kinds. No doubt but it will be a favorite when we know its other qualities better; plants are selling at a reasonable price. (2)

Union Village—of great promise and being an early ripener, must make way; it has many desirable qualities and a large berry with bloom; sweet, juicy, and brisk; fine for wine and table; very prolific and said hardy. (3)

Brinckle—must not be given up yet, and Mr. John Brook's seedlings from Isabella are of great promise towards an advance to the right thing that we want—productiveness, hardiness, large berry, full flavor, sweet, juicy and good color for all purposes.

There is one more still which seems in the background, and why? Because those in whose hands it is in are too modest to blazon it forth as a *ne plus ultra*, but are letting it bide its time. One draw back, it is a late grape, as late as the Catawba; but it hangs well and bears our early frost; as for wine, it cannot be excelled. Its flavor is not foxy, but as near the Muscat as we have come yet. The bunches are small, but numerous, and may be said to be very prolific; grown in a good situation it can not be beat. But to bring it fairly forward it must get into active hands. The Doctor has it now several years, but we all know he is no quack; and I believe our friend Robert Kilvington has had it also, and he, dear quiet man! makes no fuss about it. Now, the name of this wonder is *Dr. Arrott's Seedling;* a white grape. What do you think of it? (4)

Now I am done with grapes, and intend planting for my own private use, all the above, and giving them a fair trial. Some one will see and eat the fruit off of them in a couple of years, if I or you do not.

I think I said I would give you something on roses, but will not until spring. All I shall say, that those who want good flowers next year, should plant their hybrid perpetuals and other hardy ones now while the season is fine, or as early as possible in spring, not waiting to see the flowers. If they buy from a reliable grower, they will not be disappointed. Roses in pots and forced under glass for market sales, seldom, if ever, give satisfaction; always tardy, twisted roots, and if not well planted, not one of the hy. per. will give fine flower in the whole year after. Plant those now on their own roots if you can; spread the roots in good rich soil and cover over with leaves or coarse litter, prune low in spring and you will have fine flowers in profusion. (5)

Many have a prejudice to budded roses, but get them early in spring, set below the bud, prune properly, and no fear you will have the worth of the money. Do not wait for market flowers; rather wait to see the first bloom in your own garden. In England, they seldom bloom their perpetuals in spring, they wait until autumn for these, and prune close. Daily and Bourbons, &c., fill their gardens with abundance of bloom until august comes, when the others blaze forth, covered from, as we may say, stem to stern.

Try it on a few, it is worth the trouble and patience. But I have done for this time. C.

[(1) The Catawissa is a blue grape we believe, and from the only opportunity we ever had of testing it, formed no high opinion of its quality.

(2) The flavor is *superb;* but our vines mildew a little.

(3) A foreign variety, though raised in Philadelphia, does not mildew, and seems, so far, to stand well. The fruit is very fine, and a correspondent tells us, makes excellent raisins.

(4) It is a very abundant bearer, and most of our pomologists speak highly of it as being a very superior wine grape. But we have never tested the wine, and whenever we have tasted the grapes they never seemed ripe enough to warrant a good opinion.

(5) Excellent advice.]

MR. OTT AND THE DELAWARE GRAPE.

We have been inundated with letters in reference to Mr. Ott's article in our November number, the gist of them all being that that gentleman must have been deceived in his idea of having the true Delaware grape. We had prepared a digest of all the matter sent us, and, indeed, had one or two articles in type, when we received the following letter of recantation from Mr. Ott, himself:

"Dear Sir—Your allusion to the Ruff Grape, in the note to my article in the November number of the *Monthly* as being the true Delaware, led me to take a trip to the place where it grows, and I find I have been sadly deceived in the identity of mine, though they resemble each other so much that it would take a close examination to detect the difference from sight alone. Mine has quite a strong foxy odor, and is the worthless grape I have described it to be. The Ruff Grape I find to be sweet and good.

Finding that I have made a grave error, I have been riding about the country for the past two weeks in atonement, determined to learn all I could respecting it, and also determined, if possible, to find out where the first vine stood, and will communicate all I can find. The oldest person that I met with in my trip that has the true Delaware, or "French fruit," as he called it, is about eighty years old. He got the Delaware (and another blue grape, which he thinks as good,) from New Jersey, a great many years ago, by the name of French Grape. I then visited the original place in New Jersey, but the old gentleman being deceased, his son told me that his father had twenty-five varieties of grapes, but of these the Delaware is the only one that is now alive, and that it was there as long as he could remember, which is about twenty-five or thirty years ago.

Nearly all the vines that I visited through the country are in very poor condition, through neglect. They are nearly all growing over currant bushes, garden fences, or anything they can get hold of. Those on trees, some twenty or thirty feet high, look best. I saw one vine that is about four or five inches in diameter three inches from the ground. The invariable report is that they were great bearers, and not subject to mildew. One old lady remarked, they made very good pies while green, as the skins were so tender. No one praised it for cooking when ripe, as they were too sweet. Another told me that they grew so close in the bunches that if there were a rotten one, she had to use a knife to get it out. Those persons that have their grapes on trees get very few, as the birds are too wide awake for them."

Mr. Ott encloses also, some other matter in reference to his success in finding the Delaware grape, for our advertisement columns, which will be found in its proper place.

We were before struck with the singularity of Mr. Ott's remarks, and took the opportunity to state that his experience, supposing his vine to be correct, was "quite exceptional." Mr. Ott's present letter confirms us in our views then expressed, that there are many forms and varieties of grape, all referrable to one type, of which the Delaware is the popular representative, and which abound in the particular region we have named.

Another very important fact now appears for the first time; namely, that there are grapes in existence resembling Delaware, but comparatively worthless, and yet can be readily mistaken for them. This should indicate great caution, and we should be afraid to purchase any vine unless we knew it had been produced from vines that had fruited under the hands of some experienced pomologist.

One of our valued friends writes us that in his opinion Mr. Ott's letter should never been published. We hold different views. When a correspondent makes a statement of facts, or of his impressions, under his proper name and address, he is entitled to a hearing, no matter if all the world is against him. If he is mistaken, we have no fear of the facts being smothered in our paper. Moreover, the result shows we were right. The Delaware comes out of the skirmish victorious, and with a higher character than ever. Mr. O. was rather sharp, without, we are sure, intending to be personal in his employment of the term "humbug," but his acknowledgement that he was the party "humbugged," is full atonement.

From two of the communications we have received, we make extracts, as they contain additional information not before recorded in our columns. The first from Mr. Campbell, of Delaware, Ohio.

"It was brought to this neighborhood, perhaps

twenty years ago, from New Jersey, by persons who believed it to have been originally brought from France; but they called it the Italian Wine Grape.

I found, however, upon making close inquiry, that there was a discrepancy in the statements of different persons; some claiming that the Delaware was of larger size, and differing in flavor from the "Wine Grape." I formed the opinion, from the appearance, growth, and hardiness of the vine, that it must be a *native;* and I thought it most probable that it was a hybrid, produced by seed of some native variety, fertilized by pollen from this "Italian Wine Grape."

Your idea, that the variations in the bunches arise from different sources, point to different seedling origins, is probably correct; and the differences in habit of growth, productiveness, and even in quality, may also be accounted for in the same manner. And upon this supposition, your correspondent, Mr. Ott, may have a grape resembling the Delaware in some general characteristics, but as he himself argues, worthless on account of inferior quality and non-productiveness.

I sincerely hope, Mr. Editor, that you will, as occasion presents, pursue your investigations as to the origin of the Delaware grape. If it is a true and unmixed native, and there are vines in various localities bearing all its high characteristics, so much the better. And let those who are satisfied that they have it true, increase it as rapidly as possible, that it may be placed within the reach of "the million," and thereby do a real service to the cause of horticulture. This, in my judgment, would be much more sensible than crying "humbug," or offering cart-loads of cuttings of worthless varieties."

Mr. A. Thomson, the gentleman to whom the community is indebted for first bringing the grape into public notice, in addition to similar views above expressed by Mr. Campbell, says:

"It is an extraordinary fact, Mr. Editor, that such a grape as the Delaware—a fruit that has received the unqualified commendation of every prominent horticulturist in the country—passed the ordeal of all the pomological varieties and committees with flying colors—that has by almost unanimous consent been assigned the proud position of *first and best of American grapes,*—which from its surpassing excellence, would anywhere, or under any circumstances, at once attract the attention of the merest Tyro in the most uncultivated taste. It is, I say, extraordinary that *such a fruit* should, for the space of thirty years or more, be grown in the vicinity of Philadelphia—a city noted for the number of her intelligent and discriminating horticulturists, and remains unnoticed and unappreciated."

* * * * * *

"Is there any person who has purchased a Delaware, (not a Red Chasselas, Truminer, or the "*Swiss*" variety,) but a true and genuine Delaware, even at the highest price it has ever commanded, and grown it long enough to see and taste the fruit, who would acknowledge himself humbugged? If such a man exist, I have not heard of him, nor do I believe any other person has."

* * * * * *

"I repeat, I do not assert that the vines referred to, as growing in Chester county and elsewhere in that region are not the Delaware, though I have as yet had no proof to satisfy me that such is the fact. But I do insist that such discovery (if really made) does not make the grape an inferior one."

* * * * * *

"Any ray of light on the subject, from whatever source it may emanate, will be received with pleasure and thankfulness by the brethren in this region, who, while they do not claim the *Delaware* as theirs by virtue of *birth-right*, do think they can safely and fairly claim, that by *adoption, acclimation* and *naturalization*, they possess much interest in it, and are entitled to the exercise of such guardian care over it as will warrant them in defending it against unmerited assaults, from whatever source they may come."

* * * * * *

We may here observe that Mr. A. Thomson is mistaken as to the locality where the Delaware is so common as to be almost wild, (if not quite,) being in the vicinity of "Philadelphia Pomologists." Mr. Ott's is perhaps forty miles from Philadelphia, in Bucks, and not in Chester county, and in a country which, until the opening of the North Pennsylvania Railroad, two or three years ago, was not so much known to Philadelphians as the remotest village in Ohio; fully accounting for their ignorance of the grape's existence there.

Flowering of the Chinese Potato.—A correspondent of the *Southern Planter*, writes of flowering this plant, and describes it as having "white blossoms, succeeded by pods *filled with fine seeds.*"

If this is not a mistake, it is propably the first instance on record, as the plant is dioicous, and has hitherto proved barren.

[Translated for the Gardener's Monthly.]

FLOWER STAND AND FOUNTAIN.

BY A. F., PITTSBURG, PA.

The desire to furnish the refreshing foliage and the charming flowers of the vegetable kingdom, during the time of year when we are compelled to remain within doors, has led to the construction, for a great length of time, of stands for flowers, and lately fountains have be added to enliven these delighsful ornaments.

The fountains are always supplied by water from an elevated reservoir, and are attached to one spot, or can only by removed to a short distance by extension of the supply pipes and other alterations. Besides the great expense of this arrangement, the space required is a great inconvenience, especially for a dwelling. This difficulty, which has occupied my attention for a long time, I have now overcome, and discovered a plan for making a fountain by means of pressure of air; and flower stands arranged on this principle can be removed, at pleasure, from one place to another without stopping the jet for a moment.

The accompanying cut, figure 1, is a design of this kind, suitable for different materials, wood or iron, the form and size of which can be varied according to the taste to be suited and the skill employed, from the most simple and cheap, to the most elaborate and luxurious.

Fig 1

Fig. 1. Fountain by air pressure in a cast-iron stand.

Fig 2

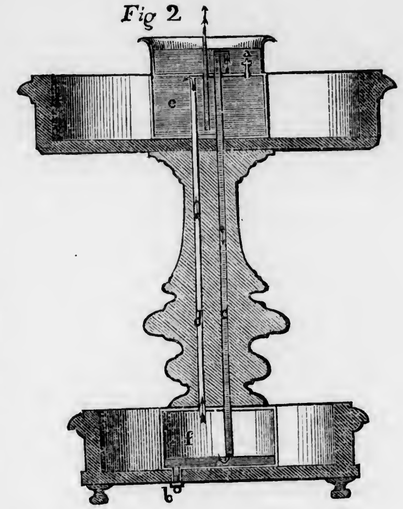


Fig. 2 represents, in section, this simple contrivance.

The water apparatus consists of two zinc reservoirs, japanned to prevent rust, (*e.* and *f.*) of equal size, one of them placed in the upper and the other in the lower part of the stand. Both are connected by means of two pipes, *c.* and *d.*, which are inserted in the leg of the stand, and all except the ends of the pipes, closed water-tight. Care must be taken that the pipes are arranged properly, or it will not be successful. The upper pipe *c.* must reach down low enough in the lower reservoir to allow the water to flow, but no air to run backwards. The pipe *d*, through which the compressed air travels from the under to the upper reservoir, should be inserted in the upper side of the lower reservoir and project almost to the top of the upper one, so that no water can pass through this pipe.

The upper reservoir has an addition, in the form of a basin, in the bottom of which, on a little elevation, is a hole, closed by a screw, where water can be poured in with a funnel. The short pipe in the middle of the basin, from which the jet proceeds, must be inserted close to the bottom of the upper reservoir.

When the upper reservoir has been filled with water, the hole is closed with the screw, and the same fluid is poured into the basin until it flows through the discharge pipe into the lower reservoir. As soon as the stream has begun, the fountain commences to play. The water accumulating in the lower reservoir, drives the air therein through the pipe *d*, into the

reservoir *e*, compresses it there with a pressure equal to the weight of the column of water in the pipe *c*, upon the air in the lower reservoir, and in this way the water is forced through the small nozzle of the basin pipe, into the atmosphere above, and fall again in the basin, whence it flows into the lower reservoir and continues to do so until the contents of the upper reservoir are expelled.

The larger the reservoir, and the smaller the nozzle, so much longer will the fountain continue to play with uninterrupted force. The jet ceases as soon as all of the water has been ejected from the upper reservoir, when that in the lower reservoir can be withdrawn by the small stop-cock *d*, in a convenient vessel, and the upper one refilled, and the same circulation takes place again.

The above I have translated from C. Schickler's Bulb Catalogue, Stuttgart, for 1859, thinking it might possibly aid some of our readers to adorn their parlors by an easy and ingenious method. The apparatus, which could be made at a low price, of galvanized iron, to prevent rusting, could be fitted to a marine aquarium, and supply a desideratum for aerating the water which has been felt by those having this object of pleasure, and at the same time increase its beauty without much additional expense. A. F.

PITTSBURG, November 20th, 1859.

KNOTS ON THE PLUM TREE.

BY HORTUS, GALESBURG, ILL.

Mr. Editor:—Permit me, through the columns of the *Monthly*, to make a few remarks on this "knotty" question.

It seems to be an opinion in some quarters, that these knots are caused by the sting of the curculio, and I notice in this connection an article in the November *Horticulturist*, from which the following is an extract:

"A number of branches, with their knots, were placed under a bell glass, the 10th of July, and on the 2nd of August, twelve perfect beetles arose from the earth, and returned to the branches on which they had fed while in the grub state, &c." Again, "On a further examination of the trees on the 23d of August, I found new swellings on the branches, and on opening some of them, found the the half grown larva of the Plum Curculio, (*R. Nenuphar,*) feeding as their parents had done in June."

The Curculio, it is more than probable, will attempt to deposit its larvæ either in the plum itself, the young and tender green shoots, or the knot when in its incipient state. Marks might be apparent all over the shoots, and yet I think not cause the plum knot, for the following reasons.

I have been a cultivator and close observer of the Plum in a variety of soils and situations, for many years. I have frequently noticed two trees together, with their branches, in some instances, interlacing—the one covered with knots, and the other smooth, clean and healthy. Is the "little turk" so discriminating in its taste as to prefer one tree to another, when it will not make the same distinction as to the *plums* from those trees? I think not.

But this supposition approaches nearer to a certainty if we proceed to carefully dig up the trees. Then we shall find the plums bearing the knots to have also few or scarcely any surface roots, but only a very few, perhaps but one, top root running straight down into the subsoil, and not only this, but also *bearing knots along their length to the depth of* 18 *inches to two feet.* On the tree bearing no knots in the branches, we find the roots full, healthy, numerous and fibrous, all on the surface, no top roots and *no knots.*

The Curculio cannot, of course, dig down two feet into the earth to deposit its eggs amongst the roots, to cause those knots, and we have to look to other causes for their appearance.

My own idea is that the roots become unhealthy by penetrating into a cold uncongenial subsoil. By July and August the work is done, the sour sap has been brought up and disseminated through the system, and like animals when fed on improper food, produce bad blood, and have "breakings out" on the skin, so in like manner the "bad sap" breaks out into knots, forming, even when very young, as good amidus and pabulum for the larvæ, as the plum fruit itself.

I have transplanted a great many trees that were subject to knots, and in every instance where the soil was deep and rich, after the first or second year they become smooth (cutting off the knots as they appear) and so remained as long as the roots *kept near the surface.* Some soils will not grow healthy trees without a great deal of labor, owing to its being too cold and sour. A plum tree requires a rich, warm soil, and plenty of decomposed manure forked in about the roots. A very judicious plan for those who plant orchards, would be to buy trees one year from the bud, and transplant the next and following spring, (the object being to destroy the tap, and obtain fibrous roots,) then plant in the orchard, and unless the soil is very wet and clayey, smooth wood will be the result.

[In the South of England it is a very common practice with the peasantry to plant an earthenware milk pan under their plum and walnut trees, to keep, as they say, the "roots from going down." As friend Longworth tells us sometimes, we may learn a great deal from "ignorant market-women;" and on other subjects besides "strawberries."—ED.]

SEEDLING STRAWBERRIES, &C.

BY R. P. R., QUINCY, ILL.

Mr. Editor:—I want to tell you the result of a strawberry I raised two years ago, last spring. Nothing wonderful perhaps; a first attempt at hybridizing with me. I took *Longworth's Prolific* and crossed it with a Pine strawberry and got twelve plants. This was about 180 miles above Milwaukie, Wisconsin. I took them up, brought them here, and on the 14th of June, I picked berries that were 3½ inches in circumference, and nearly 2 inches long, the shape of a pine apple. They stood out, unprotected, all last winter, in latitude about 44½. I have transplanted about 4500 of these, this fall, 3½ feet by 2 feet. I have the Triomphe de Gand, the Early Scarlet, the Marilandica, and another. I did not give these plants a particle of manure last season.

I see, Mr. Editor, that there are a great many strawberries, and almost every one has its advocate; some may think this is singular, but I presume it is altogether owing to the climate, soil, situation, and the manner of culture. What does well under one treatment of culture, situation and climate, fails under another. I am just beginning to prepare a little home of 2½ acres, just out of the city limits, (of this Quincy.) If I thought it would be at all interesting to your readers, I would send you a sketch of it. The situation is beautiful, but bare of trees, which I lament. Still, I can plant them; then the pleasure of seeing them grow almost pays for being destitute of large ones at first. There is nothing that I know of that affords so much pleasure, united with anxiety and interest as the growing of trees. Let a man plant out a grove, in which he takes an interest, and you will find that there is no other one thing that will bind him to his home like his grove. It becomes as a part of his family, and it is the next thing to his family. There is nothing that adds to home so much life, spirit, and gaiety as more or less trees, as the place demands.

CULTURE OF HORSE RADISH.

BY PETER HENDERSON.

JERSEY CITY, N. J., November 29th, 1859.

Mr. Editor:—In your issue of last month, is a communication on this subject, which may be suitable enough when a few dozen roots are wanted, but which would hardly, I think, be a "paying" crop even at "10 and 12 cents each," if so much labor was necessary to produce them. Horse radish, as we grow it in our market gardens in this district, is the most profitable of all *second crops* which we raise, simply because it requires a peculiarity of soil to grow it well; namely, a deep, highly enriched sandy loam.

Our mode of culture is very simple; the setts are procured when trimming off the marketable roots in winter; varying in length from six to nine inches; they are tied in bundles of fifty or sixty and buried until spring. Immediately after finishing our planting of Early Cabbage in March or April, we begin the planting of horse-radish *between* the rows of Cabbage, (which are planted 2 feet apart, and 1½ feet between the plants.) Holes are made with a light crowbar, 9 or 12 inches deep, and the setts of horse-radish planted perpendicularly, from 2 to 3 inches under the surface, same distance apart as the cabbage.

Being thus planted under the surface, it makes no growth of any consequence until the cabbage crop is cut off, when all the further labor required until it is dug in December, is merely to keep it clear of weeds, which is done wholly by the plough. Our roots, by this treatment, will average about three quarters of a pound each, which, at 5 cents per pound, gives a return of between $350 and $400 per acre.

It is principally sold to parties making a special business of grinding it and bottling it up in vinegar, in which state immense quantities are sold. The party that I sold to last season, informed me that he had purchased *nearly twenty tons.*

THE CUYAHOGA GRAPE.

BY DR. EDWARD TAYLOR, CLEVELAND, OHIO.

Thomas Meehan, Esq:

DEAR SIR:—The favorable notice you gave of this grape, which only corresponds with the opinion of many of the most distinguished pomologists of the country, to whom samples were sent, has brought me a large number of letters of inquiry in regard to it, and applications for cuttings and vines. My brother nurserymen will readily excuse me for not replying promptly to a large correspondence at this busy season; and you, sir, would greatly relieve me if you would publish the Report of the Committee of our Horticultural Society, in regard to its history, character, etc., as it would meet many inquiries in regard to it. I would also beg, through you, to say to many who have addressed me on the subject, that the few vines that were of it, have been secured by C. H. Robinson, Esq., of this, who intends propagating it, and will have it for sale in another season. He would not dispose of any of the cuttings. It might be well to state that some Eastern men have had the neighborhood thoroughly canvassed and have probably supplied themselves with cuttings of *some* kind that will be offered as the genuine.

Yours very truly, EDWARD TAYLOR.

CLEVELAND HORTICULTURAL SOCIETY.

Adjourned meeting, October 10th, 1859, Joseph Perkins' Rooms, Public Square, Dr. E. Taylor, President, in the Chair.

REPORT ON C. H. ROBINSON'S GRAPE "CUYAHOGA."

The committee to whom was referred the grape presented by C. H. Robinson, would report, that they have visited Mr. Wemple, a gentleman whom we believe to be worthy of the highest confidence, who gave us the following information in regard to it: About ten years since, he was sitting in the door of a store, in the town of Euclid, and observed between the steps a small seedling grape vine one or two inches high. He took it up carefully, and planted it near his residence, where it soon grew up and bore fruit that he was much pleased with. He soon afterward sold his farm, but had made a layer which he took up and planted at the West end of his present residence, where he found it growing. He says it has been there about five years, and it is now a strong, healthy vine; some of the branches have grown about twenty feet this season. It is in a deep, sandy loam, but has evidently had no extra culture. The foliage and growth much resemble the Isabella. He states that he has never given it any protection—that the wood has never been damaged by the severe winters—that it has never shown any disposition to mildew or rot, which the Isabellas, close by, have; and that it has uniformly borne a good crop of fruit, equal in amount to the Isabella, and matures one or two weeks earlier. The bunches are about as large, but not so compact, and the berries, about the same size and shape as the Catawba, under the same cultivation. The color is a light transparent green, with a thick white bloom—very little pulp, with a brisk, agreeable flavor.

There has been so much crying of "Lo here! and lo, there!" in regard to new grapes, that we feel much hesitancy in recommending another to public attention; but we have a strong confidence that this will prove to be well worthy of a place among our choicest varieties of hardy grapes.

EDWARD TAYLOR,
H. B. HURLBUT,
JOSEPH PERKINS. } Committee.

[We also learn from a private source that Mr. Robinson, not being engaged in the nursery trade, will not offer them for sale himself, but proposes to propagate them and place them in the hands of a nurseryman of character, (probably our friend Dr. Taylor,) who will receive orders for them, for him at $3 each, and supply them as they are propagated, in the order the applications are received.

STRAWBERRIES.

BY R. REEVES, KEYSBURG, KENTUCKY.

Mr. Editor: — There has been much said about Strawberries, and many new and valuable varieties are advertised; what has been written shows great interest and improvement in strawberry culture. So far as I have seen here, Wilson's Albany Seedling Strawberry stands preeminent. I have been experimenting, myself, with raising seedling strawberries, and have several distinct varieties of great merit, one of which has equalled the best crop of Albany seedling that I have seen any account of, viz: 28 quarts to sixty square feet of ground. Last June a year, I planted, of my seedling, a row thirty feet long, (about twenty vines,) and allowed the runners to grow and set a space of about two feet wide, from which I gathered twenty-eight quarts of fine berries; the largest about 1¼ inch in diameter. The land was what would be called thin; I dug it one spade deep, and planted without manure, making no effort for a large crop. The berry is a beautiful scarlet, with a fine neck and is easily capped. Flavor, good. I regard it one of the best berries I ever saw.

I have another fine berry which I call Long Stem, from the length of the scape, of which I have measured and found some to be sixteen inches long. The berry is large and fine, and the plant very vigorous. I have several other seedlings, but mention only those which I think posses great excellence. I am aiming to produce a few new ones every year and may, after due trial and strict examination, offer to the public, some as good as can be produced.

[Happy to hear of your enthusiasm, and hope you will continue to persevere. However, good strawberries are easily raised, even so good that they may be considered of the "highest excellence;" and this very fact renders the production of a *superior* strawberry a very difficult thing to accomplish, to what it was a few years ago, when good kinds were scarce. —ED.]

ROSA CANINA.—ITS FRUIT.

BY A LADY.

Mr. Editor:—Having seen the discussion in your paper about Champagne Rhubarb, or Rhubarb Champagne, I do not know which is correct, also the recipes for Currant wine; I feel encouraged to say a word about *Hagebutten*, as we call them in Germany.

It is the fruit of wild roses growing along our hedges, which, when pulled ripe, are most excellent for stewing. Sometimes we mix a few raisins with them. As a jelly or sauce, it is the nicest thing to pour over farinaceous puddings, such as corn-starch, farina, etc. The enclosed recipe is at your disposal if you deem it worth a corner of your valued periodical. With respects, Mr. Editor,

HELENE K.

[We are sorry not to find the enclosed "recipe." Will the Lady be good enough to supply it? We have, years ago, tasted the dish and found it an excellent one. English boys eat the "hips and haws" since time immemorial.—ED.]

GERMANTOWN SEEDLING STRAWBERRY.

BY A. W. H.

My Dear Sir:—I enclose a leaf of the Germantown Seedling Strawberry from one of a hundred plants obtained last year from Mr. Young. With me it has proved a very distinct sort from the Hovey or any other kind.

In habit it more resembles the Peabody, having long footstalks, large oblong leaves, a loose open head, the crown rather weak, not firmly bedded in the soil, and the lower leaves turning brown during any moderate drought. The blossom is larger than Hovey's and hermaphrodite. The fruit resembles Hovey's in shape and size though much more uniform,—color light crimson, nearly scarlet,—and the apex of the berry is covered with a pearly bloom, such as we often see on decaying fruit of other kinds.

In conversation, last summer, with a distinguished horticulturist and member of the Pennsylvania Horticultural Society, I mentioned the Germantown Seedling approvingly, to which he replied "That is the Hovey." At his request, I sent him a plant in fruit, which I had potted for the purpose.—He pronounced it a distinct plant, and I am informed, that, at the ensuing meeting of the Society, a premium was awarded to A. L. Felten, for the "best Germantown Seedling Strawberries." I have seen the plants in fruit, in a market garden, near by, bearing most abundant crops, of large size, and fine flavor. Mr. Young, also, assures me that he picked, year before last, from 3-16ths of an acre, 1200 quarts. He manures heavily, I believe, with night soil. This plant should be grown in stools and have the highest culture.

My own bed consists of 100 plants received from Mr. Young late in the Spring of 1858, long after my other plantations were completed, so that no mixture of sorts, or error in nomenclature, could have taken place on my grounds.

I think I have proved that, if any one is in the wrong, it is not

A. W. H.

[Leaves of A. W. H.'s Germantown and Hovey, separately accompanied the communication, and proved their distinctness. We have noticed that some strawberries bear pistillate and hermaphrodite flowers on the same root stock; McAvoy's Extra Red for instance; and in that case, the fruit from each kind of flower is different from the other in shape and appearance; so much so that they might readily pass for different varieties. We suspected something analogous with this kind, but from the present evidence, and from what we have observed ourselves this season, we are compelled to believe there is, after all, a "Germantown Seedling" Strawberry. Mr. Young has probably sent out spurious ones himself.—ED.]

Books, Catalogues, &c.

G. W. Campbell, Delaware, Ohio. Catalogue of Grape Vines, with descriptions of kinds offered.

Horr & Bebee, Dubuque, Iowa. Fruit and Ornamentals; including the Kilby and other grapes.

Franklin Almanack for 1860. B. F. Sanford, Cincinnati, of the *Ohio Valley Farmer*, and like that useful publication, one that will not fail to interest whoever reads.

Address of Sydney G. Fisher at the Montgomery County (Pa.) Agricultural Society, we have read with a great deal of pleasure.

Buist's Almanac and Garden Manual, Philadelphia, for gratuitous circulation, we are pleased to welcome. Besides the full Catalogue of Garden Seeds offered for sale, it is filled with full particulars for raising each kind, and crop; besides other chapters on Hotbeds, Manures, Window-Gardening, Growing Mushrooms, Fruit Culture, &c. Gratuitous information is frequently undervalued, a fate which we are certain will not befall this little pamphlet.

J. W. Jones, Charleston, S. C. Roses, Camellias, &c. This is by a long way the handsomest Catalogue we have received this year. We have a passion for beauty, from handsome women down to mushrooms and fungi, and Mr. Jones' Catalogue has given us great pleasure. The matter, also, is as entertaining and as novel as the execution.

New or Rare Plants.

NEW FERN. — *Lycopodium Selaginella rubricaulis*, has just been introduced into England. Its stems are coral-red, its leaves small, and of a shining variable green. In habit it resembles some elegant little Thuja, Libocedrus, or allies.

New plants noticed in the *Deutsches Magazin:*

JACQUEMONTIA VIOLACEA. A native of Porto Rico. A very pretty climber of the Morning-Glory or Convolvulus section; the sky-blue flowers and the fresh, green leaves forming a very pretty contrast.

BROWALLIA VISCOSA. Praised as a very pretty bloomer. Description answers to the *B. elata* already in cultivation here, and inclines us to think that there is but a change of name without distinction.

ACER JAPONICUM ATRO-PURPUREUM. A blood-leaved Maple from Japan. Small tree, said to be pretty.

PÆONIA ARBOREA "FREDERIKA APPELIUS." The latest and showiest of its kind. A real "bouncer," if one may thus speak horticulturally.

The Gardener's Monthly.

PHILADELPHIA, JANUARY 1, 1860.

☞ All Communications for the Editor should be addressed, "Thomas Meehan, Germantown, Philadelphia," and Business Letters directed to "The Publisher of the Gardener's Monthly, Box 406 Philadelphia."

THE NEW FORM.

We have recently received frequent letters from our subscribers, urging us to adopt, in the second volume, the octavo form, as being more convenient for use and binding. The quarto size was adopted principally from motives of economy, and also that this form appeared to possess some advantages as an advertizing sheet, but as the present large circulation of the paper seems to warrant a further expenditure on it, the publisher has concluded to accede to what he believes to be the wish of the majority of its readers, and he now lays before them the result, with the confident hope that the change will be generally approved of. The form adopted, it is believed, is new in this country, and combines the advantages of both the quarto and octavo form, and well adapted to advertisements, and as it is believed to be the most convenient form for all practical purposes, the subscribers may rest assured that it will not be changed hereafter, on any consideration.

With but few exceptions our subscriptions commenced with the First of January last, but to those few subscribers who commenced on the First of July, the back numbers to complete the first volume will be furnished at the low rate of 6¼ cents per copy.

The change of form and the increase of size has involved the expenditure of a large sum, which the publisher hopes will be appreciated, and be the means of adding greatly to the circulation.

☞The subscriptions for the ensuing year are now due, and unless paid before the First of February, we shall be compelled to discontinue mailing.

Bound copies of the first volume can be furnished in neat and substantial style, for one dollar and a half.

EVERGREENS.

If it is hard "to lend fresh interest to a twice told tale," how shall we be able to get the spirit of our readers to go with us into a subject that has been so often discussed and so continually talked on, and written about? But in truth too much cannot be said of it, especially at this season.

For winter is, of all seasons of the year, the one in which Evergreens appeal the most affectionately to our feelings; and after the joyousness of summer flowers has departed, and Autumn has stored her ripened fruits partly into the lap of mother earth, and partly into our cellars and fruit rooms, we almost with impatience look for the advent of winter, that we may enjoy the vigorous beauty of the Evergreen tree.

Nature knew better than to color the Holly berry at midsummer, for even the rich and noble leaves of the *Magnolia grandiflora* are forgotten in the delicious fragrance and spotless purity of its glorious blossoms at that season.

No one loves Evergreens in summer. The Connoisseur, to be sure, *admires* them, and he who appreciates their winter beauty cannot, of course, pass them at any season without a certain feeling of respect; but to love them while the rose is blooming—while the verbena is dazzling you with her brilliant beauty, or while the honeysuckle kisses your cheek as you sit beneath your arbor's shade, and bewitchingly woos you with its charming fragrance, we say, to love them under these circumstances requires a degree of constancy and fidelity few of us can claim.

But what of all this? Simply, dear reader, to suggest to you the fitting places for your Evergreens to occupy. Those parts of your ground that you would devote to gorgeousness and gaiety, should have Evergreens sparingly introduced to it. A few are allowable; nay more, are all right and proper, for even as in our most prosperous and happy times, a slight reminder of sorrow to come, serves as a chastener of our pleasures; so do a few Evergreens, here and there interspersed with gay flowers and summer luxuriousness, serve to soften down whatever of grossness they may suggest, and give them a refined and cultivated appearance, which no other race of plants can bestow.

In the main, Evergreens should be planted where they will most cheer by the winter view; where they can be easily seen from the drawing or sitting room; or enjoyed from some cosy nook where we, in a winter's day, may bid defiance to the cold north wind.

We were speaking of Evergreens as an object of beauty. We must say a word for their utilitarian purposes also; and first and foremost, as a screen and shelter for all the rest of the ground. Wherever there are unsightly objects to be hidden, or buildings or tender trees and plants to be protected, Evergreens are invaluable; and in this respect, no one who has not experienced their good uses can imagine their importance. Shelter from the cold quarter by a belt or mass of Evergreens should be as much a part of a well designed place, as the kitchen garden or pleasure ground. Another use to which they are of all things the most fitting to be employed, is to plant along the boundaries; to hide the limits of our little lots; and to encourage the innocent deception in our own breasts, that our twenty acre lot, so called, is in reality, forty or more, the figures and Surveyor's "plans to the contrary notwithstanding."

The following is a list of the Evergreens of the *largest growth* that are hardy in most parts of the United States: Spruces—Norway, Hemlock, White, Black, Eastern (*A. orientalis,*) Menzies, Morinda, (though injured a little when young.) The Abies lasiocarpa is also said to be very hardy. Firs—Balsam, Silver (injured a little while young,) Cephalonian, *Amabilis*, Nordmann's, *Nobilis*, *Grandis*, *Pichta*, *Pindrow* and Pinsapo. Pines—Austrian, Corsican, Himalayan (*excelsa,*) Russian (*Pallasiana,*) *ponderosa*, pyrenean, white or Weymouth, Scotch, *palustris*, Benthams, Lamberts, Jeffrys, Red Pine (*mitis,*) Washington Tree (*Wellingtonia.*) Trees of smaller growth that are generally hardy, we may name—Hudson Fir, (*Picea Hudsonica,*) Frazer's Fir, Cembran Pine, *Pinus inops*, *Pinus pungens*, Mugho Pine (*P. montana* and *pumilio.*) Arborvitæs—Chinese, *Glauca*, Weeping, American, Blue Spruce, (*Abies cærulescens,*) Red Cedar.

Shrubs or very low growing trees, Dwarf Scotch Pine, Golden Arborvitæ, Tartarian, Siberian, Upright (*stricta,*) *Cephalotaxus Fortunii*, White Cedar, (*cupressus thuyoides,*) *Juniperus oblonga pendula*, also, *J. Squamata*, *J. Bedfordiana*, Common, Chinese, Irish, Sweedish, Heath-leaved, prostrate and Savin. Tree box of all kinds. *Thujiopsis borealis*, English Yew, Weeping Yew, *Kalmia latifolia*, *Rhododendron maximum.*

The following shrubs and trees usually do well at Philadelphia and southward.—*Abies Douglassii*, Cedar of Lebanon, Deodar Cedar, *Cryptomeria japonica*, American and English Holly, Canadian Yew, *Cotoneaster microphylla*, Pyracantha, Japan Euonymus, *Rhododendron Catawbiense*, *Mahonia aquifolia*, and the Japan species, *Cunninghamia sinensis*, *Abies Brunoniana*, *Auracaria excelsa*, Cephalotaxus adpressa, *Cupressus funebris*, (South of Washington,) *Cupressus torulosa*, *Pinus palustris*, Aleppo Pine, Sea Pine, Stone Pine, Pinaster, *insignis*, *Pinus nivea.*

Some of the above are still scarce, but as their hardiness for the specified localities, we have verified; they will doubtless soon become common.

We shall be glad if any of our correspondents will from time to time add to the list such as they may find to do *very* well with them.

SHADING GREENHOUSES.

M. Boutin, in the last number of *La Revue Horticole* recommends common tallow for this purpose. It should be slightly heated in an earthen vessel, and applied with a cotton rag to the glass when in an unctuous state, neither cold nor warm. We apprehend that, on a very hot summer day, the tallow would become fluid, and drip down on the plants. Perhaps Spermaceti or Stearine might answer better. Some of our nurserymen who do not care for appearances, have used for this purpose, plastering laths nailed on the upper side of the rafters above the sash, leaving openings of about an inch between the laths. One advantage about this mode of shading is that it answers even when the sash is lowered. Where neatness is desired, nothing looks so well, and is at the same time so efficient and durable as sugar of lead ground in oil. It can be procured at almost any color shop, and resembles white lead. It should be greatly diluted with spirits of turpentine, and put on very thin with a brush. In putting it on, the brush should be kept very dry, and but little of the material should be used; in this way it is more evenly distributed over the glass. This is the material used by painters to produce the effect of ground glass.

BIOGRAPHICAL SKETCH OF THE LATE THOMAS NUTTALL.

[*For Portrait see Frontispiece.*]

Mr. Thomas Nuttall, was born at Settle, in Yorkshire, England, in 1784. His parents were what is termed in England respectable, but in moderate circumstances, and Nuttall received but the common rudiments of an English education. He was apprenticed to a printer, as a matter of his own choice, and so improved his time as to acquire a thorough knowledge of the Greek and Latin languages. In the pursuit of his calling he emigrated to the United States, when at the age of 22, and was employed for a time at his business in Philadelphia. He always had a taste for Natural History, and attended all lectures on scientific subjects; and, having obtained an introduction to Dr. Barton, the Botanist, at the conclusion of one of his lectures, he was referred for further information to the celebrated William Bartram, and to the kindness and attention he received from him, whom he often refers to in his works as "his venerable friend," the world is indebted for the sealing of those scientific proclivities which have since made his name famous.

Perhaps the first "little thing" that induced his early attendance on these lectures, he many years after related to his friend Dr. Pickering. The morning after his arrival in Philadelphia, he took a walk beyond the Schuylkill, and seeing a *Smilax* climbing a tree, said to himself—"Egad! there's a passion flower!" Returning, he inquired for a "Botany Book," and was told that a Dr. Barton had written one, but he could not find it at any of the stores, and so sought an introduction eventually to the Doctor himself. This was in 1808. From this time forward his progress in botanical science was very rapid, gathering his knowledge as he had done his past education, by his own efforts alone. His botanical trips were repeated and arduous, one of his earliest being

to investigate thoroughly the peninsula formed by the Delaware and the Chesapeake. As his knowledge of things "at home" became more perfect, he thirsted for more information, and boldly penetrated, usually alone, many hundreds of miles into the interior, making friends even of the most savage children of the forest. On one of these excursions, five hundred miles beyond the pale of civilization, he was taken sick. Entirely alone, and after every remedy had failed, he composed himself to die. He was found by an Indian, who placed him in a canoe and rowed him down a river to the region of the white man. Mr. N. seems to have been much attached to the Indian races. From his peculiar (to them) habits of gathering plants, he was called by them, "the pale-face medicine man," and throughout his whole works he seldom misses an opportunity to record his generous feelings towards them. Knowing their proclivities for whiskey, Mr. N. used to supply himself with this novel *pacificator* for cases of emergency, but never employed it when any other agent would answer as well. Mr. N. used often to say, to the amusement of his friends, that amongst the provoking annoyances that he would at times be subjected to, one was the drainage of his spirit bottles by some stealthy Indian; leaving his snakes and lizards dry!

The result of his trips and studies was, in 1818, the production of the *Genera of North American Plants*, which at once placed him on a footing with the highest in the scientific world, and the work is still received as a standard authority. The cost of these journeys, one of which extended to the Rocky Mountains, was borne by friends he had made in Philadelphia—generous friends of science; amongst whom may be mentioned L' abbé Correa de Serra, to whom he dedicated this work; Zaccheus Collins, in whose memory he dedicated the *Collinsia;* Dr. Barton and Reuben Haines. During the preparation of his work he spent nearly two years at the Academy of Natural Sciences in Philadelphia, studying and identifying his plants, often remaining up all night, and when tired lying down under the bones of the great Mastodon for repose.

One great characteristic of the man was his readiness to listen to suggestions from any quarter respecting his favorite science, and much of his success was, doubtless, owing to this modesty of his nature. At the suggestion of Dr. Darlington, he properly removed the genus *Obolaria* from the Linnæan class Didynamia to that of Tetrandria, after the same suggestion had been ineffectually made to other authors. He was in fact, emphatically, a listener. Though frequently an honored guest at the fashionable Wistar and other Parties of Savans in Philadelphia, he had never anything to say, until "brought out;" but when once the ice of a first introduction was broken, he was very communicative and free with his observations and knowledge.

After he had finished his "Genera," he determined to explore the region of country watered by the Arkansas River, and on the 18th of October, 1818, started alone on his perilous trip. He went the whole distance from Lancaster to Pittsburg on foot, and taking a small skiff at the latter place, was joined by a young stranger, and the two went alone down the river, arriving at the mouth of the Arkansas, after many perils and hair-breadth escapes, on the 16th of January, 1819. He was a whole year employed in this trip, returning to New Orleans on the 18th of December, having a second time nearly lost his life by fever and disease. It was on this trip that he discovered the *Collinsia*, at Fort Lee; we believe also the *Maclura*, and many other things. For the means to prosecute this trip, in addition to the names before given, W. McClure (to whom he dedicated the Maclura) and John Vaughan, largely contributed.

The journal of his travels here was published in 1821, and filled with highly interesting matter, but unfortunately was a poor speculation to his printer, through the absence of all anecdote and lightness, which, contrary to the strong advice of his friends, he would not admit. This was one marked trait in his character. He hated everything that savored of vanity or needless show, always aiming at the real and substantial. He was, however, well aware that such a course did not please the public, and often deplored that "he lived in an age that no longer tolerated the plain, unvarnished tale." He carried this habit of simplicity always with him. His dress, though always neat, was chosen with a view to service; sometimes on his journeys, made of leather, and fitted to his person; and probably in no event of his life did pecuniary considerations influence him. His income was mainly derived from lectures, given in Germantown and Philadelphia, and the private sale of his collections and specimens. Often his new plants would get into Nurserymen's hands, who would allow him something for them. We remember particularly *Diplacus puniceus*, on which Mr. Buist gave him half the proceeds of the sale. His lectures were the means of inducing many young men to turn their attention to scientific pursuits; making handsome fortunes for some of them, by the knowledge gained. Indeed, one of our most prominent millionaires makes no secret of the influence which the example, assistance, and friendship of Nuttall, had in encouraging in him the study of the sciences of Mineralogy and Chemistry, from which his first success in life began.

Soon after the publication of his Arkansas travels, he was in 1822 appointed Professor of Natural History at Cambridge, Massachusetts.

While in Boston, he engaged closely in the study of other branches of Natural history, and in 1827 his *Introduction to Systematic* and *Physiological Botany* appeared, and in 1832, his well-known work in Ornithology. He obtained much popularity at Cambridge as a lecturer on Botany and Materia Medica, and did much towards diffusing amongst apothecaries a knowledge of the drugs they dealt in, many of which he showed were obtained from other plants than they were popularly supposed to be.

He never, however, felt at home in his professorship; his active mind yearned for sterner occupations in the field of nature, and he used to describe himself to his friends as merely "vegetating," and "doing nothing for science."

In 1833 he came again to Philadelphia, determined, as he said, to resign his professorship, as the College authorities would not grant him leave of absence, and he then made arrangements for his great journey to the Pacific Coast. He wrote to the Governor of the Hudson Bay Company for protection and hospitality in case he should visit any of their posts, but received a very unsatisfactory reply, which Nuttall said was not much more than he expected, as the subordinates, in such cases, he had always found to sympathize with his objects more than the officials.

The owners of the vessel that brought him home from the Pacific, Messrs. Sturgis and Bryant, of Boston, to their honor be it said, would not take a cent of passage money from him, "as," said they, "you travel for the benefit of mankind."

In Danas' "Two Years Before the Mast," an amusing anecdote is told of Nuttall on this voyage, who wanted the Captain to put him ashore at Cape Horn, during a violent storm, that he might study the plants of the Cape. On this expedition he was accompanied by Thomas Say, the celebrated entomologist, and twenty others interested in various departments of Science, and it was perhaps the most valuable one for American interests ever undertaken.

On his return, he at once commenced on his additions to *Michaux's Sylva*, bringing up the three volumes of that splendidly illustrated work on American trees to six, and before the work was scarcely completed, in 1842, he was recalled to England by the death of his uncle, who bequeathed him his property, worth only about $5000; and who, out of good feeling for his nephew, as he thought, fearing that in some of his dangerous journeys he would come to an untimely end, hampered the legacy with the condition that he should reside for nine months in each year in England. Poor Nuttall! his heart and soul were in the noble forests and boundless prairies of this country, and with the kind friends he had found here; and he could not but feel his uncle's condition a cruel one. But he had no choice. Relying on this bequest years before, he had sacrificed all his means to science; and having nothing laid by for the future, he had to acquiesce.

In 1852 he got the idea that by taking the last three months in one year and the first three in the next, he might still enjoy the society of his friends here again, and so he tempted the waters of the Atlantic once more, and when he again found himself at his old haunts at the Academy, he could with difficulty bring his mind to tear himself away from them. Even during this short time he made some important discoveries in the structure of the anthers of the Mistleto, never before noticed.

Since then, Mr. Nuttall has lived on this small estate at Rainhill, in England; devoting, as is well known to horticulturists, his time to experimenting on flowers, and especially with the Rhododendron; an accident connected with his favorite pursuit, indeed in some measure hastening his death. Mr. Nuttall's sister was married to a Mr. Booth, who soon afterwards was drowned in the Irish Channel. The only child from this union, Mr. N. had adopted and treated as his own; and the scientific spirit of his uncle has fallen on him. He has been, for some years past, exploring the Mountains of the East Indies, and many new and valuable plants have been the result. The Rhododendrons from the Himalayas in particular, were Mr. Nuttall's favorites. Late last fall, Mr. N.'s gardener became insane and had to be suddenly removed, and just about that time a case of plants arrived from Mr. Booth. In his anxiety to open the case, he unfortunately overstrained himself, and from the time of his injury gradually sunk—he died, aged 75.

Mr. Nuttall's attachment to America was particularly strong. Though so near the continent of Europe, he never visited it; and beyond a single trip to Ireland, never left England after his last visit to the United States.

We have been rather lengthy in our notice for our journal, but looking on Nuttall, as one of the most distinguished patriarchs of Botany and Arboriculture our country has produced, we were anxious to render our tribute to his memory. It will remain for our Scientific Societies to do it full justice, as we are sure they will. His *name* will be perpetuated amongst the votaries of science, not only by his labors and discoveries, but also by a beautiful genus of Rosaceæ called in honor of him "Nuttallia." The portrait with which this notice is accompanied, has been pronounced by several of his old friends as a most faithful one. Its resemblance to most of the portraits of Sir Walter Scott is quite striking.

TRAVELLING NOTES.

Mr. W. Reid, Elizabethtown, New Jersey. We had prepared some Notes of Mr. Reid's beautiful Nursery, but a correspondent in another column has stepped in before us. We were about, therefore, dismissing the topic by saying that we fully endorse what he says; but we must not neglect the opportunity to say that Mr. R. has made one of the prettiest Evergreen hedges in his grounds, out of the White Cedar of the swamps, *Cupressus thuyoides*, and that his Wellingtonia or Sequoia gigantea is perhaps the prettiest in the Union. It is perfectly hardy. It was about six feet thick. We saw a Libocedrus Chiloensis 6 feet high, protected in winter. There is a fine Weeping Beech in the grounds, about 25 feet high. Mr. R. has hedges of everything that will do. They are about 3 feet wide at the base, curving to a point in the centre; and even beautiful as he keeps them, he ridicules the idea that they cost as much even as a post and rail fence. The place altogether occupies about thirty-five acres, and demands the services, on the average, of twelve men, and it is safe to say that under Mr. R.'s system of management he raises as much as some places of three times the extent. The numbers of acres is a poor measure of business. At Princeton, New Jersey, we called at—

Woodlawn, the residence of *R. S. Field, Esq.* Every one has heard of this beautiful place, and fine Evergreens. The second best Cedar of Lebanon in the Union is here. A fine Deodar, 8 feet high. Picea pichta, a beautiful specimen, 7 feet. A very fine Thujiopsis borealis, proving quite hardy and extremely beautiful. Juniperus squamata, from which more beautiful effects can be produced than perhaps from any other dwarf evergreen. Retinospora ericoides, a very hardy and distinct small evergreen, 3 feet. A beautiful Wellingtonia, about 5 feet high and 4 feet thick. A Biota pendula, or weeping arborvitæ, about 8 feet high. Perhaps one of the finest specimens of common Juniper is here, being about 12 feet high and 36 feet in circumference; with so much attention as is now given to compact dense forms of trees, it is a treat once in a while to see specimens like these, commanding admiration for rugged beauty. In the same idea some specimens of Juniperus prostrata, trailing in patches of 20 feet or more in diameter over the lawn, impressed us with their beauty. A Weeping Sophora here has grown with great vigor and luxuriousness, and forms a striking object. One of the prettiest things, to our mind, was a hedge of Chinese Arborvitæ, which, in a somewhat sheltered situation, seemed perfection itself. Mr. Field's place is quite extensive, and in the various departments of Arboretum, Pleasure Ground, Forcing Houses, Graperies, Plant houses, Fruit and Vegetable garden, afforded us a rich treat which we shall long remember.

Mr. Noice, the worthy gardener, has been here nearly twenty years, a fact which it gives us great pleasure to record, knowing how much it is to to the benefit of the gardens at any rate, to have as few changes as possible in their cultivators. In Princeton, at the suggestion of our neighbour Mr. W. Saunders, whom we fortunately met here, engaged in his profession of Landscape Gardener, we made a call on—

Mr. Vandeventer, who has a Dwarf Pear Orchard of several acres, in the rear of his city store, and we certainly were more than amply repaid. They were principally Louise Bonne de Jersey, although there were individual specimens of many other kinds. Nothing could excel the health, beauty and productiveness of these trees. If we remember right, Mr. V. told us these trees were 15 years planted, and were annually in fruit, as we then saw them. The soil was what we have always recommended for dwarf Pears, namely: warm, with a naturally damp subsoil. At the foot of the grounds, which have very little fall, a fish pond exists, showing how low is the garden ground. To *judicious thinning* of the fruit, however, does Mr. V. attribute his great success. He thinks that more dwarf pears have been killed by overbearing when young, than by any other cause; an opinion in which we entirely coincide. At Bloomingdale, near Bristol, Penna., about twenty miles from Phila., is the immense Seed Farm of

Mr. David Landreth. Messrs. Landreth's is probably the oldest existing house in the United States, having been started over seventy years ago. Their large and constantly increasing Seed business caused them, some years ago, to devote their undivided attention to the seed department, abandoning entirely their nursery trade. But with the business, Mr. Landreth has not evidently given up the love of trees and flowers, for his grounds contain some of the finest and handsomest specimens of many rare kinds, we have yet seen. Particularly fine are the White Spruces (*Abies Alba,*) one of them, perhaps not more than 25 feet high, measured 60 feet around the branches, with which it was clothed to the ground. Many of the rare pines were so large as to be bearing cones freely. We noticed this in particular with Abies Morinda, the Himalayan Spruce, and Picea Cephalonica, the latter especially, which was nearly 15 feet high. One of the Morindas we noticed, about 8 feet, and very perfect in appearance. An Abies Menziesii—California White Spruce, about 10 feet high, was truly beautiful, and we have no word left that can fully express our admiration of a Picea pichta, about 8 feet high. We think no kind, rare or old, excels this in beauty. Its foliage is so feathery, and of such a pleasing green, that in these respects at least, it has no superior.

Mr. Landreth has been very successful with Rhododendrons. One thing was conclusive from his experiments, that although they do best under the shade of trees, they must be kept away from their roots; a very dry soil, such as tree roots effect is fatal to success. The Dwarf Pear Orchard was loaded with pears, and all classes of fruit seemed thriving in wild luxuriousness.

About three miles south of Mr. Landreth's is the Nursery of *Mr. John Sherwood*, one of those benefactors to the horticultural community who grow plants for their own amusement and gratification, as well as for the money to be made of them. Though but a few years since Mr. S. changed to his present location, he has already managed to surround himself with many rare and beautiful things. A *Pinus Sabiniana*, about 5 feet high, was conspicuous for its glaucous hue, and distinct appearance, and amongst other hardy evergreens, good specimens of Cupressus religiosa, Weeping *American* Arborvitæ, Juniperus daurica, Callitris glaucescens, Juniperus recurvadensis, a strong grower and weeper, and Cupressus elegans. In the flower borders the beautiful herbaceous plant Lobelia aurea was in bloom; also Spiræa Billardii, a pink flowered shrub, valuable for continuing in bloom from July till frost. Amongst the rare deciduous trees, Quercus fastigiata, a variety of English Oak, growing upright like a Lombardy poplar, specimen about 8 feet high; and Ulmus sempervirens with very small leaves were striking.

Mr. S. pays great attention to Evergreens, most of them being frequently transplanted, and set out with plenty of space for each to develope themselves.

The Nursery occupies but twelve acres, but yet so carefully cultivated and well stocked, that an "outsider" would wonder where the produce was all grown, and so great is the variety cultivated that we fancy it would be difficult to enquire for a fruit or tree in common cultivation that could not be supplied.

FRUIT GROWERS SOCIETY OF EASTERN PENNSYLVANIA.

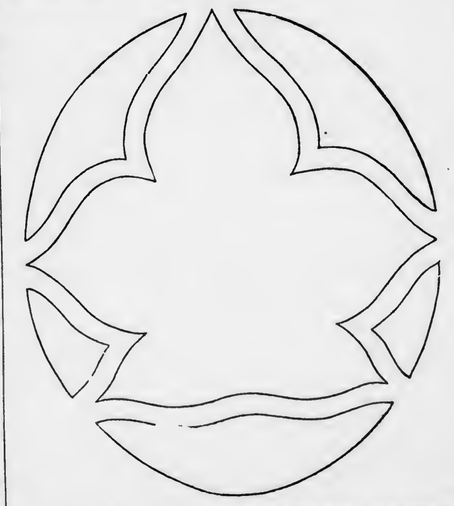
The first meeting of this new association, will be held on the second Wednesday of February—this time at Lancaster, Pa.

It is impossible to over estimate the advantages likely to ensue from its efforts, and we earnestly hope it will receive the support of all practical men—by their attendance where practicable; but, where that is not possible, by forwarding specimens of the fruits of their region,—Eastern Pennsylvania, and north of Maryland and Delaware—and also notes of their experience with various fruits, in their qualities, modes of culture, diseases &c. Any thing left at the office of the Monthly, we will with pleasure hand over to the proper authorities Dr. Eshleman of Downingtown, is President, and Thos. N. Harvey, Jennerville, Secretary, from whom we presume any information desired can be obtained.

ERRORS IN DESIGNING FLOWER BEDS.

A correspondent in Canada sends us the annexed sketch of a flower bed he has designed, intending it to represent a maple leaf. He thinks it has a pretty effect, and asks our opinion. We thought at first to simply say by a few lines under the head of Inquiries and Answers, that we did not altogether approve of the idea, but we thought we could make it answer a good purpose by engraving it, and show wherein its defects lie. To teach what errors to avoid, is often more useful than to teach what objects to encompass.

In laying out flower beds, it is very common to make the form of the beds the first consideration. In the following note our correspondent falls in with the general idea.



"Above is a rough sketch of a flower bed suggested by the form of a maple leaf. If you think there is any merit in it, please insert it in the *Monthly*. Many fine forms for beds and garden ornaments might be taken from the outlines of natural objects, as most of them are simple, and therefore beautiful."

All this has to be reversed. When a flower bed is set out on the lawn, and especially when it is filled with flowers the eye seldom rests on its shape, but on that of the larger object which it is set to adorn, namely the lawn itself.

This is more especially the case with belts of shrubbery and long borders. In striking out a bed or belt, therefore, the idea should be to note what kind of an outline it will give to the grass or grounds surround-

ing it. A very ugly bed will often make the lawn look pretty, and the contrary with pretty ones. By turning to our correspondent's plan, it will be found very objectionable in this respect. The walks here are the real objects seen. It is *their* outlines, and not the outlines of the beds that the eye takes in. Not only the eye, but the *feet* also rebel against the idea; and in turning the sharp corners, will with difficulty be restrained from injuring them. A walk should be always *leading;* encouraging and inviting us by their smoothness and freedom of outline.

When a set flower bed is to be looked down on from an elevation, the outline of the whole will then be an object; but even then care must be taken not to adopt forms that will render the outlines of the ground view repulsive. In this respect, the oval form of our correspondent's plan is good, and few errors can be made with either ovals or circles. They accord with almost any other part of the ground.

NOTICE.

Our excellent correspondent, Mr. William Bright of the Logan Nursery, left this city on the 8th of December last, on a trip to England, where he intends to spend several weeks in visiting the principal horticultural establishments and Government gardens, and has promised us some Notes of his excursion for publication. Mr. Bright is a keen observer, and possesses the faculty of telling what he sees, and we hope for some interesting and useful matter from his pen on the progress of horticulture in England.

TO ADVERTISERS.

We wish to urge upon our advertisers the importance of writing their advertisements very plainly and carefully. As a proof of the importance of this, we will cite an instance of recent occurrence. Our friends, J. L. Darlington & Co., of West Chester, Penna., prepared an advertisement for our November number, and after it was written, altered one of the prices, and in folding up the letter, blotted it. It was received at the office just as the paper was going to press, and was inserted so as to read—*would sell good strong plants of Hybrid Perpetual Roses for* $5 *per* 100! instead of $15. This error proved a very serious matter to our friends, as will appear from the following extract of a letter received from them:

"We have been fairly over-run with orders for Roses; and what is the worst of all is that we received several letters from our brother nurserymen, reprimanding us severely, not only for underselling them, but for selling an article far below the actual cost of raising it. These letters have all to be answered, and you can imagine the trouble it has given us."

We will merely add that knowing the importance of correctness in this department, we have exercised great care in reading proof, and are pleased to find that this is the only mistake of any consequence that has occured during the past year, and even this is not, under the circumstances, wholly chargeable to us. We hope most sincerely that our friends will not be the loosers by it in the end, as even the price, as corrected, strikes us as being remarkably low.

Questions and Answers.

Heating by a Tank of Hot-Water—*J. S. Lippincott.*—Your idea is quite practical, indeed, our Propagating-house is provided with just such a contrivance for obtaining bottom heat. We shall revert to the subject further with your article next month. Very much obliged by your kind postscript.

Origin of the Delaware Grape.—The suggestion we made in our November number, from reasons there stated, that many varieties of grape existed on the Delaware, forming a class of their own, of which the kind in cultivation as Delaware is the type, has created some attention. The *Horticulturist*, and *Germantown Telegraph* announced broadly that the Delaware had been "found wild in the woods of Pennsylvania." Dr. Grant defies them to produce any evidence to prove the statement, and so far we think he is right.

A Correspondent of the *Rural New Yorker* is also considerably exercised. Though we made no reference to Mr. Ott's article, except to express surprise that he should give so bad an account of his grape, which, by the way, we have never seen; he fancies we "in part endorsed" the article, and that some "ulterior motives" have been brought to bear on Mr. Ott, and which he intimates to be "some dream" of the Editor's. Some men's olfactories are more acute than their understandings.

This "smelling of rats," may be the right step to an antidote in an infested building, but it is the bane of horticultural discussions. The Editor of the *Rural* is more impartial, though he seems to suppose that because we said, in all probability "the Delaware's home," alluding, as our whole article did, to its *origin*, "is on the banks of the Delaware," we must necessarily mean the Delaware grape, so called, itself. We thought our own qualification of "similar varieties" would be sufficient to prevent any misunderstanding. But it is probably an oversight of the Editor of the *Rural*.

We are glad that we have called the attention of pomologists to this subject. There are but few questions in which some individuals may not find an opportunity to indulge in personalities and ill feeling if they are so disposed, and this one will be no exception. The fact of four bunches of grapes from four different localities along the Delaware, all differing in size and shape of bunch and berry, and yet so nearly approaching in general character, that a committee composed of the principal pomologists of the Philadelphia Society, pronounced them all "Delaware," is a *fact*, and one of itself suggestive, as we have stated, of different origins, and which is still more suggestive when we remember that bunches from the original Ohio vines are now produced all over the country with singular uniformity of character. We make no assertion that they are from different origins, but think the inference is not forced that they are quite likely to be.

We hope our friends will continue their investigations. With Jefferson, we believe, that "error is harmless when truth is left free to combat it," and our columns are open, without reference to the result to which our correspondent's discoveries may lead.

Basket Willows.—*George Rhey.*

The *Salix Russelliana* is the kind of willow generally grown around Philadelphia for osier work, and is the same as usually employed by nurserymen for tying. They are mostly grown on swampy ground in rows, 8 feet by 2. A crop, sometimes two, of hay is also cut off per annum, and enters into the calculation of profit from the plantation. The crop is not worth much till the third year, when it will produce about $15 per acre. About five or six years after planting, they are in their prime, and will afford from 15 to 20 pounds from each stack, and bring prices ranging from 4 to 5 cents per pound when cleaned The willows are cut just before the buds burst in spring, and must be kept moist till cleaned, which latter is done either by a hand scraper, or what is called a horse, which any blacksmith and ingenious carpenter together can make. There is no regular machine of any consequence employed that we know.

As to whether the willow will be as good raised in Louisiana as here, we would not like to advise you. Usually the more climate or soil favors a luxuriant vegetation, the more brittle any given wood becomes; but we apprehend there would be no material difference in the willow. That, however, should be tested before going into it extensively.

Peach Worms.—*John, Lynchburg, Va.*

We have little faith in baring the roots for the winter to kill the worm. Rather run a wire into their holes; or better still cut them out with a jackknife, and then tar the stem two inches under the soil, and a half inch or so above. We never found any injury from tar, but some report they have. Tar may at times vary in strength. To be safe, a piece of muslin may be wrapped around first, and *that* tarred. Dwarf pears require the same looking after. The bone dust you refer to will benefit both the pears and grape vines, sprinkled on the surface and raked in. One year Catawba grapes we would rather plant in spring than fall.

X. N., *St. Charles, Illinois.*—We cannot name varieties of Strawberries by their leaves alone. Sometimes we can tell what a kind is *not* by its leaves, but never certainly what *it is*. Gooseberry Seed should be rubbed out in sand as soon as the fruit is ripe, and sown at once without drying it; the pot or box of seed should then be placed in a cellar or any dark place till spring, or they show sign of germination, when they should at once have light and warmth. The soil must never be allowed to get dry after the seed is sown. There are many varieties of grapes, some with a buff rust under the leaves, some pale green; some leathery and some thin; some with leaves deeply lobed, and some with regular margins. Nothing can be guessed as to the value of your seedlings by any of these characters, but persevere, some good ones may be among them for all. Much obliged by your very kind letter which has been handed to the publisher.

Communications and other favors received from G. R. and others.

New and Rare Fruits.

General Havelock Strawberry—is described in the English journals as being the earliest of the known kinds. It ripens as early as the *Black Prince*. The berries are as large as *Keen's Seedling*, very firm, and red throughout, first-rate flavor, and very heavy cropper, and will color well in the most unfavorable weather. It comes in a fortnight earlier than *Alice Maude*, Keens' Seedling, *Prince of Wales*, or any of the larger sorts.

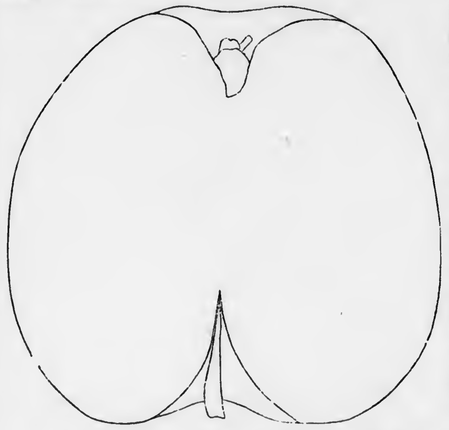
Lenoir and Ohio Grape.—At page 173 we notice the opinion of the Horticultural Editor of the *Southern Cultivator*, that "these grapes were nearly, if not altogether, the same. Mr. W. N. White corrects this in a recent number.

The Griffith Peach.—Can any of our correspondents point out wherein this kind differs from the *Susquehanna?* We have not seen the fruit ourselves, but find an opinion prevailing that they are "nearly, if not altogether, the same."

The Water Apple.—We have frequently heard the Germans of the interior of Pennsylvania, speak in high terms of their Water Apple; and we, last Summer, wrote to Mr. Youngken, of Richlandtown,

to favor us with specimens, if possible, in due season, and some time ago had the pleasure of receiving a box from him.

There is nothing in the appearance of the apple to recommend it, being less inviting, if possible, than a Newtown Pippin. In eating, it is very suggestive of Smith's Cider, and may originally be a seedling from that valuable variety. To our taste it is not first rate, but so many differ from us, that we almost hesitate to say so. The following is the description from the specimen before us:



Oblong ovate, tapering a little towards the apex. Skin pale yellowish white, sparsely strewn with blackish dots on the sunny side, with a slight blush cheek; calyx small, rather deeply set; stalk slender, not projecting beyond the fruit. Flesh very white, crisp, juicy and very tender, delicate, so much so as to be easily crushed; flavor very good. Dec. 1st.

Since writing the above, another friend, dating from Bucks County, Pa., says in a private letter:—

"I look upon the "Water" the same as I do upon the Bartlett among the pears, taking all things into consideration. I think it is the best apple I have out of about two hundred varieties; its bearing qualities, the beautiful habit of the tree, and the quality of the fruit, I think, has no superior. It is a first-rate eating apple, and second to none for baking. It never becomes mealy like other apples, but will ripen like a pear; the longer you keep them the better they get.

Domestic Intelligence.

Scuppernong Grape.—Mr. Van Buren, in the *Horticulturist*, says that the impression of many that there is a white and black variety, identical in every respect but color, is erroneous. The true Scuppernong is a seedling from the Southern Muscadine or Bullet grape, and is white. The wild (black) one has imperfect flowers; this has not. Some class it as a fox grape, Mr. B. says it has nothing in common. It belongs to Vitis Vulpina, and not V. Labrusca. He thinks it cannot be excelled as a wine grape for the South.

Seeding Down Young Orchards.—Our calendar writer does not arrogate to himself all the practical knowledge in the country, and is rather pleased than otherwise with respectful criticism from those whose experience is equal at least to his own. We therefore cheerfully insert the following remarks of the "*Country Gentleman.*"

"The *Gardener's Monthly* is an excellent practical paper, and we are therefore surprised to see in the last number a recommendation to seed down a young orchard the next spring after planting, with orchard grass. This recommendation is the more extraordinary as it immediately follows directions for the management of dwarf pears. All we ask the editor is, to try this mode alongside the practice of keeping up a system of *broadcast* cultivation by horse labor. We have seen both ways tried so often, with such invariable and striking results, that we supposed the matter settled long ago with all intelligent cultivators."

In this instance we think still we are right. We are aware that "the matter has been settled long ago with many intelligent cultivators." But we think it is one that will not stay "settled." That fruit trees grow better, and seem more thriving for the first ten years under the system of tearing-up the fibrous surface roots, we admit; but that they are permanently injured, we believe to be the fact.

Cultivators are only now beginning to understand the importance of taking care of the surface fibres by shallow planting, surface manuring, and by every means encouraging the growth of the feeding roots at the surface of the ground. The old-school illustration of the wise man who "dug about the roots of his trees," cutting of their best fibres in order to "admit the air to them," we think will soon be blotted from the records of good culture. Our readers will not forget that to the recommendation criticised by our friends of the *Country Gentleman*, we added "under the trees in an orchard so laid down in grass, the surface should every second year receive a good top-dressing of manure or guano."

Subterranean Nurseries. — An enterprising Frenchman in Newark has started an establishment for the raising of mushrooms and truffles for the table.

SCARLET-FRUITED EGG PLANT.

This variety of the Solanum tribe has been raised in the vicinity of Paris, from seed obtained from Portugal. The plant attains the height of about a metre, (39 inches) and the leaves are generally 6 inches long. In its general appearance, the plant closely resembles the common variety of the S. Melongena.

The fruit is about the size of a hen's egg, of a beautiful scarlet color and shaped as in the cut annexed. In the vicinity of Paris the fruit is rather tasteless when cooked, but in a warmer climate it is doubtless better. As an ornamental plant, nothing is prettier than this plant when in fruit.—*Revue Horticole.*

Tritonia aurea.—This old, but now rejuvenated and beautiful bulb, is beginning to attract universal attention. The following, from the *Cottage Gardener*, is the best mode of treating it:

The old bulbs, with the travelling suckers attached, should be taken up and potted, and kept a little moist all the winter, and in February the suckers should be taken off and potted like cuttings round a pot, and be kept growing on all the spring, and be planted out by the end of May. If the old roots have any fresh leaves in February, keep them watered also; if not, they may be let to rest for six weeks. We treat this plant as an evergreen, and have it in bloom till December.

Cucumber Vinegar.—This is excellent for using with salad and cold meat. Put fifteen large Cucumbers, paired and sliced thin, into a jar with three pints of vinegar, four onions sliced, three shallots, a little garlic, two large spoonfuls of salt, three tea-spoonfuls of pepper, and half a tea-spoonful of Cayenne pepper. Let these stand four days, give the whole a boil, then strain and filter the liquor into bottles for use.—*Cottage Gardener.*

Union of Horticultural Societies.—We notice in the *Revue Horticole*, that the various Horticultural Societies of Belgium have united into one confederation. An idea we think worthy of consideration with those of our own *country*.

Spergula pilifera, the new substitute for grass, is now sold by Henderson's of London, at four shillings or one dollar a dozen. Its home is Corsica.

Curious fact in Grafting—The *Revue Horticole* says that the thorny *Cratægus digyna* losses its thorns when grafted on *C. oxyacantha.*

The Madras Radish is a kind grown for its pods. It is praised in the *Cottage Gardener*. We saw it recently at Mr. Buchanan's, Astoria, N. Y.

Foreign Correspondence.

From our Regular English Correspondent.

It is pleasant to notice the great change which is taking place amongst our people. The love of gardening and flowers is seizing all classes from the highest to the poorest; and hundreds who once resorted to the tavern, the ring, or to dog fights for amusement, now find greater pleasure in their homes, their flowers, and their gardens.

In the Manchester Botanical Gardens, this season, an experiment has been tried to entice the working classes *from* the town and its pollutions, to nature's domain; and most gratifying have been the results. The Gardens were thrown open at the charge of sixpence. All the plants then in flower in the Gardens were collected together in the large exhibition house, and tastefully arranged by the curator, (Mr. Bruce Findlay,) so as to make quite a display. These were posted as "Exhibitions for the People," and gave them the highest satisfaction, and as there was no award of prize money, the profits to the Gardens would be considerable. We learn that these exhibitions are to be continued with improvements; the plants will be arranged according to their class and order, so as to impart Botanical knowledge as well as pleasant and innocent amusement. We trust other Public Gardens will imitate this excellent practice, for from it good must spring.

The exhibitions throughout the country, in towns and villages are not without their results on multitudes, and those grand gatherings at "The Crystal Palace," with the increasing number of visitors who now *must* see the shows there, is cheering to think about and to see. This is not all: other gardens are spoken of as "*soon to be;*" of noble dimensions, in great attractiveness, while down in the North of Yorkshire there is talk of a country village having its park, pleasure ground, and gardens. And we are proud and pleased to see and hear of our brethren across the Atlantic, stirring themselves on this important matter, for we know if our neighbors begin in earnest, they will do the thing handsomely. Another important feature we must notice in this hasty sketch, is the nurseries, the seed grounds, and manufactories, where millions of plants are annually created and circulated. Let any one who can remember the *institution* called a nursery as it existed twenty years ago, and then with the picture of this primitive abortion in his mind, with its dirt and disorder, let him visit some of those princely places, which we could easily enumerate by the dozen, and while looking at the neat and clean and orderly arrangements that are in force both in doors and out, and then look at the superior skill manifested in the propagation and cultivation of plants which at one time was thought impossible to be kept alive, and then consider the value of some of these plants, the great cost at which they are procured and kept by clever men at home, and indefatigable men abroad, and it will be seen there has been the work of a century's improvement condensed into the space of twenty years. In short, every indication points clearly to a greatly improving and increasing fondness for floriculture and horticulture.

The potato disease has again, this season, visited us with unabated virulence, and seems as if it would drive the potato out of cultivation.

A malady, something similar to the potato disease has made its appearance amongst the turnips, and for the last few years it has been spreading. These scourges are creating a very uneasy feeling amongst many of our principal cultivators; the cause seems wrapped in obscurity, and many careful experiments give no satisfactory result.

The "Cottager's Kale" has been very extensively planted, and has proved itself a very desirable and useful vegetable, being a decided improvement on the "Cabbage Sprout," the "Savoy," or the "Brussel Sprout." When well cooked the vegetable is extremely tender, and as far as we can learn, very digestible. It is, moreover, very hardy and very prolific, and as it follows the early potatoes, (in planting after them,) the rotation of cropping is advantageously carried out. We find it the best policy to plant plenty of early potatoes, which we use *when ready*, and find we can get a greater proportion of good tubers from this method than by depending on the winter crop, which we think best to buy in.

Great attention is now bestowed on "Rhubarb," amongst us, and we have some very excellent sorts for forcing, principally the early scarlet kinds, probably the demand for this fine antiscorbutic vegetable may induce some of our wealthy speculators to grow it for the million at a cheaper rate. Large quantities of wine is yearly made from some of the later kinds, such as the "Victoria," etc., and in a season like the present, where apples are scarce, it has been greedily used for preserves.

In fruit growing, the "Golden Hamburg" grape, and the "Bowood Muscat" are generally well liked, and have kept well up this season. The grape crops have been good this year; we have had a fine dry summer, with plenty of sunshine, which in many situations, is very desirable for the perfection of the crop. So many failures have occurred at various times in attempting to grow such fruits as the Peach on open walls, that people think it advisable to make what are called glass walls, as a protection. These are heated by artificial means, and a crop is secured with far greater certainty than by trusting to the accident of a suitable season; we have lately seen several of these structures at Wortley, the seat of Lord Wharncliffe, and were informed by Mr. Law, the gardener there, that they were built quite as cheaply as if a flued wall had been built instead on the old principle, and judging from the clean and healthy appearance of the trees, and the fine, well-ripened condition of the wood, there seems every probability of an excellent crop. A number of these places may be heated by one boiler; this is a great convenience to those who have the management, in some cases where flued walls were used, and ten separate fires required to heat them by the substitution of the one boiler system; the work has been better done, of course cheaper, so far as fuel is concerned, and much labor economized, and the nuisance of the large quantities of smoke avoided. Another contrivance for fruit growing is the orchard house; these arrangements are pretty popular, particularly amongst the amateurs. In several instances surprising crops of fruit have been produced on Liliputian trees; in other cases there has been great disappointment.

We prefer the glass wall as being cheaper and better and more certain; we have seen some very creditable Black Hambro' grapes produced under the shelter of these glass walls, and for the cultivation of some of our beautiful climbers these structures are very suitable. We have seen Rynchospermum jasminoides, Ceanothus dentatus, and several of the passion flowers, with many others in very fine condition; they were planted out in suitable borders with trellis at the back. I do not wish to be understood as saying that the peach and climbers do well together, only that the structure is suitable for either purpose and can be profitably or pleasantly employed, as the case may be. Glass is now so cheap, and so much of it can be heated by one fire, and the urgent demand for early vegetables and more fruit so pressing, that we confidently expect to see ground covered by the acre with artificial means of producing these requisites.

We believe it would be impossible to grow Mushrooms enough to supply the demand for them, and the charge for them is sometimes very high, yet they meet with a ready sale. This season there has been an unusually large supply of Field Mushrooms, principally a strong, large, coarse variety of the *Agaricus campestris*, not possessing the smell or flavor of the true variety; these were freely purchased, and in quick time.

Amongst the now common incidents of horticultural progressiveness, is the demand which exists for such articles as Sea Kale and Asparagus. Some years since, amongst even respectable society, such things were hardly known to exist, while now they are looked for just as peas are expected in June. We have tried an experiment on the forcing of Sea Kale, as follows: in the middle of the winter, in a very warm chamber or cellar which holds a large number of hot water pipes, (the heat cannot be less than 90° night and day. it is moreover, what we gardeners call *dry air*, the place is perfectly dark,) we took up some good, strong three year old roots, and introduced some soil for the purpose of planting them in; when this was done they were covered over with pots, as is usually done, watered and left. In eighteen days I was agreeably surprised to find the pots filled with abundance of the very finest Sea Kale I had ever seen. Unfortunately, this could not be cooked to the satisfaction of my employer, although the cook tried several methods with it; it was stringy and of a strong flavor. The experiment was not entirely satisfactory, yet I think it worth recording for it may be suggestive to others, and it proves the possibility of, at least producing the vegetable in quick time. I intend to "try again," the next time to keep it more air-tight and moist.

We might show, if our space permitted, how astonishingly the supply of plants, (forced plants) have increased in the market, certainly forty per cent. over twenty years ago. Thousands of Camellias are purchased by window gardeners—cottagers, in fact—so with Hyacinths, untold numbers of these are creditably grown; large quantities of Mignionette

and of musk plants are purchased by others, and few plants are more *durable* for window decoration than Mignionette, and when suspended in those little terra cotta vases they seem to bloom better than in pots, more particularly if permitted to droop over the rim and hang down. We observe lots of the beautiful Jasminum grandiflorum in bloom, in small pots; a most charming plant, with a scent as sweet as the orange blossom, and a flower much larger; these are sold remarkably cheap, and judging from the number of buds which cluster on each plant, we should suppose, under proper care, they would continue in bloom nearly the whole of the winter.

Daphnes in small pots, with blossoms upon them, and plants of the *Poinsettia pulcherrima;* these are kept quite dwarf and are extremely gay and desirable and sell very well. Cyclamens, too, are in request, and no wonder, for when properly managed they are most beautiful.

Horticultural Societies.

[Our space will not generally allow of our giving a full list of premiums awarded by our Societies, and we shall usually confine ourselves to giving the names of those who obtain the FIRST and LARGEST Premiums.]

CINCINNATI HORTICULTURAL SOCIETY.

NOVEMBER 19th.

President Haseltine in the Chair.

The question for discussion of the day—the time and manner of applying manures—having been called, Dr. J. A. Warder observed that to benefit growing crops, electricity and heat were the chief stimulants, and the mode of application would depend very much upon the kind of crops cultivated. For clay soils he preferred green manure, as it decomposed more slowly than mere humus. He recommended composting various ingredients, and the saving of the drainage to apply as manure-water to the land.

Mr. Buchanan manured at all seasons, but midsummer rubbish of every kind he collects in a well to rot. Mostly manures in fall, but with the idea mainly of saving spring work.

Mr. Mottier agreed with the two last speakers. Compost for light soils—fresh manure for clay. Mixes soil with his manure to absorb the gases.

Dr. Mosher spread his manure, and plowed it in in the spring.

Mr. D. B. Pierson's experience corroborated that of the former speaker. He advocated surface-manuring, and the preservation of the rootlets.

Mr. Addis found it more profitable to keep stock, and cultivate manure, than to haul it from cities. Advocated underdraining in clayey soils, and the application of liquid manure.

Mr. Price opposed surface-manuring. It lost by evaporation.

D. B. Pierson considered that the evaporation does no harm. The salt vats which evaporate simply remove the watery parts. Guano remains on the islands strong for thousands of years. If you stir guano it will make your eyes smart like pepper. The ammonia still exists, even under the equator. Nature has provided that the chief volatile parts should descend into the earth, particularly with rains, and the watery portions ascend.

Mr. Sanford disagreed with the last speaker. Sheltering manure was an admitted advantage.

Mr. Muller sheltered his manure, but, for all, thought a load of fresh manure, spread on the surface, did more good than four if old.

Dr. Warder observed that Sulphate of Lime would prevent the loss of ammonia in fermentation.

Mr. Kelly would plow manure slightly under the surface.

Moved by Mr. Addis, and resolved, that a committee be appointed to agree upon a suitable design for the contemplated monument to those who have distinguished themselves for their eminence in, and promotion of the cause of Horticulture, to be erected on a lot in Spring Grove Cemetery.

Accordingly the following gentlemen were appointed a committee, viz: Messrs. Hoffner, Buchanan, Foote, Heaver and Strauch.

Among the fruit exhibited November 9th, the committee reported:

Pear Seedling from the farm of George Headley, of Cleveland, Ohio, named Lycurgus, small russet, bearing some resemblance to the Seckel, juicy, and rather sweet and buttery—specimens apparently gathered premature. And on the 19th B. F. Sanford presented from W. H. McKinney, of Morrow, Ohio, a seedling, a mate-red striped apple, of medium size, flesh yellow, crisp, sub-acid, rich and aromatic, very good—not known, and we propose the name of Governor Morrow.

Pears—Mr. Gregg exhibited the Anderson's Favorite, a favorite with those who want a good bearer of a pear that bakes well, bears well, and is barely eatable at Christmas.

NOVEMBER 26th.

President Haseltine in the chair.

Mr. J. S. Cook objected to unfermented manure from its introduction of weeds. Major Milliken thought it was more important to apply manure in its best state, (namely green,) than to care for weeds it induced.

Mr. Haseltine thought the last speakers remarks might weigh with the farmer, but not with the nicer operations of the horticulturist.

Mr. Mullet took this view; as also did Mr. Addis.

Mr. S. Roberts spoke of the value of calcined bones, prepared by him.

Mr. Heaver said it required to be mixed with earth and manure in three equal proportions, when it was excellent.

Mr. J. R. Green found it good for corn, and agreed with Mr. Heaver as to its strength; and the necessity of composting it.

Dr. Warder praised it, and considered it worth two cents per lb.

Several other members referred to it, all agreeing as to its value on the various crops they had tried it on.

Amongst many fruits reported on, were:

From E. J. Hooper, for Mr. Gilmore, Springfield, Illinois, Baltimore red, conical, red, striped and mixed, flesh whitish yellow, tender, sweet, handsome and rather good.

From J. D. Park, for J. Crain, Burkville, Illinois, the Holman, a large, good keeping apple; Limbertwig, a good keeper, rather large for this variety.

Mr. Charles Parnell, gardener at College Hill, exhibited two varieties of Celery—Symes' Victoria and Cole's Late Red—all very gigantic, solid, of fine form, and of excellent flavor; but, by the majority of those who tasted them, Cole's Late Red obtained the preference. One of Symes' Victoria weighed four pounds and a half.

FRUIT GROWERS' OF COLUMBUS, OHIO.

The notice of the Fruit Growers' Meeting at Columbus, Ohio, on the 7th, ult., did not reach us till December 1st, or we would have cheerfully announced it for the society.

CALIFORNIA STATE HORTICULTURAL SOCIETY.

The Third Annual Fair seems to have been very successful, and we are really astonished to find by the report how great is the Horticultural resources of the Golden State. Nearly every kind of flower, fruit, and vegetable known in the older states, was competed for. Mr. Wadsworth, the Editor of that excellent work the *California Culturist*, delivered a beautiful address, studded with many gems of original thought. Mr. W. denies that Horticulture was man's first employment, though it was so intended. He thinks the *Sewing Machine* makers have a prior claim over us in the patronage of our first parents. Our publisher also finds a fond connection between horticulture and sewing machines.

FRANKFORD WORKINGMAN'S HORTICULTURAL SOCIETY.

Dear Sir—Our Celery show came off on the 7th of October. We had many exhibitors not only of Celery, but of other vegetables. The early frost injured us; but having decorated the room, made the affair pleasing, and our friends congratulate us on the result.

I cannot think of occupying your valuable space with giving the name and weight of each, suffice it to say, that the specimens ranged, White Solid, from 7¼ to 1½ pounds. for Red Solid, from 6¼ to 1¼ pound. The winners were for White, first, Andrew Walsh, second James Threlfall, third Thomas Nuttal; For the Red, first James Threfull, second Thomas Nuttal, third James S. Lord.

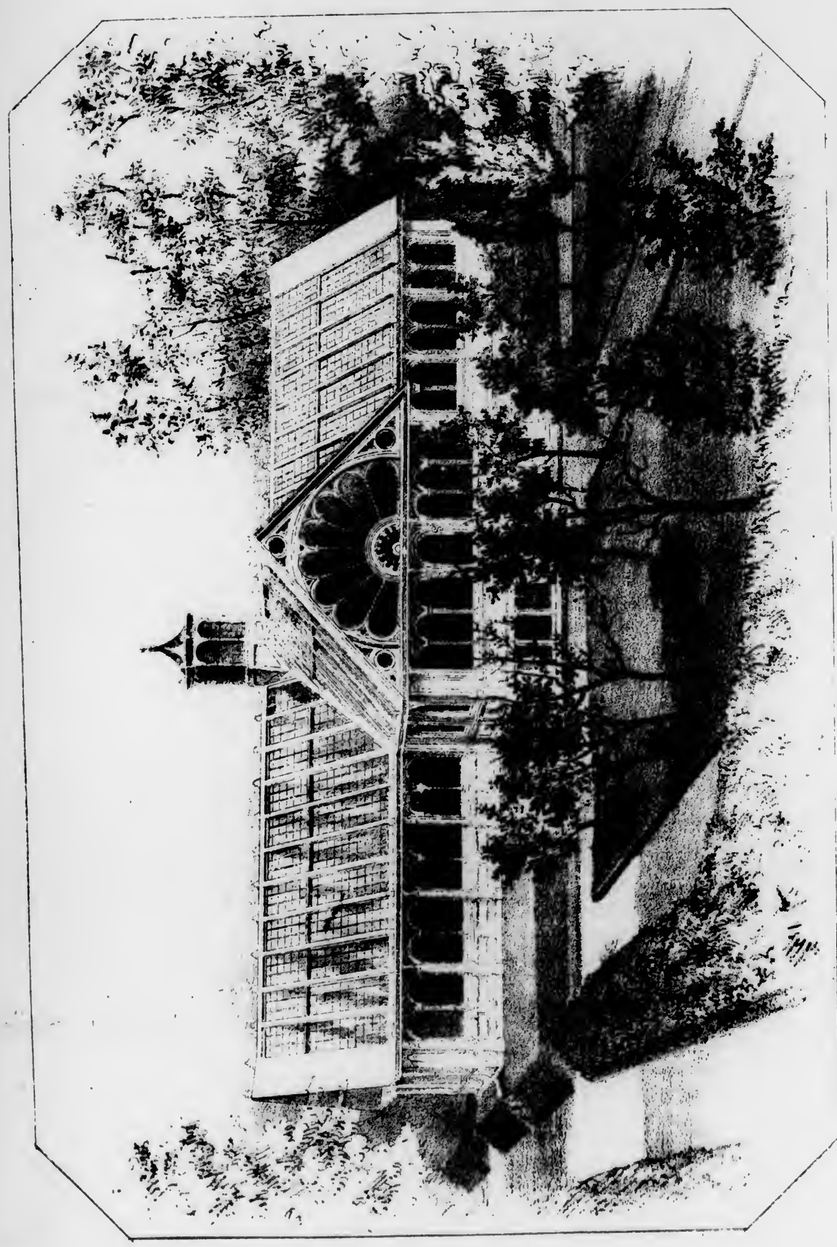
Special premiums were also awarded to Richard Scott, for best White Cabbage, and plate of Salad; James Threfall for best Red Cabbage; Andrew Walsh for best Beet; Wm. Fairhurst for Parsnips. As regards the growth of our Celery, we have come to the conclusion that it requires a little salt which tends to kill insects around the plant; and that it blanches best in saw dust, with a little salt mixed with the earth while earthing it up.

Wishing, as a society, success to your valuable publication,

I remain yours, &c., THOMAS HARGREAVES, Sec.

Frankford, Nov. 10, 1859.

[We are much pleased to learn that your useful society has been so successful, and hope it will stimulate the formation of similar associations in other sections.—ED.]



GREEN HOUSE AND VINERY OF STEPHEN OLIVER, ESQ. LYNN, MASS.

Drawn on Stone Expressly for the Gardener's Monthly.

THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, Editor. FEBRUARY, 1860. VOL. II.---NO. 2.

Hints for February.

FLOWER GARDEN AND PLEASURE GROUND.

Now that the physical season of the Gardener's year is replacing the mental, all winter work should be speedily got through with. Pruning especially must be finished up. Some kinds of flowering shrubs as Althæas, Coluteas, Hypericums and others that flower from the new growth, should be severely pruned. Others, as the Lilac, Pyrus Japonica, and such that flower from wood ripened last year, should merely have their weak growth thinned out in pruning.

In preparing to plant small places, arrange to employ plenty of shrubbery; nothing gives them so great an air of completeness and finish as these. Our remarks last month are still applicable.

VEGETABLE GARDEN.

There is nothing so acceptable as early vegetables, and one of the most useful aids to this is a hotbed. Every amateur should have one, as every well regulated horticultural establishment regards it as one of its most essential features. Not only is heat generated by manure more favorable to vegetation than that from any other kind of heat usually applied, but the manure itself, after being so employed, seems better than that preserved any other way. We would sooner have one load of hotbed manure for horticultural purposes, especially for pot plants generally, than two of the same kind of manure that had not been so employed.

The sashes for hotbeds are usually six feet long, and about three feet wide; costing from $1.50 to $2 when glazed and finished. Most of the cost of sash is in the work, the material costing little; so that, where strong glass can be employed, glass fifteen inches wide can be used. We have some made this way, costing only eighty-seven cents each, completely glazed. The constant jarring of sash, however, finds out the weak places in the glass, and it is as well to have a few sashes, adapted for six-inch glass, in order to use up the pieces that occasionally offer from the larger sash. The frame should be about 2½ feet high at back, and 1 in the front—steeper at the back, if anything.

To make a hotbed, long stable manure should be employed, and if it can be turned a couple of times, before heating violently each time, before permanently using, the more regular will be the heat in the bed and the longer will it last.

A south-eastern aspect is best for a hotbed and it should be well sheltered from winds on the cold quarter.

If the ground is dry, the soil may be dug out about a foot in depth, but for very early forcing it is best to have the whole above ground, as when sunk, the cold rains or thawing snow collects in the pit and cools the materials.

The foundation for the hotbed should be about eighteen inches wider than the frame to be set on it when finished, and the manure regularly laid on till about the height of three feet has been obtained, when the frame may be set on. It is not well to tramp the manure too heavily, or the heat will be too violent. Sometimes the manure is very "strawy," in which case it should be watered with drainage from the manure heap, or the heat will be "a good time coming," when it would be very inconvenient to "wait a little longer."

When the manure and frame are both fixed, a half inch of soil should be thrown over the manure under the sash to absorb the gross gases that would else be too strong. For a few days after, the heat will be too violent, but when the thermometer indicates a temperature of 90°, operations may begin; but the usual aim is 70°. When the bed shows signs of getting below this, linings of stable manure must be applied round the frames, one and a half feet thick, and if boards, shutters, mats, or any similar material can be spread over these linings, the heat will be maintained much longer.

Having secured the hotbed, Dahlias, Annuals, Cu-

cumbers, Tomatoes, Peppers, Egg-plants, and many other interesting things can be started, by which we may get several weeks ahead of our neighbors in the enjoyment of vegetable luxuries, and when done with the bed in May, it will be the very place for gloxinias achimenes, and many other beautiful house plants which delight in a warm moist heat.

There is so little to be said in February that we have not said in our January issue, or what it will be time enough for us to say in March, that our hints are necessarily brief this month; but by the beautiful law of compensation, which seems to influence the *Monthly*, as well as the other more perfect parts of the universe, our other departments are so completely inundated by a flood of highly interesting correspondence, that it will be a relief to our readers to be allowed for once to flow easily and gracefully over the bar which our hints usually present to them at entrance of our monthly channel of intelligence.

Communications.

THE "FUNGUS" OF THE CUTTING BENCH.

BY PETER HENDERSON, JERSEY CITY, N. J.

Mr. Editor:—I presume that few practical gardeners but have had experience of this pest, and in noticing the subject it is with the hope that some from among your readers may give some remedy for its prevention, or if not, some solution of the manner of its production. The pest alluded to is the white spider-web-like appearance that we designate by the convenient term of "Fungus." As your practical readers are aware, a few hours contact of this substance with young cuttings of a soft nature is certain destruction; its course defying all the ordinary nostrums, of sulphur, lime, soot, &c.

In making experiments this fall to avoid this troublesome customer, I satisfied myself that its origin was wholly atmospheric.

The sand for our cutting Bench was carefully dug from three or four feet below the surface, and placed on the slates which had been previously thoroughly cleansed and washed with hot lime. Yet with all these precautions, in three days, the cuttings, or portions of them became affected with the "Fungus," even a portion of the sand, which had intentionally been left without cuttings, was here and there spotted with it. The atmosphere at the time was dense and foggy, which seems to be the state necessary to its development: for on persevering with our experiments we found, on the weather becoming bright and clear, that under the same circumstances we were entirely clear from it. Now if this annoyance is as we presume, wholly caused by a particular state of the atmosphere, to us a remedy seems out of the question. But this belief once decided upon as fact, it would be the means of preventing many of the futile attempts to remedy it now in constant practice.

[By way of experiment this season we had a one light frame set under a willow tree, placing two inches of river sand on the bottom as a bed for cuttings. The idea was that the fungus originated from some "sour" (a convenient expression to a gardener) matter in the sand, which the vigorous fibres of the willow might feed on and eradicate. The frame was filled with cuttings of Azaleas, Pittosporums, and other things that usually suffer from the fungus. It was very successful. On one occasion only was it observed to make its appearance; but a light warm shower soon after occuring the sash was left off, exposing the cuttings to its influence, and the fungus from that time forward did not appear. We shall be glad if some other of our practical men will second Mr. Henderson's call for information.—Ed.]

NEW METHOD OF CONSTRUCTING VINERIES;

DETACHED AND DIVIDED BORDERS, ENTIRELY INSIDE THE HOUSE.

BY WM. BRIGHT, LOGAN NURSERY, PHILADELPHIA.

We have for a long time been of opinion that the common method of constructing Vineries, with the Border partly outside of the house, was not only unnecessary but absolutely injurious to the health and fruiting capacity of the Vines. The success which we have attained in growing grapes in eleven inch pots, producing a large crop of the finest fruit without allowing the roots to extend beyond the limits of the pot, convinced us that borders of the size usually made were quite unnecessary. A moment's reflection upon the position of a vine, with part of its roots and all its wood in a Hot-house, and its main roots out of doors, would suffice to impress any one at all familiar with grape culture, with the evident absurdity of the practice. Those who have had any experience in the matter, know how much we are at the mercy of the elements when vines are so planted, how little we can control the heat or moisture of the border, and what sad attacks the frost makes upon the roots of the vines after all our care in mulching, &c.

To break away from an old custom, so hoary and reverend as this, is almost impossible; but we determined to do it, and now present for the consideration of gardeners a Vinery constructed with the Border not only entirely inside the house, but detached from the front wall by an air chamber four inches wide, separated also from the bottom soil by concrete and air chambers, and from the earth inside the house by similar air chambers, and then divided into sections two feet wide by brick work so that the roots of one vine cannot mingle with the others, but each must remain as separate and distinct as if grown in a pot. This we call a detached and divided inside Border, and we might add a suspended border, also, for the Border is absolutely suspended in air, and nowhere do the sides of the border touch the adjacent soil or wall of the house. Under this arrangement, we attain a perfect drainage, and have entire control over the temperature and moisture of the border, and we think it will work admirably in practice.

We have just built a cold Vinery for Dr. J. S. Houghton, of this city, on this plan, one hundred feet long, with a fixed roof, and a new method of ventilation, by means of numerous front and back shutters, which, in our vanity we are pleased to think is a model of cheapness, beauty, and efficient working capacity. The house is a lean-to, seventeen feet wide, built in the best manner, and cost, with a back wall of concrete, sixteen inches thick, solid as stone, only about $450.

Without illustrations we can scarcely give a working plan of the house, but we may present such a description of the Border as will serve to convey a pretty good idea of it:

The box or pit, into which the soil is placed, is constructed of brick-work, resting upon a concrete bottom. This concrete bottom is so bevelled as to throw the drainage into a channel constructed on one side, to carry off excess of water. Bricks are then set on edge, eight and a half inches apart, running in lines from the front of the house towards the back, and commencing four inches from the front wall, forming a set of piers, as it were, for the bottom of the pit to rest upon, and also forming tubes, or air chambers under the pit for air to pass freely. The bottom of the pit is now laid with dry brick-work upon these lines or piers of brick, set on edge, being just the length of one brick apart. As soon as the bottom of the pit was thus laid, we built a wall of brick four inches thick (the width of one brick), four inches from the front wall of the house, to the heighth of two feet. We then divided the pit into sections of two feet, by erecting walls of brick set on edge, from the front to the back of the pit, of the same heighth as the front wall, making fifty sections or divisions in one hundred feet. After this, we finished the inside of the pit with boards, leaving a passage of four inches open to the air chambers below, so that the atmosphere of the house may circulate entirely under the border without obstruction.

This completes the detached and divided border. It consists, in fact, of a huge brick pit, separated from the front, bottom, and inside of the house by air chambers four inches wide, and divided into sections, or large pots or tubs, by brick walls. Each section or division is two feet wide, three feet long, and two feet deep, and will contain soil enough to grow and fruit a vine fifteen feet long (with the addition of manures and special fertilizers, by top-dressing), for many years.

Now what are the advantages of such a border? We answer the roots of the vines are placed entirely beyond the reach of frost and rain; and we have the most perfect control over the temperature and moisture of the whole border, at top and bottom. The border does not even touch the front wall of the house, which in cold weather must be a constant conductor of heat away from the border, doing immense mischief, especially in a forcing-house. We can keep the border perfectly dry as long as we please in the spring, and we can dry it off as soon and and as completely as we please in the fall. The bottom of the border must always have an atmosphere about it of the same temperature as the top soil, or nearly so. We avoid the expense and care of a large border, which we are convinced is not only entirely unnecessary, but often highly injurious to the health and fruitfulness of the vines.

Again, with the regard to the divisions into sections or large pots, we can discover numerous and important advantages. It enables us to grow, in immediate proximity, vines of different degrees of vigor, which cannot be so grown in a common border, where the roots mingle together, without injury to the weaker kinds. It gives us an opportunity to water or to stimulate one vine without affecting another, or to withhold water from one without diminishing the growth of its neighbor. It permits us to try experiments with different fertilizing agents on single vines, and thus much may be learned, by comparison, of the value of different fertilizers, which cannot be done in a common border, with the same ease and precision. In the divided border, we can take out and put in vines at pleasure, without injury to the roots of other vines, and without breaking up a large portion of the border. If any vine proves too weak, or of a poor quality, we may remove it at once, and replace it with another vine of a better character, with the greatest ease, and the young vine so introduced, having a section of the pit all to itself, will receive no check from the roots of other vines. This is an important advantage. There is no reason why we should be so much hampered by the impossibility of changing the stock of a Vinery, without grafting, inarching, &c. By the plan here described, all this difficulty is avoided, and we may change the vines in a house as easily as we change the stock in our pots; removing unprofitable vines, and substituting fresh ones, well grown, from pots, ready for fruiting in a single year, whenever we choose, without difficulty, or without injury to the balance of the house.

This border, you will say, remains to be tried.

This is true; but if we can fruit a vine with success and profit in an eleven inch pot, containing only about half a cubic foot of soil, can we not fruit a longer cane as successfully in twelve or fifteen cubic feet of soil, in the detached border?

Then, again, this border may easily be extended, if found necessary, to six feet or more long, with very little trouble and expense, though we doubt whether this will be required for many years. Or, the border may be made wider at first. But we think we prefer to have the inside of the house for other purposes (at least for a year or two), say for a propagating bed, or for a row of figs, or any thing else you please. We shall of course expect to top-dress the border, very freely, with liquid manure, and special fertilizers; and we much prefer this method of growing grapes, where every part of the culture is under perfect control, to having large, cumbrous, sodden, sour, useless borders, exposed to rain and frost, over which we have little or no control.

The house in question, which we have just completed, is somewhat new in its construction, in other respects than those alluded to. It is set upon a terrace two feet high, to prevent it from looking too low, but the front sash and ventilator is only eighteen inches wide, and hence the roof is brought within two feet of the border, and the house is nowhere more than six feet and a half high, and has such a pitch to the roof that the grapes, when formed, must hang down, inside of the house, under and clear of the foliage, which, we think, adds much to the beauty of the sight which a house in full fruiting condition exhibits to the spectator.

This house will contain fifty vines, which most grape growers will no doubt think too many for the length of it; but we will now merely say that they will be trained upon a new system, which requires double the number of vines usually permitted in a grapery. This system we have now no opportunity to describe; but we shall do so very soon, in the columns of the *Gardener's Monthly*, if permitted by the Editor, and shall also present it very fully in our forthcoming work on the Grape, which will be published early next spring.

In the meantime, we invite our friends and any one interested in the subject to call upon us and inspect this new border, and criticise its merits.

WAXING GRAFTS.

BY A. MATTISON.

PADUCAH, Ky, December 4, 1859.

Dear Sir:—As the season of grafting is near at hand, I think that all interested should exchange their experience on the best mode of doing it, and as I am an old hand of 25 years' standing; and noticing a communication in the *Monthly* from Mr. Kelsey, of Miami County, Indiana, relating to bandages, I will just say that I consider bandages as very "old fogy affairs," and have long abandoned them. I spend three or four months every year, grafting in various ways, and I never use a bandage. I lose very few, as my nursery will show. I graft Apple, Peach, Pear, Plum, Cherry, and if needed, Quinces, Roses, &c., but use no bandages. I use for root grafts common rosin mixed with a little lard, a little beeswax added would be better. It is harder than shoemaker's wax when cold. I warm it a little when using, pick a little piece off, press it a little flat, then wrap it round the grafted place. It entirely prevents all water or wind from injuring it; it binds like a hoop of iron, but when it becomes warm enough for the graft to grow, it will expand sufficiently. For out-door grafting, I use the common composition of rosin, one-eighth of beeswax and lard or oil; not much of the latter, just enough to make it so that when it is cold, it will not break. I put it on, in all cases, with greasy fingers. I can put on one thousand bands of wax per day, out of doors, more of inside grafting. I think it is much the easiest, prettiest, and safest way.

[Our grafters will, we hope, reciprocate Mr. Mattison's favor with their experience. We saw, we think in the *Scientific Artisan*, last year that melted rosin poured in alcohol, and kept in a closely corked vessel, made a composition that would keep for any length of time, so as to be used at a moment's notice. We have found it excellent, never getting entirely hard, but remaining air and water tight. The grafts have, however, been tied with bast previous to being coated with the composition, and we cannot say whether it would be a sufficient bandage for root grafts, though it is probable, as root grafted roses are often neither waxed nor tied.]

HORTICULTURE IN ILLINOIS.

(EXTRACT FROM A PRIVATE LETTER.)

OTTAWA, Illinois, Nov. 10th, 1859.

Knowing that anything pertaining to the culture of Flowers and gardening generally, will be appreciated by you, I have concluded to drop you a line from this city which is located in one of the most densely populated counties of the State, and enjoys one of the finest localities in the West, both for natural scenery and richness of soil. There are in the vicinity of Ottawa quite a number of nurseries, and fruit growing, though much neglected in this part of the State, seems to have of late years taken quite a start, and at the recent county fair I witnessed as fine a display of fruit as I have ever seen at any similar exhibition in any of the older states. There are also several very superior greenhouses in this section of the State; one of the best is located in this city, known as ".The Buena Vista Gardens." This establishment is owned by Hon. W. H. W. Cushman, and is managed by Mr. William Chalmers, formerly of your city, who, from his skill as a gardener, taste and general knowledge of the business, has few superiors in the country.

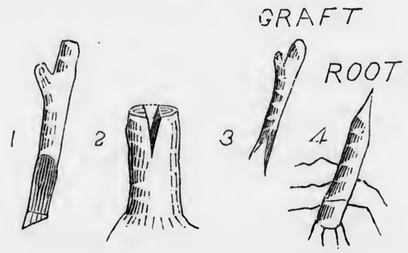
As I was fortunate enough to be here at the time the La Salle County Agricultural Fair was held, I of course, availed myself of the opportunity of giving the grounds a fair inspection. All departments were well represented, and considering the unfavorableness of the season, I think the show was highly complimentary to the country, and satisfied me that the soil of Northern Illinois will produce better crops, under all varieties of seasons, than any other state I have ever visited.

GRAFTING THE GRAPE.

BY S. MILLER, CALMDALE, PA.

As early in the Spring as the ground can be got away from the stock to be grafted upon, clean away around the stem two or three inches deep, saw or cut off the vine smooth; then prepare your graft, (which should have been cut from the vine in the early part of the winter,) as shown in figure 1.

If your stock is thick, say one inch or more in diameter, cut out a wedge, see figure 2,



to correspond with the wedge on graft fig. 1; if the stock be less than $\frac{3}{4}$ of an inch in diameter, then merely split down clean, as in the usual way of cleft grafting, but if the graft be not held firmly, it is well to tie around the split with a bit of matting or strong thread; which will rot off before doing any damage. When you have inserted the graft, draw the earth in and press firmly around the joint where operated upon, and up to and barely exposing the bud, filling in with dry mould if the earth be wet. Use no cement whatever; I believe it is a great evil.

Be sure to cover your graft with loose straw or some kind of rubbish that will not pack tight; this is to keep the frost from hoisting out the graft, in case freezing occurs afterwards, which frequently is the case, as I have grafted in February sometimes, as well as to shade the bud and keep the air off somewhat—a necessary precaution. When the graft begins to grow, the natural or stock suckers must be kept down or they will soon rob the graft. I have usually succeeded in this way with about 80 per cent., while I hear universal complaints of failure. For root grafting in the house my best success has been obtained when done in the saddle mode. And this done late in the Spring when the vines begin to grow.

In fig. 3 I give a rough sketch of my mode of root grafting, many of which, in one season, when set out in May, attain a growth of six feet. My impression is that if a vine is transplanted in the Spring, you may graft pretty successfully at any time that same Spring.

By the former mode I could, a few weeks ago, have shown you Logan, Delaware, North America, Pauline, New Hanover and others from 8 to 15 feet growth, set last spring in ordinary stocks.

One important part has almost been overlooked: you must select stocks of as near similar wood; for instance, Delaware will hardly take at all on a rank fox, while upon Clinton and our wild frost grape it takes very freely. Almost any kind will take upon Isabella. Yours truly, S. M.

[So many parties complain of failing to graft grape vines successfully, that we cannot but regard this first contribution of Mr. Miller to our pages as a very valuable one, and hope he will continue to favor us with his valuable experience, which, in matters appertaining to out-door grape culture, is so extensive. —ED.]

REMEDY FOR THE PEACH BORER.

BY E. KELLY, BRIGHTON, N. Y.

Like "JOHN," (Lynchburg, Va.,) I have been troubled with the borers. I have tried baring the roots of the peach tree in order to stop the borer, with no better success. I have also tried wood and coal ashes, which proved a failure. Chamber-ley is partially succesful, but I consider it dangerous. The most effectual remedy I have yet tried is to use the knife first to dislodge the borer, then to fill the scar with pulverized sulphur. Peach Growers and Amateurs, try it. EDM'D KELLY.

[And we would add, afterwards keep them out with tarred paper.—ED.]

PEELING WILLOWS.

BY A. MATTISON, PADUCAH, KENTUCKY.

As the subject of the basket willow is now claiming attention, I may say that I think the best method of peeling them is not generally known. When I was a young gardener, about the garden sheds we used to make a great many baskets, and the best way we

might do the work of many a day's scraping, and as Mr. M.'s experience would indicate, without injury to the willows.—Ed.]

knew to get off the bark of the willows was to boil them in some kind of an old pot; it is a very easy way, and very simple.

[This excellent hint might be improved on in the extensive preparation of the willow. Long troughs, through which hot water or steam could be forced,

CUT FEED FOR CATTLE.

BY R. P. R.

Quincy, Illinois, Dec. 8th, 1859.

Friend Mechan:

Hearing of scarcity of fodder in the state of New York, I thought I would state how I managed one winter, some fourteen years ago while living in Western Reserve, Ohio. A June frost destroyed our wheat, hay, &c., but our corn gave us a fair crop. Being then in the practice of medicine, and poor, I had but one cow and two horses. I bought 4 cwt. of hay at one dollar per 100 pounds, and about 5 cwt. of straw, and thirty bushels of ears of corn. I had the corn ground, cob and all; I took my axe, cut my hay and straw as fine as I could, being too poor to buy a steam cutter. I put the straw and hay after it was cut, into a tight box, sprinkled on some of the meal, then poured on boiling water and let it stand until the next feeding. The result was, I had to buy 12 bushels more of corn, and I never had my horses look better in the Spring, and my cow gave us a fine mess of rich milk daily and looked as well as my horses did. I presume the hot water steamed the straw, which added to it more nutriment which I should not have got without it.

I am satisfied that, as a general thing, farmers feed twice the quantity of feed to their stock that they need to do. A farmer can make as much in saving his fodder, as he can in raising it. Some object to feeding cob meal—think it dangerous—but I have seen it fed in the lumber regions, month after month, without the least sign of injury. We are too apt to feel as though it were too much trouble to cut and steam our fodder, but it pays well.

EARLY VEGETABLES.

BY F. H. L., MORRISANIA, N. Y.

To save labor and time, in our short Springs, every hour gained counts considerably. I take any piece of ground that can be dug in Fall, and dig and let it lay roughly to freeze through winter; and in Spring, only loosen the place where I plant; and after the crops get fairly started, I fork the ground deep after the heavy Spring rains have ceased, the ground keeps loose and porous all summer. The crops I treat this way are Potatoes, Melons, Watermelons, Cucumbers, Squash, Corn, Peas, Tomatoes, Egg-plants and Peppers.

Potatoes I plant no deeper than I would Bush beans; cover well with half decayed manure, and this with earth. I find they bear abundantly, are earlier and do not rot so badly as those planted deeper. When they want their first hoeing, I fork them up well.

Peas I plant four feet apart, the row as wide as a hoe will make it by drawing it along the line, and for the earliest crop I dig along the line and put a good deal of long fresh manure in; by keeping the ground loose and warm this way, they come earlier. In one of last year's numbers you gave as a rule, to manure just before planting. I beg to make an exception for Cauliflowers and Cabbage; for these I trench in the Fall, after the subsoil is loosened, deep. I put in a good coat of manure, and then the topsoil rough, and have seldom club-footed, useless plants.

The small seeds I always start till they sprout. Mix in a pot or box, a layer of sand and another of seed. Put them for two or three days in a moderate hotbed, or from four to six days in a room, and gain, I am sure, ten or twelve days of what is often delayed by the heavy spring rains.

[In a private note our correspondent says that he does not suppose his hints contain any thing new, and are perhaps not worth publishing. But what is well known to a few, is news to the many, and such articles as these are the very ones we value most. Friend F. H. L., pray continue your excellent notes. —Ed]

THE LONG GRAPE.

[BY W. N. WHITE, ATHENS, GEO.

The December number of the *Gardener's Monthly* contains, I see, a very correct illustration of the Long Grape. Having, I believe, furnished the vine to Mr. Downing, from which Mr. Miller's bud was taken, I feel enough interest in that cluster of grapes to give you a few brief notes on the history and quality of this variety, to which I will add a word or two on other grapes.

The original vine was discovered in the woods of the adjoining county of Madison, about thirty-five years since, by the late Col. James Long, on his own plantation near Danielsville. My own vines are from cuttings obtained from his son. It is one of the varieties of *Vitis æstivalis*, and the form of the leaf is strikingly like those of the Lenoir, but it is easily distinguished by the tips and leaflets of the young shoots being hoary with down, while those of Lenoir are but slightly downy and have a more yellowish tint in the green of the young leaves. When Dr. Grant was here, in 1857, he learned thus to distinguish young vines of the two as soon as these differences were pointed out.

Col. Long removed the original vine to his garden, and I am told, one year, a barrel of fine sparkling wine was made from it. It is a profuse bearer, if pruned long, and the clusters are very attractive as they approach maturity; when fully ripe, the berries are a very dark brown, nearly black, with a blueish bloom, very much darker in color than the Delaware, to which you compare it. This grape ripens with the Warren, (or as you call it, the Herbemont) and will hardly become fully ripe north of your city. As to its quality, my wife, who has been commenting on your illustration while I am writing, hits it exactly: "The Long Grape!" "the figure looks very natural. It always hangs in such beautiful clusters, but it is a poor grape to eat. They are too full of seeds and taste too much like the wild grape." "You know we never use them when we have the other grapes." And indeed, we never do.

As a wine grape, I doubt if it will do. The last two seasons I intended trying it, but while leaving it on the vines to mature fully, in both cases when I had determined it was about ready, within a day or two, quite a large proportion of the berries decayed and I gave up the intention. The Lenoir or Warren neither trouble us in this way. Warren often rots when half grown, but the berries that mature will remain sound on the vines for weeks.

The Long Grape cannot then be recommended as a table grape, and is of doubtful value for wine. Messrs. Peters, Harden & Co., wrote me, last summer, they intended to graft their vines of this sort with other varieties, the coming Spring. They obtained it in this country, under the name of Whitlon.

The Warren, properly managed, is a most desirable grape, but no grape that you have yet received from the South is so well suited to your climate as Lenoir. In quality it equals the Herbemont; its wood ripens in the Fall, and the fruit ripens with the Delaware, or scarcely if at all, later; and it always bears a good, not ane normous crop, which keeps well on the vines when ripe, if protected from bees and birds, and it never rots before maturity. Where Lenoirs and Warrens are at undant, very few Catawbas and Isabellas are used for the table, both of which are superior to the Long.

I hope your nurserymen will take up this grape and give your readers a chance to obtain it. If you would like, I will, with pleasure, send you a vine or two by express. I have no cuttings left. Peters, Harden & Co., of Atlanta, and Mr. Berckman's, of Augusta, have, however, a stock of the vines. Dr. C. W. Grant also has it raised from cuttings I sent him two years since. The Herbemont and Lenoir, found in most Northern nurseries, are both the true Warren, and identical; some few, however, have the true Lenoir. Yours respectfully,

Wm. N. White.

STATE AGRICULTURAL SOCIETY.

BY DR. J. K. E., DOWNINGTOWN, PA.

With your permission, Mr. Editor, some objections to the horticultural department of this Society will be made.

The custom generally prevalent, and indulged in extensively by some of your cotemporaries, of lavishing panegyric upon officers, marshalls and everything connected with the exhibition, may be well enough; but to point out defects is a thankless task.

Would it not be of more, at least equal importance to know what were the best six Fall varieties of Apples; second best do, third do, and so of all the best of the fruit, than to know by whom exhibited? We might have both. For Isabella grapes, premiums amounting to $12.00 are awarded; for Catawbas, the same; then, for the encouragement of experimenters to hybridize, sow seed, and cultivate for years, "For the best bunch of New Hardy variety, superior to the above," *One Dollar!*—marvellous liberality! Six times less than offered for "foreign-grown out-doors." An operation not ever likely to be popular or profitable. We have yet to learn what was that new hardy variety. Might not the official report have informed many anxious to hear?

J. K. E.

[We have a communication on hand which we shall give in our next, from one who has been intimately connected with horticultural exhibitions for over twenty years, and whose suggestions we can, from our own observations in a great measure endorse, and which communication we think will cover all the points our correspondent suggests to us, and be well worthy the attention of all interested in the improvement of horticulture.—Ed.]

TRENCHING GROUND.

BY "DIGGING FORK," CENTRE COUNTY, PA.

"Keep the surface to the surface." This principle is advocated and acted upon by some of the most successful soil culturists, but the general practice is directly the reverse. In *our* heavy loam we find the best growth everywhere and very decidedly, where the surface is dark with its natural and original coating of humus. In an experiment made here by Mr. J. S. Read, embracing various applications of different manures to potatoes; the compartment to which yard manure was applied *on the surface* has decidedly the best show of tubers. Melons have grown best, be-

yond comparison, on a rich sod, *neither dug nor plowed nor hoed*, but merely covered with three or four inches of chip mould. Among the amateur (spaded) lots, those have been most successful which have been worked with forks, and least inverted.

It is well known that, if old pasture lands be plowed deeply, inverting the sod, the natural grasses do not recover their free and luxuriant growth for years; not until a favorable open surface has again been formed by the decay of vegetable matter.

And it is seen everywhere that nature is uniformly successful in the growth of trees and plants by the sole and simple process of surface mulching and manuring, added to the annual heaving and loosening by the agency of frost.

Do the advantages and conveniences of the upside down practice overbalance its disadvantages in any case, excepting in the plowing of sod? Even in that case it is best to turn a shallow furrow, and deepen with a subsoiler. DIGGING FORK.

[The above, from the pen of the author of one of our best practical horticultural works, we welcome as an excellent contribution to a subject which the *Gardener's Monthly* has so prominently brought up the past year, and which, we think, is proving one of the most interesting questions to the cultivator ever introduced.—ED.]

DWARF PEARS.

BY DR. GEO. P. NORRIS, WILMINGTON, DEL.

Dear Sir:—As you are good enough to invite contributions from all persons who feel an interest in Fruit culture, I take the liberty of sending you a few lines on a subject in which I take a deep interest, viz:—the Culture of Dwarf Pears.

Six years ago I commenced with some dozen dwarf trees. I have yearly added to their number, and am well satisfied that *they will pay*, either as a profitable investment for the market gardener, or as one of the greatest of pleasures to the amateur. I also contend that, with ordinary care and attention, they will amply repay the cultivator for his time and labor, neither do they need "as much care as an infant," as I once heard a cultivator say, when speaking of a dwarf pear tree.

Your able and intelligent correspondent, Mr. Bright, of the Logan Nursery, Philadelphia, has hit on the true secret, and any one who follows his directions in his article on Dwarfs, published in the *Gardener's Monthly*, will have fine fruit with little labor and expense. My views are only a reiteration of his sentiments, and I fear, not as well expressed; however, as every one should add his mite to to the general information fund, I will give mine, and commence with

How Dwarf Pear Trees will pay:—First, let the ground be carefully trenched, and let not the cultivator fall into the sad error that some of your correspondents have committed, namely, of burying their good soil two feet below the surface. *Let the subsoil still be subsoil.* Trench two feet deep, throwing out the first spit of the top soil by itself, to be returned in the other end of the border. If the ground is low, or retentive of moisture, underdraining is absolutely necessary. I have no underdrains, and yet I have the finest pears; but my ground is naturally dry, and a few hours after the heaviest rains, the ground is in working condition.

Let the two feet of subsoil be thoroughly incorporated with a compost made of one-third well-rotted stable-manure, and the remainder, the top surface of an old pasture field, a few handfuls of ground bones, and a peck of wood ashes, to each wheelbarrow load of the compost, will be an improvement, but is not absolutely necessary. The trees should be carefully selected, if possible, by the purchaser in person, two years old from the graft. Now, as to kind. I am well aware that I shall be found fault with, but intend to give you my experience, be it worth much or little, it is my honest conviction. The Bartlett is the pear for the Quince; not only is it finer flavored and of much larger size than when on the pear stock, but it is always a certain bearer. Many will say, the Bartlett should not be worked on the Quince, as it is apt to slur off. This I deny. Only plant rightly, i. e. by planting deep enough to cover the point of union on the Quince stock, and it will stand as firm as a rock, and as hardy as an oak tree. This is no theoretical observation. My Bartletts have stood on one of the highest and most exposed hill-sides in Delaware, during the last six years, and have been subjected to some blows only little short of hurricanes, not one of them has given way at the graft. I have had limbs blown off, heavy with fruit, but not one has parted at its junction with the quince. Now, so much do I think of the Bartlett that I do not think it possible that it can be too highly extolled; and if I were about to plant 500 dwarfs *for profit*, 450 should be Bartlett, Make a note of that, Mr. Editor. This is not only my own experience, but that of some of my neighbors. Such Bartletts as I fruited this last summer, hand-picked and house-ripened, would readily have brought from 10 to 15 cents, if exposed in Vansant's window, Tenth and Chestnut Streets. But I am getting prolix. Taking it for granted that you have planted thirty two year old Bartlett's, (the point of junction with the quince about ½ an inch below the surface,) in such a border as I have described, with a sharp knife in the latter part of the month of November, (before winter sets in severe,) cut back one half of last summer's wood, prune them pretty severely, cutting back the leader until about four inches of the point of starting the previous Spring.

I do not believe that you, Mr. Editor, could do the Dwarf growing community a greater favor than to publish Mr. Yeoman's Sketch, "How to prune Dwarf Pear trees;"—it is accompanied with a cut by which more can be shown on a half a minute's inspection, than in half a dozen sheets of foolscap. But I fear you will lose all patience with such a wordy correspondent, and I will conclude by saying that if the Bartlett borders are surrounded every Autumn with a coat of stable manure at the rate of twenty two-horse cart loads to an acre, and this worked-in in the Spring: the trees kept well pruned; the ground be kept free from grass or weeds; the proprietor occasionally on the look out for insects. Should any happen to annoy him, a good dose of Friend Paschall Morris' Whale Oil Soap, with a common hand scrub applied some fine warm October day,—if with this attention the proprietor is not amply repaid with an abundance of rich, luscious fruit; if, I say, he is not amply repaid, then will I confess that I am in error, and Dwarfs are a humbug.

Mr. Editor, my communication has reached such an unwarrantable length that I hardly dare hope to see it ever in the *Gardener's Monthly*. If, however, you think it would be of the slightest service in promoting the culture of the Dwarf, do to it what I so strongly recommend to the tree—*prune it* severely.

Though personally unknown to you, yet I feel that to one who has furnished me with so much pleasure and so much profit during the past twelve months, for the trifling sum of one dollar, I feel such a sense of indebtedness that I could not conclude this hastily written article without returning to you my sincere thanks for the obligations that you have put me, as well as many Delawarian readers, by the establishment of such a truly useful publication as the *Gardener's Monthly*. GEO. PEPPER NORRIS.

[Pruning and thinning the fruit, regulating thereby the demand on the limited space the quince root, from its nature, is compelled to occupy, cannot be too fully dwelt on in Dwarf Pear management. We had laid aside Mr. Yeoman's excellent Treatise for republication in our paper; but as we recommended it so strongly in our notice of it, supposed all our readers interested would procure it direct from Mr. Yeoman's, which they probably have done. Much injury has been done to Dwarf Pear culture by too free laudation of its merits; and on the other hand, a too indiscriminate censure. We have endeavoured to report circumstantially, failures and successes equally, and think the result in the community is a returning confidence in their value when their wants are understood.—ED.]

CLIMATE OF OREGON.

BY P. W. GILLETT,

ASTORIA, November 4th, 1859.

Editor of the Gardener's Monthly:

Our climate is unlike any other with which I am acquainted. Winter at Astoria (46° N. Lat.) is about as mild as the same season in N. Lat. 33° on the Atlantic coast; while our summer goes on the other extreme—invariably cool and pleasant. Persons coming here from very warm climates, at first think our summer weather almost too cool. Such a thing as a "hot night" never was known at Astoria. No people enjoy better health than we do here. You may form some idea of our climate by its effect upon the ripening of fruits, &c.

In Southern Ohio, (my old home,) the Baldwin was a Fall Apple, here it is an excellent winter fruit, and keeps well until Spring. Here the Talman Sweeting, Rambo, Fall Pippin, &c., are early Fall Apples, when they keep until mid-winter, the Fall Pippin later. There the Roxbury Russet grew very large, skin nearly covered with bright russet; the tree did not bear until it had attained considerable age, and refused to bear full crops until about eight years old. Here the fruit is of medium size, with a brown-red cheek in the sun, and green in the shade; skin slightly russet. The tree bears at 3 years old, with full crops thereon. Some sorts that bear only alternate years there, bear every year here, while the size and colour of some are increased, of others diminished.

It is wonderful to mark the effect of climate upon fruit, even the form of many varieties is materially changed.

We are just about through with gathering our winter apples, (Nov. 4th.) We have about forty varieties, all of which promise well. My Catawba grapes are just now ripening, although, upon the south wall of my house, I doubt whether they will ever attain their natural flavor.

The early Peaches ripen here about the first or middle of October, but they lack sweetness and cannot be grown to any advantage in this part of Oregon. The interior of the state has warmer summers, while Peaches and Grapes succeed better. Apples, Pears, Plums, Cherries and small fruits produce well, and are of the finest flavor. Wild fruits, berries, &c., abound here. The Native Strawberry is abundant, and the sweetest I ever saw. Cranberries are plentiful quite in the marshes, of fair size and good quality. There are four varieties of the Whortleberry; the red is best and bears abundantly, and is nearly as good as the red currant. The ivory-green Whortleberry is an evergreen shrub of unrivalled beauty. Sallalberry, an excellent fruit. Salmon-

berry, a raspberry of great beauty, but not as highly flavored as many others; its color is bright orange; the canes of this sort do not die annually, but live and bear many years.

We have also the Black Raspberry, Blackberry, Thimbleberry, Serviceberry, Wild Crab Apple, &c.

I regard Oregon as one of the best fruit growing districts of the United States.

Yours truly, P. W. GILLETT.

[Hope our correspondent will continue his reports from this distant section of our horticultural parish. —ED.]

SUSQUEHANNA PEACH.

BY D. MILLER, CARLISLE, PA.

On page 27 of January number of *Gard. Monthly*, you ask whether any difference exists between Griffith and Susquehanna? I venture the assertion, *positively*, to say, there does not.

One of Griffith's sons picked the seed, or pulled up the young tree after germination, from the bank of the Susquehanna River, at Harrisburg. It was called Griffith, Griffith's Mammoth, Griffith's Mammoth Melacoton, Griffith's Melacoton, &c., by every one about Harrisburg, and is yet I believe. I had settled on the name of *Griffith's Mammoth Melacoton*, (too long for convenience,) and put it out in a Catalogue, issued for 1849–50, under that name. Afterwards, in some correspondence between Dr. W. D. Brinckle. of Philadelphia, and myself, he proposed Susquehanna as more appropriate, to which I objected; stating that I had distributed it under my name and did not feel justifiable in altering it. Unfortunately, he had also sent out buds of it under his name *Susquehanna*, and wished it should stand. I yielded, and in my next issue of Catalogue, put down Susquehanna, with G. M. M. as a synonyme. Was I justifiable? I think so at least.

Myself and some Harrisburg people put it out under several names, and others under Susquehanna. Although it is very popular, and one of the most magnificent of Peaches when in perfection. I find, and regret to have to say it, that it is not so certain in its crops as some others here, unless in a suitable soil. It has, however, proven itself of superior quality and excellence in more southern localities. Hoping this will in part answer your query,

I am &c., yours, DAVID MILLER, JR.

P. S.—You are right in saying the Water Apple of Bucks county is only second-rate. I consider it not any more, having received specimens of it this Autumn. But, as they say, its prolificacy, tender flesh, with abundance of juice, will no doubt make it a favorite with many. Yours, D. M.

[We are very much obliged to Mr. Miller for the account of the origin of the two names. Synonyms are great evils to the buying portion of the public, and a name once given to a fruit ought to be rigidly adhered to. Had Dr. Brinckle understood previously to his naming it, that it had been *distributed* under another name, we are well assured he would not have sent it out as "*Susquehanna.*"—ED.]

HORTICULTURE AND THE MASSES.

BY J. B. BRASSIER, BROOKLYN, N. Y.

It remains a fine task for some competent historian to give us a history of the human race, to be narrated, not by lists of kings, battles, and the customary landmarks, but by the ebbs and tides of the heart and the mind of nations. We shall then get a clearer knowledge of what the human race has been capable of; and in consequence, we shall be able better to deduce the future from the past.

Our future, that is the point. Made up, as it is, of every passing minute of our never present present; we cannot do better, at the beginning of a new year, than take stock, like good business men, and ascertain our standing; and we find immediately that there is but one idea fills this century—MONEY. The word is harsh, but it is true, nevertheless. If we justly blush, we also perceive at the same time, that Providence uses the means we use for obtaining money in her *own* way, uses them as mighty levers for our progress and ennoblement. As there has been a heathen era, a religious one, a chivalrous one, etc., so is ours the industrial one. Trade and mechanics now have their turn to bring mankind nearer to perfection. But whilst they develope the ingenuity of the human mind, they also rouse the human heart, for we are ever unconsciously striving for humanization. Thus, professed religion strives to merge into practised one, and the hard working head and hand stops the wheel it turns to take up the higher and the lesser arts. Amongst the latter we count horticulture, though from its influence on man we might look for it amongst the higher arts.

Shall we now take an inventory of the state of horticulture in these United States? No; that would be a thankless job. Your readers know well what has been done, how very little, comparatively, there is doing, and how much there remains to be done.

I would not now, if I could, tire them with dry statistics and long-winded homilies. Rather will I present them to-day a new way how to get to know ourselves. *Lite in speculum*,—"like looking into a looking glass," let us go and see ourselves in—*the French Nation*. Reader, do not startle; however different you deem yourself from a Frenchman, read the following extracts from a discoursive article in a French gardening paper;—till then suspend judgment.

"Whoever is a friend of horticulture is very much interested in those associations whose mission it is to further, not only round larger cities, but into the most isolated villages the taste for and the cultivation of flowers, trees, fruit and kitchen gardens, and the study of plants. Judging from the reports in the papers, the matter progresses and the circle widens. Looking however, closely, we can not help to find the work going on but slowly. Go to the villages and the farms, away from the large cities, and you vainly look for the smallest flower bed, or for something like a hot bed; the fruit trees run wild for the want of cultivation, and as to ornamental trees they are a thing unknown; the old forest trees fall, one by one, under the woodman's axe."

Can we not fancy the writer speaks of any state you please in our own country rather than of his?

"And what do our Societies do to prevent this decline? Premiums are given to rare plants, mostly to greenhouse and stove plants. Standard of merit is—novelty and variety. The names you hear are none but Latin ones, abominable Latin, jaw-breaking, and the ear does not keep them. Useful things, and such as are everywhere fine, are not much made of. Things are not brought down to the people. Exhibitions should be tables of instruction, such as everybody should be able to fluently read."

Still, the good cause progresses both in Europe and America; our aim only should be to fire up and bring more life into the tardy pace.

I will conclude with the words of the same writer:

"It is certainly desirable that the windows of the attics in city houses should transform themselves into gardens, even in the sombrest streets: better, however, will it be if every cottage in the land had its garden plot and its 'square' of good vegetables and good fruit."

[There is much that is well worthy of our reflection in the suggestive article of our correspondent. —ED.]

ODDS AND ENDS.

BY SCHUYLKILL.

In paying a visit recently to the establishment of PETER RAABE, in your city, I noticed that he makes considerable use of oiled paper as a substitute for glass, over his cutting-boxes in his propagating department. This is no new idea; but too little practiced; it is more economical and better than glass. Mr. Raabe uses thin white newspaper, saturated with any kind of oil. He puts his cuttings in shallow wooden boxes, half filled with earth or sand, and then merely throws a sheet of this paper over them.

A lady friend of mine describes an "extemporaneous" fern case, for a drawing-room, as follows:—Procure four panes of glass, of any size, and bind each pane with broad black linen tape, this is done by sewing the tape at each corner and stretching it very tightly. After each pane is bound around with the tape, they are are then sewed at the upper and lower edges together, forming a glass box without top or bottom. The plants are planted in a wood or tin box, and this glass case placed over them, and the top of the case covered with a loose pane of glass. This case can be made square or octagonal.

A pretty way of ornamenting a hearth, during the summer, where wood is used as fuel during the winter, is a mode much practiced by the farmer's wives in Delaware and Maryland:—Branches of any kind of evergreen are dipped in ordinary whitewash, and when dry placed in a large vase or flower-pot. They would be taken for beautiful specimens of seaweed or coral. They will keep a long time.

One of your correspondents has recently been suggesting several substitutes for box edging. In a kitchen garden, where horse labor is not introduced, nothing can take the place of box; but it is desirable frequently to have flower-borders around the different compartments, of the width of about three or four feet, and nothing forms a better background or backedging for this border than the common large blue or white flag. In this latitude it is an evergreen, and is but very slightly affected by the hardest frosts. When in flower it is very gay and beautiful. I have used it in this way for a long time, and have some two thousand feet of it, which gives us no other trouble than occasionally to thin it out, which can be done by pulling it up by the roots. Where box cannot be had, I would have no hesitation in recommending it for the edging of the walks of a kitchen garden. I am not sure that north of this latitude it will keep green in winter, if it does not, it will not, of course, answer.

Whilst paying a vist recently to the neatly kept plant-houses of Mr. FAHNESTOCK, in your city, I was much pleased with the beauty of the moss-covered side walls of his orchid-house. They are formed, I believe, as follows:—Strips of wood, about an inch square, are nailed on the walls at about eighteen inches distance from each other, and in them small lath nails are driven about an inch apart with their heads projecting about a quarter of an inch from the strip. Small wire (copper is the best) is then stretched from one of these nails to another and secured; and so on, until the whole wall is covered with a kind of net-work. Common moss or sphagnum is then stuffed in behind the wire, and then the surface is planted with *Selaginella* (formerly Lycopodium) *densa* or *denticulatum* and kept well syringed. Over this beautiful green velvety surface. Mr. Sutherland, the skillful gardener, had trained a plant of the curious *Ficus barbatus*, a creeping plant, with leaves in pairs at right

angles with the stem. It presented the appearance of a huge green centipede crawling up the wall. It adheres as tenaciously as a Virginia creeper. Mr. Sutherland, I observed, made use of a kind of orchid stand, that was new to me, and may be to your readers. It was simply a section of a round stem or branch of a tree, with the bark on with a cavity chiselled out of the wood at one end.

Having been long convinced that most of our green and hot houses, in their general arrangements, are unnecessarily stiff and formal, I endeavored to introduce into one of my houses a more natural arrangement of the interior. Instead of the ordinary centre stage, I built up roughly two side walls of stone, and turned a rough arch over it, using hydraulic cement instead of lime mortar. The stones used were generally large and mossy. This formed a grotto or cave, in which I have a shallow tank, which is useful for watering the plants, and which is supplied from a pipe concealed in the roof of the grotto, and which falls or trickles from the stone. Against the outside of the side walls of this cave are piled up large stones, selected for thier shape and mossiness. In piling them up, care must be taken to leave as many interstices and offsetts for setting pots on, and planting ferns and trailing plants in as possible. After the stones are arranged to your mind, fill in all the crevices with leaf mould from the woods and plant every hole with rock and trailing plants, ferns, ivy, periwinkle, selaginella, cymbellaria, &c. If you have not room enough for plants in pots insert some roofing slates into the crevices, and they will form excellent shelves. The front of the house is arranged with stone, in the same way as the centre, only that on the top I have long strips of bark on edge, to conceal the rows of pots, which would have too stiff an appearance. Up the rafters and on wires crossing the house, I have trained passifloras, bignonias, *Cissus discolor*, Ipomeas, and a variety of climbers. To correspond with the rockwork, the paths should be flagged with common rough flag-stone, not laid in regular square courses, but irregularly, so as to fit into the nooks of the rockwork. I was but a little over a week getting my house arranged, and in a month you would have thought it as old as the old red sandstone formation.

In a recent article in the new English periodical "*Once a Week*," entitled "London Roof-Gardening," the writer suggests that dwellings should be built in squares or blocks of uniform height and with flat, metal or asphaltum roofs, and that flowers, shrubs, trailing plants, &c., should be planted in tubs or boxes. Accompanying the article is a very pretty illustration showing the appearance that such a roof-garden could be made to present with arcades of creeping vines, beds of flowers, and even neat, pretty greenhouses. This is all very well in theory and on paper but our London friends have a formidable difficulty to contend with, viz.: the smoke. To get rid of this, the writer suggests that the smoke consuming apparatus should be brought into universal use. In this country we are, in this respect, more favorably circumstanced, and I see no difficulty in carrying out such an arrangement. A friend of mine, who resides in the north-western part of Philadelphia, informs me that he occupies a house with a flat roof covered with asphaltum, and that they find it a most delightful place to sit, on a fine summer evening.

Many of our city residences, with but little or no ground to them, could be made much more attractive than they are by carrying out the above suggestion, and by having in front light ornamental iron verandahs covered with vines, or at least by enclosing a small space on the street with an iron railing, and planting a few shrubs and ivy, or Virginia creeper to grow up the front of the house. I have often met with these plants growing up the *sides* of houses, but do not recollect a single instance where they have been planted on the *front*.

No tribe of plants are more beautiful or better adapted to the purpose of room decoration than the different tribes of mosses, such as the Lycopods, Selaginellas, Hepaticas, Lichens, &c. If small specimens are planted in thumb pots, and these pots plunged in white sand and covered with a bell glass or shade, and occasionally watered, the mosses will keep in perfect health and at the same time present a very beautiful and interesting appearance.

Few persons are aware of the great variety of mosses that are found in this country, and if to these are added the many beautiful exotic varieties, a collection might be formed that for beauty and interest could not be surpassed.

The Waltonian Case or Plantarium has been found to be well adapted to their growth. At a recent meeting of the Pennsylvania Horticultural Society, a very beautiful rustic vase, decorated with the cones of the larch and filled with specimens of indigenous mosses, was very much admired. As, I believe, we have no name for such a collection, allow me to suggest that of the *Muscarium*, or *Mossary*.

But I fear I am occupying too much of your valuable space, and must conclude.

IMPROVEMENTS OF FRUITS.

BY "WILLIE."

PHILADELPHIA, December 12, 1859.

Dear Sir:—I wish I could impress particularly on the young readers of the *Monthly*, the importance of remembering that all our most valuable fruits and vegetables have originally been derived from coarse, weedy, and austere fruits; even the wheat, "the staff of life" has been improved from a coarse grass to

what it now is. The young, with a life-time before them, and with the knowledge and improvements that have been made before them, might do much for themselves and the world.

Great improvements have been made in the quality of fruits, of late, by new varieties; yet notwithstanding that, the extension in their culture has not progressed in proportion to the growth of our country and increase of our population; our markets are more scantily supplied than they were twenty years ago; but the right spirit is rising, and in the right place. The *Gardener's Monthly* tells us of a convention having lately been held in the City of Lancaster, in this State, with the view of improving and extending the culture of tree fruits and grapes, and they will go through with it, as they are a most skilful and enterprizing class of Farmers, and their example will be followed by others until our nation will become the great fruit garden and orchard of the world.

WILLIE DELVER.

BOTANICAL NAMES.

BY J. S. L.

In your October number, Mr. B. F. Transou inquired what work on flowers, trees and plants you would recommend him to procure in order to acquire a knowledge of the botanical names of plants.

You reply that you do not know of any that would help him. This is discouraging. Permit me to recommend him to purchase "Wood's Class-Book of Botany," to be had at almost any well supplied book store in our cities; Henderson's, for instance, Arch Street, near Sixth, Philadelphia.

This work contains the elements of Botanical Science, as well as a Flora of the Northern, Middle and Western States. It includes many commonly known introduced and cultivated plants, and would answer his purpose better than Gray's Text-Book, or Flora.

[Mr. Transou's inquiry was for common names—English names—not Botanical.—ED.]

THE DIOSCOREA, OR THE CHINESE YAM.

The two following communications will be read with much interest. The first, from an intelligent amateur at Beverly, New Jersey; the other from our friend Oliver Taylor, Loudon, Va.

You do not often hear from Jersey, and as most folks (probably yourself among the number) seem to be impressed with the idea that "nothing good can come out of it," I should like to remove such an impression, to some extent, by stating that I have raised in eighteen months, roots of the Dioscorea, measuring from twenty-four to thirty-seven inches in length and weighing from two pounds to three pounds five ounces each.

About the 10th of May, 1858, I planted a hundred sections of roots, each about a $\frac{1}{4}$ of an inch in thickness, and $\frac{3}{8}$ in diameter, in a light sandy loam, the surface soil being scarcely a foot deep with a subsoil of pure sand, and in the beginning of last month took up a few roots as above described; the balance I intend to leave for another year. There had been no more care taken in preparing the ground than is customary in drilling potatoes; the subsoil having never been disturbed, and what seems most strange is that the whole thick portion of the root is produced in the subsoil; the upper part of the root, for twelve or fourteen inches in length being only for a $\frac{1}{4}$ inch to $\frac{3}{8}$ in diameter. Mine were in the ground all winter and suffered no injury from frost. Are you aware if they have done bettter in any other State?

G. R.

The Dioscorea I have now had four years, and for two months past we have been testing its value every way. I have attended three Fairs during the Fall, viz:—Maryland State Fair; Winchester Valley Fair, held at Winchester, and Loudon County Fair; and I had specimens cooked of it at each place, and gave, not less than one thousand persons a taste of it, and not one but pronounced it superior in quality to the best Irish potato.

J. D. Richardson of Buckeyestown, exhibited roots at the State Fair, Maryland, grown from one root, which he said weighed less than one-half a pound, and which, he said, yielded this Fall, twelve pounds of roots. When cooked, it is just as good to eat cold as hot, as it does not get that peculiar taste common to the Irish Potato when cooked for several hours. In color, no fastidious cook could desire a handsomer dish, and in texture, those who have no teeth to eat it can easily "gum" it up.

In culture there is much to learn, and that so different from the usual routine of growing vegetables, that it is difficult to get the new beginner in the right way. Our experience leads us to prefer the seed tubers which grow profusely on the vines for planting, and put in the ground just as soon as possible in the Spring, though the upper part of the roots will grow if cut in very small pieces, yet they sometimes fail, no doubt, from being cut and placed in a cold, damp soil where they rot before they have heat enough to start them.

They seem to grow well in all kinds of soil but should only be grown in such as will allow them to swell easily, or the roots will be much crooked. One foot apart each way seems to give them room enough. They should not be dug until two season's growth if seed tubers are planted, or small pieces of the roots, as the yield will not justify digging so deep the first year. They stand any degree of cold under ground, and when left in the ground all winter, of

course they start stronger and earlier in the Spring.

Fresh manure does not suit them, though well rotted manure or ashes, well mixed with the soil is not objectionable. The yield with us is about one pound per square foot, or twenty tons per acre.

The great trouble of growing this vegetable is the digging the crop; though this would not be objected to by any good cultivator, as the moving of the soil so deep would pay for the labor in the advanced value of the ground thus dug up. The elegance of its quality, the small space it requires, and the length of time in use, will, no doubt, soon place it in every well furnished garden, and when the steam plow stirs our tenacious clays deep enough, and proper plows are constructed to raise them from their downward course, they will, no doubt, drive the Irish potato entirely out of use.

We intend trying various experiments on them next year, such as planting in raised beds, mulching with various substances, and should we find advantage from any such plans, will make it public.

As ever, OLIVER TAYLOR.

A SIMPLE FRUIT GATHERER.

BY J. S. L.

I have had a simple and quite an efficient one in use for years, for gathering Washington Plums from a height of twenty feet or more, and have found it to answer admirably. It is merely a section of old tin spout pipe, 3, 5, 6 or 8 inches long, as may be deemed proper, depending upon the quantity to be gathered at each effort. Attach this piece of tin pipe to the end of a pole, or close the bottom of the section with a plug of wood and insert the end of the pole in a hole in this plug and your instrument is complete.

One advantage this simple apparatus possess over any other I have seen is that the fruit can be very easily detached from the branch by the cutting edge of the tin; no brushing or jerking being required; and the delicate plum or other fruit drops gently into the cup without a bruise.

So simple a contrivance scarcely needs an illustration, and though seemingly of trifling importance, may be found by some of your readers, of much value, should you deem a description of it worthy a place in the *Monthly*.

J. S. L.

CULTURE OF THE CRANBERRY.

BY "CRANBERRY," HANOVER FURNACE, N. J.

The great consumption of, and consequent demand for the Cranberry, has induced many persons to turn their attention to its cultivation.

The high price the berries command in the market, varying from three and a half to five dollars per bushel. Their great productiveness and certain yield and the comparatively easy cultivation of the plant, render them objects of no mean importance, supplying, as they do, in a measure, the void created by the falling-off of the fruit crop; which, year by year, dwindles and becomes "beautifully less."

My attention was drawn particularly to the cranberry (*Oxycoccus macrocarpus*,) during a recent excursion into Burlington County, New Jersey, where I was induced to visit a number of *patches;* some large, but most of them small, where they have been under cultivation for a few years, and in every instance I found their owners so well satisfied with the results obtained, that they have determined to enter into the cultivation the coming season to a much greater extent.

In the region of the Pines there seem to be very many natural bogs in which this berry is found growing in a wild state, and in some places so thickly that they have been known to yield at the rate of two hundred and fifty bushels to the acre. These bogs producing so heavily are most of them leased on improving leases; but I saw many hundreds of acres which required but a little draining, and the necessary planting to make them very productive.

One young man, whom I found at work on a ditch by which he intended to drain an acre or two, told me that he had sold his crop of wild berries for $345 *cash*, and that when he once had his bit of a bog in good condition, it would, with scarcely anything more than the labor of picking his crop, yield him more per annum than a good hundred acre farm.

With the taste and qualities of this berry we are all sufficiently well acquainted, but at their present prices they are beyond the reach of any save those who have their purses tolerably well filled. But with the increase of the cultivation, they must in a few years be so very much reduced in price as to be within the means of all classes.

The manner of cultivation seemed to be very rough, and the vines set out were in all cases the wild growth of neighbouring bogs: proving, at least, that they are indigenous, and that if improved sorts were planted, and common attention paid, with a soil so suitable, immense crops might be raised.

I call attention to the Cranberry, and the inducements it holds out to young men of industrous habits and small means, from the fact that so many are induced to emigrate to the West and South at a very considerable expense, and often precarious prospects, when they might find profitable employment so much nearer home, and at the same time, enjoy the peculiar benefits and privileges of an older settled community.

CRANBERRY.

[With Cranberries "dearer than ever" this season, our friend's communication is well timed, and his promised continuation of the subject, in all its practical details, will be very acceptable. Unlike most farm crops, this one needs no manure, and will grow where little else will, and with a moderate amount of labor, and it is not surprising that general attention should be growing vigorously towards it.—ED.]

MACHINE FOR ROOT GRAFTING.

BY B. L. RYDER, WEST FRANKLIN NURSERIES, LOUDON, FRANKLIN COUNTY, PA.

Agreeably to your inquiries and requests, I send you to-day a model of my grafting shears.

The long shear blade is intended to trim the side roots, the other for cutting the roots, &c. to the proper length, and the knife which cuts on the concave bed, for splitting, which is done much better than can be done by hand, always making a smooth, clean split, no difference how twisted or crooked the stock is. Last season I had an attachment for pointing or cutting the wedge on the graft, or sloping the stock and scion in splice grafting, but have adopted this plan as better, (intending to make the other part in a separate machine shortly.) The advantages of this implement will be obvious to every one experienced in root grafting. It being fastened on a bench or table, it operates very fast and does its work in a very superior manner, and can be worked by any novice.

I do not claim to be the inventor of the original idea, this being a modification of the grafting shears long in use, but I claim it as a decided improvement.

I am now prepared to furnish the machines to all desiring them, at short notice. The machine is made wholly of iron, and will be of the best material and workmanship.

P. S.—The blade is cast steel and can be taken off and ground, being fastened with screws on the hand piece.

[Anxious to present real improvements to our readers, we give Mr. Ryder the benefit of the free advertisement his excellent machine so justly merits. The model sent us is of wood, except the blade, which is of shear steel. The base has a flange, not shown in the engraving, by which it is screwed to a bench.—ED.]

COAL TAR FOR THE LOCUST BORER.

BY E. K., BRIGHTON, N. Y.

I have tried the use of Coal Tar on the Locust, in order to stop the Locust Borer, and find it works well. I used as follows:—First, open the holes at the mouth, then fill with warm Coal Tar; the pest will soon make his appearance and fall to the ground. I have found a very good remedy, though not always effectual, to destroy the knot on the plum—I first cut out the spot, then apply common tar. I have examined the black knot closely for several years, and endorse, in the main, the remarks of Hortus, (Galesburg, Illinois.)

E. K.

A GRAPE CHAPTER.

Our Correspondents have got so interested in grapes that we have to limit the space their favors would otherwise occupy. In condensing their communications, we have endeavored to retain all their ideas so far as practicable. First, we have a letter from Mr. E. Hopkins, of Trumansburg, N. Y., on—

The Delaware Grape. Mr. H. spent some weeks on the Delaware, last August, and found a vine in the garden of a friend; curiosity being excited, he spent several weeks, and found great quantities in other places, many miles apart, but on careful inquiry, found in every possible trace that they all originally came from the Prevost vines. As to our remarks on the varied forms of bunch and berry, he says he has seen them all on the same vine. Mr. Prevost, he says, was a native of Switzerland and an officer in the French army at the time of the French Revolution, and at its termination, barely had time to escape with his life to this country, rendering it improbable that he brought grapes with him. One of Mr. P.'s grandsons thinks his father received it from a Swiss gardener of Mr. Powell, of Philadelphia, who subsequently worked for Mr. Prevost.

On the same grape, J. L. T., Lambertville, N. J., writes,—"Mr. A. G. M. Prevost thinks his grandfather obtained this amongst others received from Hare Powell of Philadelphia. He further said that

they called it the Powell grape." Mr. T. also says that the fruit is very variable on neglected vines. Some vines have the fruit just ripening when the others are gone. He thinks the Delaware, uncared for, tends backwards to wildness to a remarkable degree.

Mr. S. Miller believes the Delaware a foreign grape, and can detect no signs of a native odor.

"Orchis" wonders why the small size and high price of the Delaware should make it a worthless grape, and the dealers in it rogues and humbugs, as some journals intimate. He thinks he would sooner eat a Seckel Pear than a Pound pear, notwithstanding its small size, and that the demand for any article of trade regulates its price.

Synonyms of Grapes. "Orchis" writes,—"It has been clearly ascertained that the Canby's August came from Wilmington, Delaware; the Baldwin sprang up in a yard in Westchester, Pa.; the York Madeira, according to W. C. Waring, (most excellent authority by the way,) is a native of York county, Pa., and the Hyde's Eliza, I think from Troy, N. Y. Now, that they are all natives of different localities, and notwithstanding this, so particularly alike as to be almost instinctively taken for one and the same grape, what inference would this peculiarity lead us to?—simply this: that among our grapes, as is the case with plants of all kinds, there are true botanical varieties, and these varieties perpetuate their kind, no matter where the seed may germinate. Upon examining the wood, foliage and fruit, as well as the shape of the inflorescence of the foregoing kinds, we find them minutely alike, and all showing the general characteristics of their parent or species—viz: *Vitis Lobrusca, L.*"

Mr. Downing says, the Hyde's Eliza has rather larger bunches and berries than York Madeira.

The Venango Grape. H. writes,—"The County of Venango, Pennsylvania, has long been noted for its paternity of good wild grapes—among them the "Venango," erroneously "Minor's Seedling." It originated on or near the grounds of the old French Fort at Franklin, in Venango county, at the junction of French Creek with the Allegheny River, and was formerly supposed to have originated from seed of foreign grapes introduced by the French. I have had the Venango for ten years, and do not consider it worthy of dissemination.

The Franklin Grape. H. also writes that it was found in the vicinity of the Venango, and removed to Meadville, Crawford county, and freely disseminated by the present liberal owner. He says, Venango, Clarion, Mercer, and Lawrence counties, Penna., abound with good wild grapes, many of which are being cultivated and called Franklin by the inhabitants. The Franklin we find to have remarkably large stipules on the young shoots, and many prove to belong to a distinct species from any yet described.

Grape Experiments. Mr. O. T. Hobbs, Randolph, Pa., writes that he has been for some time experimenting with seedling grapes, and finds that in a hundred seedlings from the Franklin, *all*, with one single exception, are different from the parent. He cannot identify the species to which the Franklin belongs, but will send specimens of the leaves to any one interested.

Foreign Grapes. Friend John, our spirit liketh not the tenor of thy communication. We advise thee, as thou art a man of peace, to lay aside the vitriol bottle, which may burn thy "esteemed friends," and turn their anger upon thee. Use good, cheerful and pleasant black ink in thy epistles, and for thy pen employ the directorship of a loving disposition. If thou "care not to know whether the Delaware be a foreigner or a native, so long as it is hardy and good to eat;" so well and good. If thou carest not to know whether the world is round so long as thee can go whither thee wishes about it. Or whether the moon is inhabited, so that she gives thee her pale light, we shall not quarrel with thee; then why wilt thou quarrel with others for the same cause?

It is the business of science, friend John, to *collect facts.* The *cui bono*, or "what good" comes afterwards, just as in business, Friend John, thee gets thy money first, before thee plans out how thee shall spend it. So in gardening, we do not know what good a fact may be till we get it. If we know it to have some relation to the subject we look after it.

The Hansleretto Grape. A correspondent recently called for its history. The following from our friend Col. R. Carr, formerly of the Bartram Botanic Gardens, settles that point.

"About the year 1820, I received from Zerbst, in Prussia, a box of grape vines, containing twenty-five species of European grapes, which my friend Mr. Kalisky, (who procured them for me) believed would thrive in this climate. They were carefully cultivated, and many of them produced large and delicious grapes, for two or three seasons, but the severity and changeable weather of our winters proved too severe for them, and most of them perished in a few years. One of them bore fruit very nearly resembling the Bland grape in size, color and flavor. Another of them, the *Hansleretto*, was equal to the Black Hamburg, and more hardy. I believe there is one of this species now in the garden of the late James Laws."

Labe Grape. Mr. S. Miller says our figure of this is not more than half the size it frequently grows, and that the specimen sent was merely for a taste. It is a good fault to underrate a fruit in exciting times.

Corrections. In conclusion, we insert the following from Mr. A. Thomson:

"In speaking of the quality and appearance of the Delaware, I said:—'which from its surpassing excellence, would anywhere, or under any circumstances, at once attract the attention of the merest tyro in *horticulture, and captivate* the most uncultivated taste.' The *italicized* words were omitted by the compositor. In the same paragraph I spoke of its having passed the ordeal of "pomological *societies* and committees," instead of "varieties," as the type make me say. In the last paragraph quoted 'much interest' was written *such* interest. Several typographical errors, as "Truminer" for "Traminer," "remains" for "remain," &c., will be obvious to the reader."

THE SUSQUEHANNA PEACH.

BY DR. W. D. BRINCKLE.

At page 27 of the number just received, I perceive an inquiry is made in regard to the Griffith and Susquehanna Peach.

They are identical. The original tree, now dead, stood in the garden of the late Mr. Griffith, at Harrisburg, and was placed there by his little son who found it growing on the banks of the Susquehanna, pulled it up and planted it in his father's garden. The name Susquehanna was given to it several years ago by myself.

[Dr. B. has our best thanks for the information which Mr. Miller has also given us. We have letters to the same effect from four other friends, who will please accept our acknowledgment.—Ed.]

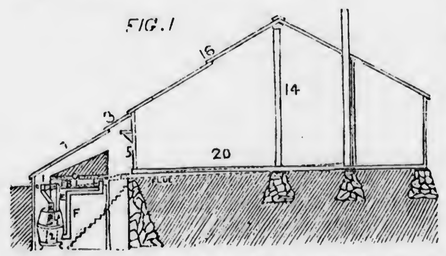
HEATING BY HOT WATER.

BY A. B. C.

A correspondent sends us a plan of heating by hot water flowing through a wooden tank, heated by a barrel boiler.

Fig. 1 is a section of the elevation.

FIG. 1



The figures 7, 3 and 16, are the measure in feet of the several surfaces of the roof; 20 the number of feet wide, and that section, and 14, the depth of the upright pillar.

Of the heating part of the arrangement,

A. Is barrel steamer, with stove extending through it.

B. Tank, 5 feet wide, and 32 feet long, 6 inches deep.

C. Earth, &c., above tank.

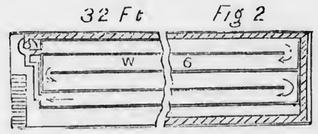
D. End of brick flue for smoke, extending along the front across the back, and returning half way to middle of front of grapery, and then across it to the chimney.

E. Warm water pipe.

F. Cold return pipe.

Fig. 2 is the ground plan of the tank, 6 inches deep;

32 Ft Fig 2



the arrows show the course of the circulating water.

FIG. 3

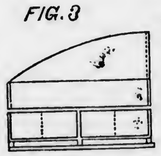


Fig. 3 is a vertical section of the tank, and earth bed, on an enlarged scale.

In connection with the above, our correspondent sends the following queries, to which we annex notes in reply:

1. How much rise should a boiler or furnace have before reaching the flue in order to produce sufficient momentum to create a motion in the horizontal pipe of upwards of 70 feet before reaching the upright chimney? (1)

2. Have wooden tanks, heated by circulating water, been used in this country, and are they admissable when covered with loose boards and brick rubbish, or should they be tightly covered with boards or slate, with openings by means of tubes, etc. to regulate the heat and moisture? (2)

3. Are not pit sash at 20° inclination sufficiently high for all practical purposes? (3)

4. Should the tanks be more than six inches deep, and how great depth of soil should cover them for growth of tomato plants, cabbage, etc., etc.? (4)

5. Do you think the plan of heating as proposed, and the tank arrangement promises to be successful and an economical method? (5)

[(1) None of our flues have any rise; their draught is perfect; we think the popular idea of the necessity of a rise is fallacious.

(2) We have a tank made of white pine boards, thirty feet in length, connected by four feet of one-inch lead pipe to a cast iron boiler holding two quarts of water. The tank is four inches deep, but only two inches depth of water is kept in the tank, which is

covered with half-inch weatherboarding. With a slight fire sufficient to keep the house (which is very warmly built) at 60° when the outside temperature is 30°, the water in the flow end of the tank is 112°, and 72° at the return after travelling sixty feet. Sand four inches deep is placed directly on the weather-boarding, and a regular temperature of 70° maintained, in which most cuttings easily root in three weeks. The whole contrivance cost less than twenty dollars, and we would not be without it for two hundred dollars. Slate would have been better than weather-board to cover, and three-inch pipe better than one-inch for the flow and return; a cast-iron water pipe would do, the elbow in the fire. The size of the boiler, we believe to be of little importance in tank heating.

(3) For early forcing, the steeper the pitch, the better is it found in practice; 40° is not too much.

(4) Two inches of water is enough, and the tank need be but little deeper. The more water to be heated, the lower will be the temperature attained. Four inches of rich soil is plenty on a tank for your purpose.

(5) We have before answered in the affirmative, as far as the tank is concerned, but think our own plan of a small boiler, costing about five dollars, or even a water pipe preferable to the barrel boiler, though we have not seen the latter tried.]

CELERY DISEASE.

BY N. H. R., SPRINGFIELD, ILL.

Our Celery crops here are much injured every season by great numbers of very small flies, which attack the young leaves of the plants, causing them to wilt and die. I think they are the same which attack the Japan Sophora, Bludder Senna, etc. They remain about the celery until we have a sharp frost, preventing its growth. I do not notice that they do any other injury than to the leaves. They are very small and have the appearance of gnats.

We have another insect (it may be the same) which lays eggs in the young shoots of the celery, which hatch into small white worms, and which descend to the heart of the plant and greatly injure it.

I have tried various means of driving off the insect first mentioned, but without success. I do not think any odor will affect them. If you will inform us in the *Monthly* how to get rid of them, you will oblige all the Celery growers here.

[The last described insect is the common Celery Fly; they usually work in the night. The only remedy is to trap them. Long strips of canvass, coated with molasses, and stretched along the rows, would, we think, entice and rid you of great numbers. —ED.]

TWO CROPS OF GRAPES IN ONE HOUSE. I. R. wishes to know whether by keeping half his vines out of the house, forcing the balance, and some months after bringing in the former, whether it would be successful? We think not.

MR. THOMAS MEEHAN: My Dear Sir.—Can you inform the readers of the *Monthly* what result followed Dr. Uhler's experiments with aloes upon the Plum Curculio? Also, whether Mr. Bright's book, —see pp 106,—is yet issued, and if so, the price and publisher. I want a copy. Will Mr. Bright favor your readers with an article on Saltpetre as a manure, when to use, quantity, what it should cost to enable one to use it profitably, &c., &c.; I have never seen it used and would be glad of some information on the subject, though Mr. Bright seems to think, pp 66, that it needs no explanation.—D. W. B., *St. Catharine's, C. W., Jan.* 4, 1859.

[Will our kind correspondents please reply.—ED.]

VINE BORDERS.—D. F. Kinney has a cold grapery facing south, a "lean-to" structure. If another building were erected north, making a sort of span roof; would it do to cover with boards instead of glass? The present building is 14 feet wide, the purposed addition 8 feet; would it be warm enough with the present back taken out?

This is how we understand the question. It would be warm, but not light enough; we should use glass.

Should the vine border be made *only* outside the house, or also under it? We prefer the last.

VITRIOL AND FENCE POSTS.—Of the many methods of preserving fence posts from decay, none is perhaps more simple and cheap than the one of soaking them in blue vitriol.—*Ex.*

COOKING APPLE-PIE MELON—Cut and pare as you would pumpkins. Stew until thoroughly done, and if there is too much water in them, turn them into something to drain, and when dry enough use them just as you would stewed apples, adding sharp vinegar or tartaric acid to give the tart.

The Apple-Pie Melon is one of the most valuable acquisitions to the list of vegetables in the west, that has been made for a long time, as they grow finely and produce wonderfully. I planted fifty seeds—thirty came up, and the frost on the 4th June left me fifteen vines. About one hundred melons set, and about forty of them were cut short by the 1st Sept. My largest one weighed fifty pounds, and one of my neighbors to whom I gave seed, raised one weighing 53 pounds. They are made valuable here because fruit is scarce—where fruit is plenty they must be of less value. SAML. M. DYER, East Desmoines Iowa, in *Country Gentleman*.

The Gardener's Monthly.

PHILADELPHIA, FEBRUARY 1, 1860.

☞ All Communications for the Editor should be addressed, "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

HOW HORTICULTURE "PAYS."

It is gratifying to every lover of pure and rational pleasures to note the increased importance given to horticultural pursuits, and the increased influence obtained by horticulture and horticulturists in public affairs.

Poets have sung of the pleasures of a garden, and philosophers have taught the actual necessity of a love of natural beauty in the mind, in order to insure a healthy development of the mental faculties.

Gardens and flowers are inseparably connected with virtue and morality, and happiness flows from them, as from a natural fountain and source. Not by any means that all horticulturists are paragons of excellence, for the serpent will creep into the happiest paradise; but that the pursuit forms the most natural and most protective hedge against the intrusions of misery and vice that exists amongst men.

The world acknowledges all this, but it is one thing to believe and another to practise, and yet it is the increasing practice of horticulture we see around us which inspires our present theme.

We recently passed a beautiful little school-house in Montgomery County, Pennsylvania, built after a design of great taste and beauty. The grounds about it were of small extent, but the beautiful lawn, kept neatly mowed; the flowering shrubs, and handsome trees, and delicate vines trained on graceful trellises, showed conclusively that if the directors of that school cared for these lilies of the field, how much more cared they for the human flowers within. And then the neat, clean and happy children, in themselves, exhibited the influence this horticultural taste was exerting over them, and we only wished there could be competition in *public* schools, as in other branches of business. "We know," thought we, "to which school our own little treasures should be sent."

Coming nearer home, passing, in fact, but a few miles from our own door, we came to a beautiful country church, recently built in a pleasing spot; and there, too, were the pulpit and the pruning knife linked hand to hand in the endeavor to make mankind the happier for the union. For once, thought we, that marriage is a happy one, and fancied we saw written over the portals of its mansion, "Peace be with all who enter here." A beautiful winding walk led to the church door, and branch paths and bright evergreens and rich clumps of choice shrubs invited the feet of the stranger about them, it is to be hoped, to a better purpose than the soft grass did to the feet of Bunyan's Pilgrim. Whatever may be said for or against the monks of the middle ages, they at least did wonders for gardening, and labored immensely to influence the masses in its behalf; and unquestionably, one of the great secrets of the hold these institutions had at one time of the world's history, on the popular mind, was the recognition of the principle that the beauties of nature and art had an inseparable connection with the theological principles they professed.

Proceeding from the pursuit of the Philosopher the school and the pulpit, to the rostrum, we find horticulture still leaving its footprints on the sand of current events. Lectures on horticulture are becoming fashionable in various parts of the country, adding a warmth and a brilliancy to the happy sunshine of life in large cities, bringing out large audiences to enjoy its loveliness, and laying in rich stores of golden grain to gladden the hearts of the lecturers.

We see that at New Haven, Marshall P. Wilder, Dr. Grant, Emerson the arboriculturist, Barry, L. F. Allen, Pardee, and Johnson, all eminent horticulturists, are engaged to lecture this month, (Feb.) and while we are now writing, could we be amongst them "who have gone down into Egypt," we should probably find Drs. Warder and Kennicott, Hon. M. L. Dunlap and others, enlightening the natives of Tamaroa on horticultural pursuits.

And the public press,—that great mirror of popular sentiment, not only reflects the horticultural ideas of public lectures to the fullest extent; but is beginning to take in their importance in an every day sense. So great is the passion for horticulture, and the benefits the training of the horticulturist is capable of conferring on practical science generally, that the Cincinnati *Scientific Artisan*, one of the best papers of its class in the country, will in future have a regular horticultural column.

After all, horticulture, like all other worldly occupations, has its vices, which, when indulged in, materially detracts from its real pleasures. Not one of the least of these is the lowering of the whole pursuit to a sort of commercial speculation, in which, "beware of humbugs," or "will it pay?" compose the chief stock in trade. So great is the din at times created, that an outsider would certainly believe that market gardeners and nurserymen constituted the whole horticultural community. But horticulture, as one of the fine arts, has no more to do with profit than a piano or stylish carriage. It is a luxury to be indulged in; a mental, moral, and bodily recreation, to be pursued at a loss of *cash*, to the profit of *the man*.

He who follows it for a living is to be pitied. Speaking of a leading nurseryman, said a lady friend to us recently, "I felt sorry for Mr.——, when at his place, though he wants, I know, to love his flowers, I felt that he could not feel that passionate admiration for them that I did. He would part with them for money, and I would not. That made the difference." We envied that lady's feelings, even ourselves—and a few moments after, when a noted merchant said to us, "I have grown out of conceit of raising my own flowers and vegetables, I find I can buy them cheaper in the market;" we did not envy him at all.

To obtain pleasure from a garden, calculations of profit must not enter; keep within your means, of course, and do not spend a dollar on what can be as well accomplished for a less sum. So shall the pure love of horticulture spread, and the horticulturists become a power for good in the state, and an honor and credit to the humanity that claims him.

LECTURES ON RURAL AFFAIRS.

At New Haven, from February the First to February the Twenty-fifth. The following is the part of the programme in which our readers will be the most interested.

SECOND WEEK—POMOLOGY, &c.

PEAR CULTURE..... .HON. MARSHALL P. WILDER.

American Pomology—the best method of promoting it; with practical suggestions on the cultivation of the pear.

GRAPES..... .....DR. C. W. GRANT.

Lecture 1. Preparation of the soil, and propagation of the vine. *Lec.* 2. Culture of native varieties, with account of different varieties and their qualities. *Lec.* 3. Foreign varieties; culture and treatment.

BERRIES..... .....R. G. PARDEE, ESQ.

Lecture 1. Strawberries, Raspberries and Blackberries—soil, cultivation, varieties. *Lec.* 2. Currants, Gooseberries, Cranberries and Whortleberries—soil, cultivation, varieties.

FRUIT TREES..... .....P. BARRY, ESQ.

Lecture 1. Propagation and treatment of Fruit Trees in the Nursery. *Lec.* 2. Transplanting and management of trees in the orchard and garden.

FRUITS..... .....LEWIS F. ALLEN, ESQ.

Lectures 1 & 2. The Apple. *Lec.* 3. Uses of Fruits economically considered; profits as farm crops; their consumption as food for man; as food for stock; value for exportation.

ARBORICULTURE .....GEO. B. EMERSON, ESQ.

Lecture 1. Character of various Forest Trees, as found growing in the forests of Europe and America. Value for various purposes. Forest culture. *Lec.* 2. Shade and Ornamental Trees; modes of cultivation.

AGRICULTURAL CHEMISTRY, *continued*, PROF. S. W. JOHNSON.

Lecture 5. The soil: its chemical and physical character. *Lec.* 6. The mechanical improvement of the soil by tillage, fallow and amendments. *Lec.* 7. The Chemical and Mechanical improvement of the soil by manures. *Lec.* 8. The conversion of Vegetable into Animal produce. The Chemistry and Physiology of Feeding.

During the first week, the following Sciences will be lectured on in their application to husbandry.—

CHEMISTRY.... .....PROF. S. W. JOHNSON.

METEOROLOGY..... PROF. B. SILLIMAN, JR.

ENTOMOLOGY..... DR. ASA FITCH.

VEGETABLE PHYSIOLOGY....DANIEL C. EATON.

We hope our friends will have a "good time."

GREENHOUSE AND VINERY

OF STEPHEN OLIVER, JR., ESQ., LYNN, MASSACHUSETTS.

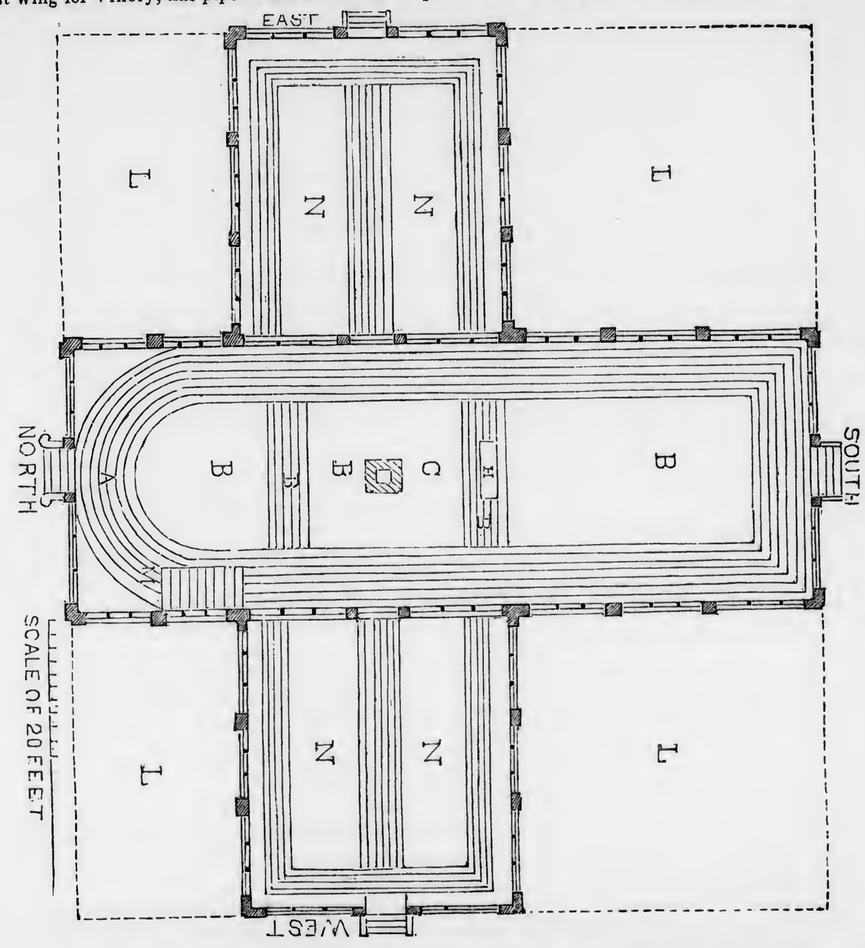
(See Frontispiece.)

We have frequently heard Mr. Oliver's houses spoken of as combining utility with beauty to a remarkable degree, and at our request, he has furnished us with a photograph, (from which our illustration has been copied) and also a ground plan and description of the internal arrangements. It has often struck us as being strange that persons who have the means do not expend a trifle more in ornamenting the *exterior* of their plant houses so as to prevent their being, as is too frequently the case, a positive blemish in the appearance of their grounds. We think our readers will agree with us that Mr. O. has obtained a very good effect by the judicious expenditure of but a small additional sum. We annex a description of the ground plan:

A. Slatted walks, from underneath which heat arises from smoke flues.
B. Flower stands.
C. Chimney, rising directly under cupola; passing through and from out of which smoke passes through small copper pipes placed all around the top of same.
D. Coal bins, in basement.
E. Boiler.
F. Smoke Flue.
G. Water Cistern; water conducted from roof.
H. Small Cistern, opening into room above for watering plants.
I. Hot water pipes from Boiler.
J. Water tank to feed Boiler.
K. Windows for lighting Basement and taking in coal.
L. Grape Borders.
M. Cellar way. Trap door.

N. Semi-circular trellises for training fruit trees.

Centre and main body of house used for a Vinery and Flower house, heated by hot water pipes and flues. East wing for Vinery, has pipes and can be used at option. West wing, cold Vinery.



Questions and Answers.

WHITEWASHING THE STEMS OF FRUIT TREES—C., *Delaware County, Pa.*—Mr. Editor, can you not find a corner for a word or two, condemnatory of the barbarous practice of whitewashing the trunks of fruit trees, not only rendering them unsightly, but causing much injury by closing the pores of the bark. It prevails extensively in this section.

[It is not injurious, rather beneficial, killing moss and insects, and prevents sun-scorching in severe winters. The outer bark has lost its vitality, and has no pores to get injured. When the tree grows, the trunk swells, and the old bark cracks, through whitewash and all, and no injury results. As to the *unsightliness* of it, we have not a word to say in its favor. —ED.]

DIOSCOREA—*R. P. R., Quincy, Ill.*—This is also called the Chinese Yam, and was introduced into France from Japan, eight years ago. It was introduced here five years since, and so very much more claimed for it than the result has confirmed, that its real merits are looked on with suspicion. It is an excellent vegetable, and will, no doubt, become a standard garden crop.

NATIVE BLACKBERRIES.—A friend from Cynthiana, Ky., writes describing four different kinds of Blackberries growing wild there. The Blackberry varies very much; we have in our collection, dried specimens of over 50 forms, collected within an area of three hundred miles in width. We have no doubt, however, but that varieties equalling and perhaps excelling, in some respects, the New Rochelle, might be found by perseverance, and we hope what we have said will not dampen the ardor of our correspondent in his observations.

ROSE MILDEW—*Tyro, Lynchburg, Va.*, writes of a white creeping fungus, growing up out of the soil in his rose pots, and covering the whole surface of the soil very rapidly. It appears amongst the roses in his greenhouse, and he fears it will attack the roses themselves. Almost all this kind of fungi spring from decayed vegetable matter in the soil, and are readily destroyed by lime water. But without knowing exactly the kind our correspondent complains of, we cannot advise him confidently.

HONOLULU NECTARINE SQUASH. From M. T. Briggs, West Macedon, N. Y. Specimens of the dried fruit. We are usually suspicious of "rare squashes," finding them generally to possess a "distinction" without a "difference." This, we are bound to say, however, is good—decidedly so, and we are confirmed in the opinion by a beloved voice over our shoulder, exclaiming as we write—"O do get some seed of it to plant for ourselves." Is it more than an improved variety of Apple-pie Melon?

WATER FROM ARTESIAN WELLS—W. C. T. Washington, Miss.—"My Artesian Well is 400 feet deep, and brings to the surface 105 gallons per minute, at a temperature of 68°. It contains a large amount of iron and potass and a little acid. Will it injure my plants in the greenhouse I propose to erect?"

[We think you will find no injury unless the water is largely impregnated with these substances.]

FILLMORE STRAWBERRY—W. C. T., Washington, Miss.—We know of *our own experience*, only what we have already stated in our paper, and cannot advise any one either to purchase or not to purchase this, or anything noticed by us. We endeavor to collect all the information we can on any subject, after which, our duties as a journalist ceases.

EUPHORBIA JACQUINÆFLORA—A Subscriber.—"Can you give me any information about growing the Euphorbia Jacquinæflora? The leaves have all fallen off in the stove."

[It requires a rich soil, warm atmosphere, (75°) and *plenty of drainage* in the pots; in the last of which items we fear you have been deficient.

INDELIBLE WRITING INK FOR ZINC LABELS. We have received from Mr. White, of Buffalo, a bottle of Mathews' writing ink, and samples of zinc labels marked as being in use from 1855 to 1859. This material has been employed for the past fifteen years in some of the principal horticultural establishments, but has never become popular—the oxidization of the zinc obliterating the writing. These specimens indicate an improvement, and we think it well worthy extensive trial.

CORRECTION. Dear Sir—On seeing the plan for a garden I sent you, in December number, I notice the figures marked in it as its dimensions belong to another plan. Its proper size should have been 200 x 240, or double that marked. Will you please correct this in a future number, and oblige, Yours truly,

J. C. SIDNEY.

BRICK HOT WATER TANKS. W. H. B., Cleveland, Ohio.—We do not think brick tanks, lined with any kind of cement, can be made to resist hot water for any length of time successfully. Wooden tanks, made by a carpenter who has a good eye; the "tongueing" made by employing hoop iron for the tongue, and then braced with iron seldom leaks, and if whitewashed before using, with a composition of buttermilk and lime, will last a long time.

A SUBSCRIBER. Forest Home, Ky.—Will find in another part of our paper an answer to his inquiry in regard to the vine treatise.

DIANTHUS HEDDEWIGII. J. F. D., Providence, R. I.—In the November number, we notice an article upon the "Dianthus Chinensis Heddewigii," copied from the *Gardener's Chronicle*. Could we procure the seeds here, and if so, what will they cost, a small quantity?

[Most of the principal seedsmen who import annually from Europe, and advertise in our columns, will doubtless have it for sale in the Spring. We have recently seen colored figures in *Neubert's Deutsches Magazin*, which confirm the beautiful character the *Chronicle* gave of them.]

QUOTE ACCURATELY.—We had occasion recently to complain that when we suggested that "similar varieties" to a certain grape might be found growing wild, a contemporary should say—unintentionally we are sure—that we said the grape itself.

Another writer, equally unintentionally we know, said that, in writing of the grape from Cleveland, we said "all the members of the horticultural society thought as we did," when we only said "all of them who tasted it." A difference equal to a dozen or two against several hundred.

In the last *Hovey's Magazine* we are made to say that the Delaware grape "is abundant in Delaware," when we only said "varieties of *Isabella* abound in Delaware."

Will our friends please be more accurate?

This, by the way, we think one of the best numbers of *Hovey's Magazine* we have received for a long time, and are pleased to find the oldest horticultural magazine in the country sustaining itself so usefully.

Dr. Cloud's *Cotton Planter* has also been enlarged, and raised to a $2 magazine.

The *Country Gentleman* has also dressed up a little, presenting a portrait of Mr. A. J. Downing on its horticultural breastpin.

Though these are all properly agricultural periodicals, they usually contain horticultural articles of the highest excellence.

Affleck's Southern Rural Almanac, published at Brenham, Texas, we hope will find a reader in every one interested in Southern horticulture. To say it is an *excellent* production is but simple justice.

DESCRIPTIVE CATALOGUES.

To those anxious to know the rapid progress horticulture is making on the American continent, the catalogues of the nurserymen are very instructive. In a very few months after a new fruit, flower or vegetable has been announced as new in Europe, we find it spread over many of the States of our own country. The following firms have published catalogues, copies of which are now on our table.

T. E. Cook & Sons, Bendersville, Pa.
J. S. Cook, Walnut Hill, Ohio.
James McGowan, Lynchburg, Va.
R. W. Hunt & Co., Galesburg, Ill.
Haines & Hacker, Cheltenham, Philada.
J. A. Mendenhall & Bro., Richmond, Ind.
Nealley Bros. & Bock, Burlington, Iowa.
Fleming & Nelson, Augusta, Ga.
Van Pelt & Heyer, Dubuque, Iowa.
David J. Griscom, Woodbury, N. J.
J. McLaen, Roadstown, N. J.
Chester Clark, Covington, Ind.
S. Thompson, Suscol Ferry, California.
Hooker, Farley & Co., Rochester, N. Y.
C. C. Langdon, Mobile, Ala.
Gibson & Sons, Mullica Hill, N. J.

SEEDS.

J. M. Thorburn & Co. Tree and shrubs, containing many rare things not often to be obtained. Also, from the same, *Vegetable and Agricultural Seed List.*

WHOLESALE LISTS.

B. F. Transou, Wellwood, Tenn.
L. C. Lishy, Nashville, Tenn.
J. W. Manning, Reading, Mass.
W. Tompkins, Germantown, N. Y.
Uri Manly, Marshall, Ill.
F. Prentice, Toledo, Ohio.
W. H. Starr, East New London, Conn.
Asher Hance & Son, Red Bank, N. J.
John Rutter, West Chester, Pa.
W. Parry, Cinnaminson, N. J.
J. W. Jones, Chatham 4 Corners, N. Y.

ROSES.

John Saul, Washington, D. C. Selected List of newer kinds.

Books, Catalogues, &c.

The Horticulturist makes its New Year's bow under the direction of Mr. Peter B. Mead, of Brooklyn; a distinguished horticulturist. Mr. J. Jay Smith, under whose management it has been so popular the past four years, retiring.

The *Homestead*, of Hartford, and the *Valley Farmer*, of St. Louis, have, like ourselves, severally put on a new dress, fully aware that if "good manners" and an "engaging appearance" "make the man," they have no meaner influence in making a successful periodical.

CIRCULARS.

J. W. Jones & Sons. Dwarf, double flowering Helianthus. The public would have better understood, if it had been stated, that this was but an improved variety of *Sunflower;* as it is, it reads as if it might be a new species.

T. G. Yeomans, Walworth, N. Y. Pruning dwarf pears, with nursery catalogue. We have before spoken approvingly of this useful circular.

Sullivan Bates, Bellingham, Mass. Culture of the Cranberry.

New or Rare Plants.

CALCEOLARIA PINNATA.—This is not a new plant by any means, for it is described by Loudon as having been introduced to cultivation from Peru, in 1773; but it is quite rare. For the past two seasons we have seen it in two or three amateur's gardens, and we were quite surprised by its perfect adaptation to our climate. It commences to bloom in the open border in May, and continues till frost, making it of great value as a bedding plant.

The flowers are of a pale lemon yellow, produced in the greatest abundance, and the plant has a dense bushy habit, growing about one foot high. The seeds grow readily in Spring, in a hotbed, or treated as other hardy annuals.

SOLANUM ATROPURPUREUM, (Schrank)—Remarkable for the spininess of all its parts, and the purple color of its stems. The flowers are yellow, and borne in bunches from the young branches. The fruit is white, striped with green; towards autumn tinted with orange.

The *Revue Horticole*, from which we take the above, praises it for the beautiful purple of its stems. We give the engraving, in the hope some of our cultivators will introduce it, and try it for its fruit, as so many of the *Solanums* give luxuries for our table, this may add another.

It is a native of St. Paul, in South Brazil. The sketch is one fourth the natural size.

HOYA CUMINGIANA.—A yellow flowered kind, from Singapore or Borneo. Smaller than our common "Wax plant," yet much stronger than *H. bella.*

DISSOTIS IRVINGIANA.—A pink-flowered melastomaceous plant from the Niger expedition. The flowers are about three inches long and narrow. Pretty, but not among the handsomest of the tribe.

CATTLEYA SCHILLERIANA. One of the finest of this splendid tribe of orchidaceous plants from Brazil. Flowers large, and of a rich, purple shaded crimson.—*Bot. Mag.*

CEANOTHUS VIETCHIANUS.—Native of California and Mexico. A shrub three or four feet high, having clusters of flowers resembling our *C. Americanus*, a little smaller, and of a light blue. Probably scarcely hardy in the Northern States.—*Ibid.*

EUGENE APPERT—New French Rose, figured in *Horticulteur Praticien*, in form and color, as well as in habit and foliage, much resembles Lord Raglan.

ECHINOPSIS PENTLANDII—The flowers are very fine, having three rows of petals of a tender rose color, but variable in this respect, as it is sometimes red or scarlet. The flowers, as in all Echinopsis, have a long tube and are deliciously fragrant. It was introduced in 1857, from Chili, by M. Verschaffelt.—*Ibid.*

DIELYTRA CUCULLARIA—The *Hort. Prat.* has a delightful notice of this, of which it says, "S' il est une charmante et gracieuse plante;" but as it grows freely in most of our northern woods, our readers should examine it practically, and we are sure will find it worthy of all the praise the French journal bestows on it.

ROSE IMPERATRICE EUGENIE—White, delicately tinted within the centre with rose; we believe it is remontant, though not so described in *Hort. Prat.*

DIANTHUS VERSCHAFFELTII—A hybrid Chinese pink, with single white flowers, with a rich purple throat, arranged in large clusters. It is very dwarf, and recommended for borders and bouquets.—*Ibid.*

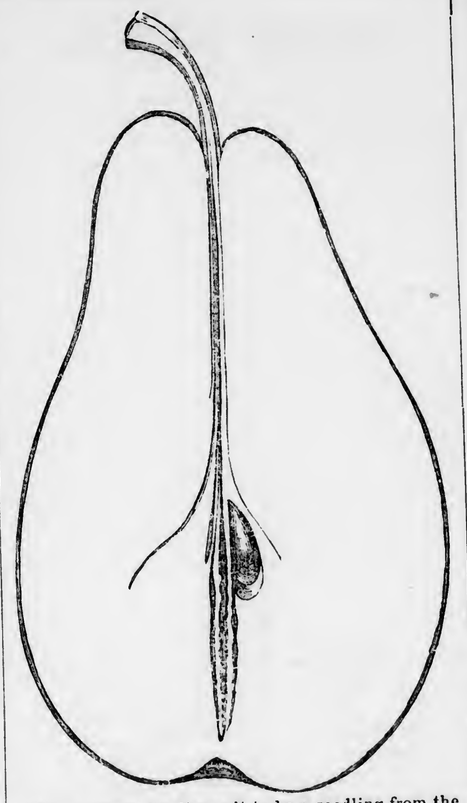
ÆSCHYNANTHUS CORDIFOLIUS.—This tribe is getting as numerous as Achimenes. They are stove epiphytes, of easy culture, and very showy. They have a great general resemblance,—the present species has heart-shaped leaves, on pendulous shoots, and crimson flowers with a short tube.

RHODODENDRON NUTTALLII.—Native of Bhotan, growing on trees in that region of India. This is the finest of all the Rhododendrons, the flowers being nearly six inches across; pinkish white with a yellow throat. The leaves are one foot long.—*Bot. Mag.*

BRYOPHYLLUM PROLIFERUM. — A crassulaceous plant, similar to the old *B. calycinum*, but the greenish flowers are tipped with pink. It is a stove plant from Madagascar, and, from the figure in *Bot. Magazine*, not particularly handsome.

New and Rare Fruits.

PEAR, *Louis Bonne de Printemps.*—Brought to notice in 1857, by M. Boisbunel, of Rouen, France. The color is pale green, becoming deep yellow at maturity, spotted with gray on the whole surface and with a bright red color on the sunny side and with a little gray russet about the insertion of the stem. It ripens towards the end of winter, sometimes continuing till April. The flesh is white, delicate, melting and buttery, abounding with a sweet juice, and having a fine perfume.



Mr. Boisbunel believes it to be a seedling from the Louise Bonne, and finds it to do particularly well on the dwarf stock. It is praised very highly by M. Depuis, the celebrated French pomologist in the *Revue Horticole*, and as the parent does so well and is so popular with our pomologists for growing on dwarfs, we recommend our importers to be on the look out for its introduction.

HOVEY PEAR.—From Hovey & Co., Boston, Mass. About the size of the Seckel, and with much the same general appearance. In flavor it reminds us strongly of the Passe Colmar, from which we strongly suspect it to be a seedling. If it do not prove one of our most popular pears, we shall be very much mistaken. Since writing the above we have received the following from Dr. Brincklé:—

"I have not received the specimen of the Hovey pear you kindly sent me; which I regret, as I have never seen a specimen of the fruit. My friend, Mr. Berckmans, who has tasted it, remarked to me last week, that it was quite equal to the Seckel, if not superior to it."

Domestic Intelligence.

Planting Vineyards. A Mr. Haraszthy proposes to plant Vineyards in the Sonoma Valley, California, and to take care of the vines for three years, at the rate of $210 per acre.—*Alta Californian.*

Superintendent of Mount Vernon.—Mr. Thorburn will probably, says the Boston *Journal*, soon be called to Mount Vernon, to superintend the restoration of those hallowed grounds laid out by Washington.

Still larger *Mammoth Sequoias* have been discovered. In the more recently discovered grove a tree was found measuring one hundred and fourteen feet in circumference. The grove contains six hundred of these monsters, none others of them, perhaps, quite so large, but all them of approximate proportions. These trees grow on the south fork of the Merced river, about thirty miles southeast of the town of Mariposa. One of the trees, one hundred feet from the ground, has a circumference of sixty-six feet, and a branch measuring eighteen feet in circumference. *California Paper.*

To Make Branches where none exists, in his fruit or other trees, Mr. J. C. Thompson, in the *Virginia Farmers' Journal*, says:—"I passed a knife through the bark and a little into the wood just over the eye or "knerl," where the branch should have pushed, or where it had pushed out when young, and had been rubbed off by accident. A careful examination will show plenty of dormant eyes or knerls (that appear like the knuckle on the human hand.) The sap has only to be arrested at this point to bring these dormant eyes into life.

In passing the knife into the wood over the eye, it should be passed partly around the tree so as to form a slit or gash over the eye from a half to an inch long, according to the size of the tree; and be sure that you press it through the inner bark and into the wood." The result was very satisfactory.

Paper from Sorghum, of an excellent quality, has been manufactured from the stalks.

A Cabbage!—We recently saw a picture of a "Humbug Cabbage" in the *American Agriculturist;* but friend Judd had better be careful, or the facts will beat him yet. Witness the following:—"There is now growing in Dr. Hepburn's garden, Mokelumne Hill, a cabbage tree, which in five years, from an ordinary cabbage plant, has grown to be some nine feet high in the main stalk, and when its full branches were on, a month ago, near fifteen feet high. The stalk has become hard as wood, and it bore this year about fifty or sixty heads of cabbage. The doctor intends to keep it growing, and thinks that, in a few years more, he will be able to boast the possession of the most profitable tree in the country; for, besides great quantities of green cabbage and krout that it produces, he every season gathers many papers of seed, and hundreds of plants that spring up spontaneously beneath its boughs." So says the *San Andreas Independent.*

Correction.—The figure (3) in our note to the article of C. in our last, got under the head of Union Village Grape, instead of under Brincklé, as was intended. The mistake was so palpable that the good sense of the reader, of course, corrected it.

Wine Making in Tennessee.—There was at the Fair a fine display of grapes from the vineyard of Boyce & Severin, and I understand that 1,500 gallons of wine were obtained from 3 acres of that vineyard. —*Southern Homestead.*

Fruit Growers' Association of Eastern Pennsylvania.—The announcement made in our last though not official, was made on information from an officer of the Society. We were misinformed as to the time of meeting. It should have been *the first Wednesday.* It will be held at the Cooper Hotel, Lancaster, and we hope will be well attended.

Creeping Weeds.—A correspondent of the *Homestead* destroys these by smothering them with a board or other substance; an excellent idea on a small scale.

California Wine.—California bids fair to excel Ohio in the production of native wine. Most of the wine made there is consumed in the State, and hence very little of it is seen in this quarter, but one of the San Francisco papers gives a list of twenty-six various brands, the principal native wine dealers being Sainsevain Brothers; Kohler, Frohling & Bauck; Jacoby & Bremerman; Newhaus Brothers; N. B. Jacobs & Co., and A. Larrain. The first of these has a stock of one thousand gallons, the second eighty thousand gallons, the third thirty thousand gallons. The sale of California wines in San Francisco this year will amount to half a million of dollars.—*Ledger.*

Height of American Trees.—"The tallest trees are found in California, where is the giant redwood—the *Sequoia gigantea* of Torrey, or the *Wellingtonia gigantea* of Hooker—which attains the prodigious height of four hundred and fifty feet from the ground, about half as high again as Trinity Church steeple. The yellow fir, or *Abies grandis*, which grows in Oregon, is also a very respectable tree, often reaching the height of two hundred and fifty feet. In Massachusetts they have the whitewood poplar, of one hundred and forty feet in height, and the same State has also a *Zanthoxylum Americanum*, which is more familiarly known as the toothache tree. In New Jersey there may be found a species of white birch, one hundred and twenty feet high. After these it is quite a contrast to descend to a prickly pear tree of Mexico, which, though rejoicing in the gorgeous title of *Opuntia Acanthocarpa*, is but six feet high. The *Prunus subcordata*, a kind of plum tree, is another sylvan dwarf, and the *Juniperus pachyploca* is also an arboreous pigmy; neither of those Mexican trees being over ten feet in height."—*Smithsonian Trans.*

Antidote to the Poison Oak.—Dr. Colbert Canfield says, in the *Vera Cruz Sentinel*, "that *Grindelia hirsutula*, and *G. robusta*, by being bruised and freshly applied is a sovereign remedy; the Grindelia is used also by the people of the country as a remedy for other cutaneous diseases that are characterized by heat and itching; such as nettle-rash, salt rheum, etc., but I have no other means of knowing its effects in these diseases."

Foreign Intelligence.

HOW TO PRESERVE FLOWERS IN THEIR NATURAL FORMS AND COLORS.

Of late, an entirely new article of trade has arisen in Germany, in the shape of dried flowers. Erfurt, the city of nurserymen and florists, excels in manufacturing bouquets, wreaths, floral decorations for rooms, dinner tables, etc., made of such flowers. We are glad that we are enabled to lay before our readers, the *modus operandi*, by translating for them the following article from the *Deutsches Magazin fur Garten und Blumenkunde.* In return, we should like to hear of any professional or amateur gardeners who try their hand at it, how they have succeeded.

First condition: get a lot of fine sand, wash it till all the soluble particles are gone—you can test it by pouring the water off till it looks quite clear; when you are quite sure of the fact, pour the sand on stones or boards placed aslant, so that the water can run off, and let it get dry either by sun or fire—dry, perfectly dry. Then pass the sand through a seive, so that all dusty particles disappear from it, as there will be such, which washing and drying will not have removed. Then pass through a coarse seive so as to get rid of too large grains. When that is done your sand should be a mass of fine particles of nearly equal size, as is for instance the so-called silver sand, used for writing. Keep the sand in a very dry, if possible also in a warm place, that no vitalizing quality may remain in it.

Now for the flowers—cut them in a fully developed state, taking care that they are neither wet nor moist by dew, rain, etc. If you cannot obtain them in any other condition, which is to be regretted, then the following troublesome proceeding will render them dry. Take one or two flowers at a time and put them into a glass, into which pour just enough water that the ends can stand in it; the flower will then dry and still suck up water enough not to fade.

Next, get a box or a pot, or anything large enough to receive your flower or flowers; pour sand enough into it that they will stand by themselves, their stems embedded in the sand. And now for that job which calls upon your whole skill and your most delicate fingering; don't be afraid though, practice renders that too a comparatively easy matter. You have to fill up the box above the level of the flowers with sand so that the flowers are completely embedded in it. By means of a tube or a funnel or a seive, just accordingly, you can do it in such a way that every particle of the flower rests in sand, and that your filling up shall not have crumpled or displaced the smallest petal. Of course, such a thing can be done only in a very slow way by a beginner.

And now take care not to shake your box, else the flower inside might get hurt. Carry it to a place both dry and warm that all the moisture in the flower may pass into the sand, which being porous, is in turn acted upon and will let the moisture pass entirely out and get evaporated. Avoid, however, positive heat or the colors of the flower will fade, whilst at too low a temperature the moisture in the flower will not dry quickly enough and so rot it. The warmth should, as a general thing, never exceed 100°.

When you are sure that your flowers have fully dried—a thing a very little practice in touching the box will teach you—the thing is done. Open the box and by holding it in a slanting direction, let so much sand run out that you can lift the flower by the stem; by turning it upside down, shaking it gently, and if necessary, blowing on it, all the sand will be removed, and you have the flower in its most perfect form. A little brittle, to be sure, in such a dry state as this, and therefore requiring careful handling. But a few days' exposure to the atmosphere will have imparted moisture enough to the flower to make it considerably less brittle.

You now see why we cannot do with the larger grains of sand; they would press unequally and spoil the flower, which for ever retains all the marks of such pressure; nor with the dusty particles of the sand, because they, as well as the soluble particles which we have removed by washing, would adhere to the hairy and velvety parts of the flower, would never

be got rid of, and would materially impair the original beauty.

For the same reason, glabrous flowers are no fit "subjects." The very newest feature, however, about this business is that this discovery, how to preserve flowers in their natural state, is quite an old affair, long forgotten, and solely resuscitated by the increasing demand for bouquets.

The Dahlia.—In planting out, I think a few cautions necessary. Always take care to have the ground well-worked and well-manured, and in a sheltered situation. If wet, it should be thoroughly drained, and the beds in such a situation should be raised considerably above the general level. If the soil is dry and shallow, it should have a larger quantity of rich soil and manure added to it. Then the distance from plant to plant should be sufficient to allow room for the the side-stakes—nothing is gained by planting too thick. As a general rule, I would recommend six feet from row to row, and five feet from plant to plant in the row.

When I plant Dahlias out to grow for exhibition, I first drive stakes firmly down just where each plant is to be placed. Then I plant them out; the tall ones in a back row, and lesser ones next, with the lowest growers in front. I book the names of the kinds as they occur in each row, so that no mistake can possibly occur afterwards. When they have made considerable growth, I lay round each plant a mulching of half-rotted dung. This keeps the soil cool and moist; and, when rain falls, or watering is necessary, enriching material is carried into the soil.—*Cottage Gardener.*

Bouvardia longiflora.—This lovely plant produces, at the end of the shoots, a corymb of pure white tubular flowers, with a spreading border to each; and very sweet scented, almost as much so as the common white Jasmine. It grows about a foot high; and produces, when strong, five or six heads of flowers, which last a considerable time in bloom. Like many other plants, when first introduced, it was thought difficult to cultivate, and was treated too tenderly. In fact, it was killed with mistaken kindness. During my travels last summer, I met with it exceedingly well grown, and blooming profusely. I first saw it so managed at the large nursery establishment of Messrs. Fisher & Holmes, at Handsworth, near Sheffield. There the plants were in six-inch pots, and set out of doors on coal ashes, near a hedge, amongst other hardy greenhouse plants, in considerable numbers. Each plant was covered with blooms, and as healthy and robust as possible. No particular treatment was given to it any further than watering, when dry, in the ordinary way. I saw it, also, at an horticultural exhibition at Worksop, equally well grown, and even better flowered. From these facts I have drawn the conclusion, that a more free exposure to light and air is all that it requires. The soil for it consists of a compost of sandy peat, fibry loam, and leaf mould, in equal parts. It is easily propagated by cuttings of half-ripened wood, in sand, under a frame of bell-glass, in gentle heat. May or June is a good time to put the cuttings in. After roots are emitted, pot them off into small pots, shade till they are established, and then gradually harden them off, and place them out of doors till October, stopping once or twice to make them bushy. Then place them on a shelf in the greenhouse through the winter. In March, repot them into four-inch pots, and put them into a cold frame, protecting them from spring frosts. As soon as the weather will permit, place them out of doors, but do not allow them to flower that season. House them at the proper time; and, in March following, repot them into six-inch pots, stopping them in severely. Then, when the frosts are over, set them out of doors again, and every plant will flower profusely. They may then be brought into the greenhouse or conservatory, to display their beauty, and emit their grateful perfume, to reward the cultivator for the pains and care he has bestowed upon them. After that season they may be potted again into larger pots, and treated hardily as before; and will then become handsome specimens for decoration or exhibiting purposes.—T. Appleby, *Cottage Gardener.*

Foreign Correspondence.

From our English Correspondent,

Cannon Hall, Near Sheffield, Eng., December, 1859.

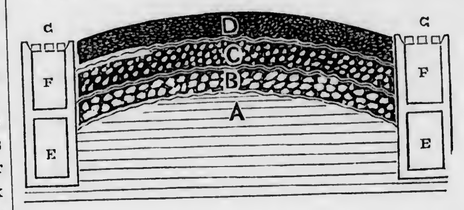
ASPHALT WALKS.

The prejudice which heretofore existed against this kind of walks is now fast passing away, and many of the objections which were urged against them have been so thoroughly exploded, that even where they have not been adopted, they are admitted as desirable. Whoever has been under the *gravel dispensation*, with its unlimited and everlasting weed-producing properties; its hoeing, raking, and wheeling, and cost, both of labor and material, and of keeping, or, at least, attempting to keep it clean; and then the annoyance experienced in damp weather, and in the frost, when it is all but impossible to walk on it. After a continued dry time comes a heavy shower, and away is swept the gravel—not on the walks merely, but on the grass—and then the labor of again replacing and again levelling for the next shower, which, in all probability, will produce the same result, not forgetting the perpetual roller, with its cost and labor. When all these grievances are carefully weighed, and it is known that walks can be made perfectly free from nearly all these objections, we feel quite sure that our progressive brethren will, if only for their own sakes, give the Asphalt a trial.

I must say I was disposed to make some little objection to these walks myself, when we commenced making them, about eight years ago, but experience has proved that most of these objections are imaginary. I thought the first sharp frost would upheave this covering and spoil our work, causing us fresh expense; but, although we have had some very severe frosts during that time, there has not been one square yard, out of many hundred yards of walks, which has been in the least cracked or disturbed by that agent. One of our walks, round a pond and nearly on the level of the water, seems to resist the frost quite as well as others. I supposed that in frosty weather these would be like glass: slippery and unsafe to walk on; but I found them as safe as other walks under similar circumstances, with the advantage of keeping *at all times* and seasons, a uniform solid surface, and after rain, it matters not how much, in an incredibly short space of time it evaporates, because it cannot soak in, and the walks are perfectly dry. I have seen in the Sheffield Botanic Gardens, on promenade days, the company driven into the house for shelter by some sudden shower, and in less than half an hour after the occurrence, I have seen the same party enjoying themselves just as if no shower had fallen; this is no small advantage to ladies and gentlemen who wish to take exercises on their own grounds, also to those who have to do the work. These walks may be wheeled on, when perfectly set, without any disadvantage. We have carted two tons weight on them without damage. Weeds will not grow upon them, and they destroy all worms and snails which happen to get on the surface. The only disadvantage I have found (after eight years' trial) is the unpleasant smell which arises from the gas tar used in forming the walks. This gradually passes away and leaves the walks free from smell. Judging from the present appearance of our walks, and from others (some of them in the public streets), I should say when properly made, they will last from fifteen to twenty years. Perhaps once in three years, where they are required to be kept in high ornamental order, it may be found desirable to swim the surface over with gas tar, and then to sprinkle it, when wet, with "*spar*," and rolled a few times; this dressing keeps the surface in order, and preserves the crust from decay.

No definite price can well be laid down for making these walks, as the material differs in cost in different places; with us they can be made more cheaply than gravel walks, having at the same time all the advantages I have heretofore enumerated. The only possible disadvantage that I can conceive of in recommending Asphalt in your country, is the *possibility* of *your* peculiar winters breaking up the surface; but this event can hardly happen, if the method of forming these as given in the subjoined *practical* remarks be strictly followed out.

Thorough draining, is of course, the first consideration, and one that must be well done, in making new walks. When the breadth of walk is decided on, two drains should be cut as represented at E, in the rough



sketch, the depth of two feet is found generally desirable, as the water cannot penetrate through the walk, it must be conducted from the surface, either into one or two drains. If one drain is deemed sufficient, the walk must be made to incline, or dip towards it, so as to throw the water into the drain. We cannot of course give any but general instructions respecting the depth, width or number of drains required, these must be, and at once will be determined by any practical gardener, who knows anything of his average surface and fall, and underground water. We use iron plates, about two feet long and eighteen inches wide, for taking the surface water. When the drains are cut and completed, some rough, durable material can be used for filling up, (see B in cut) to the level of the drains, supposing that all the foundation soil is removed; over this, about six or eight inches of rough stones, about the size of a large apple, should be spread at C in cut, and beaten down by some heavy instrument, so as to render the material as solid as may be. When this is done, a still finer layer at D must be provided; with us, in the neighborhood of Sheffield, we generally use cinders, broken in pieces somewhere about the size of walnuts; stone is also often used for the same purpose: these must have a large quantity of *gas tar* thrown over them and mixed or turned over, so as to cover the entire surface of all the pieces; when this is done they must be spread three or four inches deep and levelled with a rake, just the same as if gravel was being spread, this must then have a good rolling with a heavy iron roller; perhaps I may say it is quite impossible to roll it too often or too much; when this is done, the drain grates must be laid in their places, allowing a few inches for the next dressings, which is still finer than any of the others, and is either made up of fine gravel, riddled, (to take out the large stones,) or ashes and small cinders mixed. I know

nothing preferable to the latter, and have seen some fine walks made with them. When this material is ready for being spread, it may be laid on in the same manner as the former, having been saturated previously with the *gas tar*. Care must be taken to keep the form of the walk well rounded in the centre (to throw off the water.) A considerable depth of this dressing should be used for this purpose, say four or five inches in the centre, to two at the sides; the grates should be about half an inch below this layer, then the roller again must have a long continued exercise on this; in fact, with us, when we are laying down these walks, we have several rollers and men, who do nothing else but work them from morning till night. If the walks were now to be left, they would be Asphalt walks, but their appearance would not be handsome to look at, their color would be black, and in bright sunshine the heat would be unpleasant. The day after the last dressing, when rolled and levelled, it will, if properly done, be soft enough to take the impression of the foot without showing any of the *tar* on the surface. When too much *tar* is used, it is a long time before it sets well. Then we take a basket of Derbyshire Spar, a white, crystalized, glassy-looking sort of marble; this is broken quite small, (about the size of melon seed, is considered a nice size;) this is taken and sown broad-cast over the walks, just as a sower sows wheat—backwards and forwards until the surface is as light a color as is desired; this must have another good rolling to sink it in and fasten it there so that it may not be washed or swept away; these rollings should be continued after this last dressing, daily passing the roller over them.

Yours Respectfully, W. P.

[A dry, durable and easily kept garden walk is a matter of great importance to residents in the country, and the subject on which our correspondent writes will therefore possess much interest. Can any of our readers give us any information as to the adaptability of gas tar to the purpose *in this country?* We apprehend that the great fluctuations of temperature in our climate would be a difficulty; although we understand that the City authorities of Memphis, Tenn., are making use of a similar kind of pavement for a roadway. It is described as follows, by the Cincinnati *Scientific Artisan:*

"A bed of screened gravel is first laid down, and it is then saturated for several inches in depth with coal tar from the gas works; then the whole is covered with fine sand, which mixes with the tar and gravel, and as it indurates, the surface becomes firm and hard as a rock. As far as the experiment has been made, it has proved eminently satisfactory, and the new pavement is being extended to other streets. From fifty to sixty barrels of tar are required for a block of three hundred feet."

Gas tar is inexpensive, only about a dollar a barrel in this city. There is another material called Asphaltum, which is much used for roofing purposes, and which we should suppose would be less affected by heat and cold. It is made, we understand, by evaporating the watery particles from the coal tar by continued boiling. It is sold here for about 6 or 7 dollars a barrel.—Ed.]

Horticultural Societies.

[The trifling sums awarded as premiums at most horticultural exhibitions are amongst the least inducements to exhibitors; the main-spring is the honor achieved by successful competition. But the honor is a very trifling one, if none but the few at the exhibition be aware of the fact. It is but justice to the competitors that the widest publicity should be given to the awards, and all horticultural societies should look upon it as one of the essentials to their success. The *Gardener's Monthly*, anxious to aid the horticultural societies in their praiseworthy efforts to encourage the popular taste, will cheerfully devote space to their premium awards, if they will furnish with their reports, the *names of the successful kinds of plants, fruits or vegetables*, for the benefit of the general public. If it interests John Smith to read in print that he received the first prize for the best hardy perpetual rose, it interests the public to know that that rose was Lord Raglan, or Bacchus, or what not, and both parties are served.

In future we shall be compelled to omit all portions of awards where the list of kinds exhibited are not furnished us, either by the officers of the society or the exhibitors themselves, and in most cases the first premiums only.]

A Correspondent at Allentown, Missouri, writes—"Our Society has now been organized a year, and is in a very prosperous condition."

HORT. SOCIETY OF NORTH ESSEX, MASS.

We have received a report by which we are pleased to see that this society is in a very prosperous condition.

MEREMAC HORTICULTURAL SOCIETY.

This society, located in the extreme western township of St. Louis County, Missouri, has now past one month of its second year. It is a little the oldest horticultural society in the state; has steadily increased from its beginning to the present, in numbers, interest, and usefulness, and may certainly be regarded as a model institution of its kind, in a comparatively new country.

The Officers for the current year are as follows:—*President*, Dr. A. W. McPherson. *Vice President*, Charles Paffath. *Corresponding Secretary*, Edward Vaughan. *Recording Secretary*, William Muir. *Treasurer*, William Harris. *Standing Executive Committee*, Dr. L. D. Morse, T. K. Allen, Herman Stines. Jan. 5, 1860.

ST. LOUIS HORTICULTURAL SOCIETY.

At the Annual Meeting of this society, on Saturday, December 11th, the following gentlemen were elected officers for the ensuing year, viz:—*President*, Wm. Glasgow, Jr. *Vice Presidents*, W. C. Woodson, E. Mallinkrodt, Jno. H. Tice. *Corresponding Secretary*, Carew Sanders. *Recording Secretary*, John McCurdy. *Treasurer*, Norman J. Colman.

The regular meetings of this society are held on the second and fourth Saturdays of each month, at 2 o'clock, P. M., at the office of the *Valley Farmer*.

Carew Sanders, Cor. Sec.

FRUIT GROWERS SOCIETY OF WESTERN NEW YORK.

The Fifth Annual Meeting of this Society was held at Rochester on 4th of January, 1860. The June meeting will be held at Buffalo, and the September meeting at Geneva.

The Officers are:—*President*, Col. B. Hodge, Buffalo. *Vice Presidents*, J. J. Thomas, Macedon; W. B. Smith, Syracuse; W. R. Coppock, Buffalo. *Treasurer*, W. P. Townsend, Lockport. *Secretary*, C. P. Bissell, Rochester.

The President's address was of more than usual merit and will be published with the proceedings of the society, reports of committees, etc. Our report of the discussions is necessarily brief.

"Is the Dwarf Pear a humbug?" Mr. Pinney, of Monroe Co., knew one kind which certainly was not a humbug: Louise Bonne de Jersey will bear two bushels to the tree; bears better on Dwarf than on Standard; Of 100 acres of pears, I would set half Dwarfs.

Townsend, of Niagara Co.—My crops from Louise Bonne de Jersey dwarf trees have been three to one of any other sort; were I to commence planting pear trees again I would not plant any but dwarf trees, rows 12 feet apart and 6 to 8 feet in row.

Samuel Jay, of Yates County.—In all fruit culture we need a thorough stirring of the whole surface of the ground; a fruit orchard should be a fruit garden, no portion to weeds or grass.

Mr. Coppock, of Erie County, would endorse all that the friends here have said. Don't dig or plow too near a dwarf tree; use only a horse cultivator between the rows and a fork near the trees.

Mr. Beadle, of Canada.—Belle Lucrative as a dwarf has invariably borne very large fruit and fine crops.

Mr. Frost, of Monroe Co.— Duchesse de Angouleme is peculiarly good as a dwarf, bearing from two bushels to three and a half bushels per tree.

Mr. Brooks, of Wyoming Co.—Farmers have their minds set on their potato and grain fields, and they wont attend to their orchards, wont go through with cultivator once in two months. If dwarf pear trees need such good cultivation, don't send them to us farmers.

Mr. Smith, of Onondago Co.—The gentleman might as well advise us not to sell Durhams and other fine breeds of cattle to farmers because they thrive better under care and because cattle sometimes die; yet when cattle are well treated they generally do well, and when dwarf pear trees are well treated they also do well.

Mr. Brooks.—Some gentlemen here have advised that every farmer have at least a few pear trees in his garden. Now what we in the country call a garden, is a place back of the house, where we throw the dish-water, and raise any quantity of pig weeds and a few hills of potatoes. (Laughter.)

Mr. Ainsworth, of Ontario Co.—Had in previous meetings said something against dwarf pear trees, but now allowed that some sorts did better, as dwarfs; Louise Bonne de Jersey, for instance, bears double the crop on same land, flavor better, fruit larger and ripens every year. Vicar of Winkfield bears well and ripens well on dwarf, but on standard is not worth anything. My soil is a good wheat soil, and is well stirred all over once each week with a horse cultivator.

Mr. Yeomans, of Monroe Co., spoke of one-third of an acre of Duchesse d' Angouleme dwarf pear trees, eight years old last Spring, which bore last Summer thirty barrels of pears and netted $500. Four acres of orchard are kept clean as easily as one acre of potatoes.

Mr. Barry, of Monroe Co.—Dwarf bears far earlier than the standard; aged people can plant dwarf trees and eat the fruit from them; is easily removed, not one in a hundred need fail; not liable to any more diseases than the standards; would not advise farmers to plant a great many varieties; some kinds are as easily cultivated as a hill of corn.

Question Second: Best protection of fruit trees from the effects of severe winters—shelter—underdraining, etc., and the hardiest sorts of apples and pears:

J. J. Thomas, of Wayne Co.—In Illinois, the farmers feel the necessity of shelter from severe wintry winds; the more trees are protected from violent winds the better they stand the winter.

Mr. Barry.—In pear cultivation especially, shelter is of consequence, shielding the trees in winter and spring and in autumn preventing the fruit from being blown off. There are plenty of evergreen hedges, larch, spruce, etc., which will grow as fast as your trees do and make an A. No. 1 shelter; mentioned case of two wheat fields, side by side, the protected one had enough better crop to more than pay for its hedge.

Mr. Beadle.—In Canada, the farmers are planting belts of trees at the west sides of their farms; wheat crops improved, cattle protected. Norway Spruce is a good hedge.

Question Third. Grape culture—propagation—grafting—and market value.

Mr. C. P. Bissell.—Grafting the vine during the full flow of the sap is a difficult matter, but there is an old process called inarching, by which nearly all risks are removed with a skilful operator; Root-grafting the grape is not difficult; we "saddle-graft" all our single eyes as to "growth." In 1858 we started our vines in pots, in spring of 1859, after buyers had chosen all they wanted, (and they did not select the poorest,) we set out the balance in the nursery and not one of 700 Dianas died; some of them even bore a little fruit; can a layer bear quicker?

Mr. Hoag, of Niagara Co., likes pot plants better than layers; in 1856 set out little Dianas from pots and they averaged 40 clusters in three years.

Mr. Ellwanger, of Monroe Co., waits until vine has made a fair start in spring, then grafts on level with soil, heaps earth around the junction, covering all the scion except one bud.

Mr. Ainsworth.—Grape grafted in winter like the apple. The advantage of pot vines is that the buyer has every fibre of the root, while from layers many must be cut off or broken off; the pot vine has only to keep on growing, while the layer has to go to work and send out new roots, etc. Delawares which in spring of 1859 were only size of knitting needle, made fifteen feet of growth in summer, have ten times as many fibrous roots as the layers have.

L. D. Longworthy, of Monroe Co.—The first Clinton grape in this country I grafted upon an old vine here, waiting until the sap had pretty well run in the spring; have grafted upon wild vines and had the scions bear fruit in two years.

Mr. Peck, of Ontario Co., thinks that it pays to lay down our grape vines and slightly cover them with earth each winter. A neighbor, whose vines stand in a sheltered situation, gathered 3000 pounds from 1000 vines as the first crop. Another neighbor who left his vines exposed, would have saved one dollar per vine by covering them.

Mr. Ainsworth laid down his vines each year and has full crop, a neighbor who does not protect his vines has partially lost his crop each year. Catawbas are not the grapes to cultivate here—not early enough.

Mr. Barry.—On east or south side of a board fence fruit will ripen better than on trellis or stake; not in danger from mildew if the frame be a little away from the fence; Delaware, last season, grew fifteen to eighteen feet in height.

H. B. Miner, of Monroe Co., never had a really ripe Isabella or Catawba on an open trellis, while on east or south sides of house, both ripen well. Diana ripens well on open trellis.

J. J. Thomas, spoke of Dr. Farley's vineyard—First, it was thoroughly tile-drained; second, plowed and subsoiled; third, lake mud carted on and worked into the soil; consequences—In 1859, when under ordinary circumstances, I did not see a ripe Isabella, Dr. Farley's were fully ripe, rows running north and south, ten feet apart and vines twelve feet apart in the row, trained to wire trellis seven feet high, according to the renewal system; I never saw a sight equal to it.

Comparative merits, all things considered, of Pears, Apples and Small Fruits for extensive market cultivation by skilful cultivators.

Mr. Sharpe, of Niagara Co.—As soon as farmers in our county are convinced that there is money to be made in cultivating dwarf pears they will take good care of the trees.

Mr. Brooks.—The day will come when every holder of land, great or small, shall be considered disgraced if he does not supply his family freely with such luxuries as we see here before us, (waving his hand toward the loaded tables,) and they are the greatest under heaven.

Mr. Barry.—Near large cities, small fruits will be most profitable; where the crop must be packed and sent by railroad, the pears and apples will be best. The apple crop of Niagara county alone was $500,000. There are risks in pear trees, but just think of $18 and $20 per barrel in New York City. To the skilful cultivator the pear offers the greatest inducements. Thinks the pear crop is uniformly more certain than the apple; if tree dies from blight, replace it from a reserve which you have ready.

Mr. Smith.—The taste of the people is being cultivated, and they are willing to pay for good fruit; spears that, a few years ago, sold in Syracuse for $1.00 and $1.25 per bushel, now bring $1.00 per bushel. In planting I would not care to plant any but dwarfs.

Ellwanger.—Twenty-five years ago there were not 100 pear trees in this city; It was in 1835 that I bought the first dwarf pear trees; requires skill and care to grow pears; farmers will, one by one, go into pear culture as fast as they can get the needful information.

Value of Superphosphate of Lime and other special manures for Fruit Trees and Vines.

All who spoke seemed to think that the same money spent in stable manure would produce greater results. The per centage of years that the Peach tree bears in the various portions of Western New York, and what places are best for it?

Mr. Yeomans had not more than three or four failures of his crop in 30 years. An acre of trees, only six years old, bore 270 bushels. Peach needs underdrained soil; each year cuts out about one-third of the top, and gives increased vigor to the centre of the tree.

Mr. Hodge and others.—Near the Lakes the crop scarcely ever fails.

What is the best manner of preparing ground for orchards?

Mr. Smith.—First, underdrain, especially if it be a strong soil. Second, subsoil to at least twenty inches deep. Third, make it rich enough to be suitable for corn.

Mr. Barry has looked at land a good deal this summer; had hardly seen an acre suitable for a nursery without tile draining; tile drains, 3 feet deep and 6 feet apart, cost about $30 per acre.

What is the best manner of preparing and planting trees?

Mr. Yeomans.—Before the tree is planted cut off all the branches so as to restore balance between top and roots; new branches will be thrown out in abundance; apples should be pruned, so that lower limbs are full five feet from ground; plant the tree forty feet apart each way, and the peach trees alternately in rows.

Mr. Barry.—In planting dwarf pear trees, best to cover the stock as high as the union of the pear with the quince; trees with low heads are best whether here or on the prairies; no tall trunks for leverage.

B. Fish.—In planting my orchard, found that those which I cut back most in planting, came on best and made the best trees.

Langworthy.—Some gentlemen advise plowing in orchards; I never plowed except I heard the roots crack; would never advise anything heavier than a common cultivator.

What is the most suitable age for planting fruit trees?

Hodge.—Peach one year from the bud is better than older. Cherry, two years from bud and only 4 to 6 feet high. Pear,

dwarf, two years from bud. Pear, standard, from 6 feet in height Apple, 3 to 4 years from graft and about 6 feet high. In smaller trees we are more apt to get all the root-fibres, the spongioles which do the real nourishing to the roots and tree.

Langworthy.—Danger in buying a peach tree older than a yearling is that they may have the borer in, while the yearlings never do. If you have not got the borer you need not have them—only do not buy them.

Is Spring or Fall Planting preferable in dry soil?

Mr. Frost.—Apple, Pear, Plum and Cherry plant in fall. Peach, in spring. Planter has whole season to get ground ready for fall planting.

Mr. Bloss, of Monroe Co.—The alternations of heat and cold are so sudden and violent in the spring that the season is not to be depended upon. A tree planted in the fall gets fixed and ground well settled and ready to grow in spring almost like an old tree.

J. J. Thomas.—One advantage of spring planting is that the ground has recently been stirred; cultivators who never cultivate had better "plant in the spring."

A Committee was appointed, who brought forward appropriate resolutions as to the death of David Thomas, the botanist, the pomologist and the Christian gentleman.

The Society adjourned to meet in Buffalo, in June next.

ANNUAL MEETING OF THE CONN. GRAPE GROWER'S ASSOCIATION.

The association met at 7½ o'clock, in the City Court Room.

David Clark, Esq., President, read his annual address, which spoke of the importance of the grape culture, &c. A marked improvement in the quality of native wines was noticed at the last State Fair, but much wine was spoiled by the addition of sugar, and became simply cordial. He concluded by referring to the past success of the society, and hoping for still greater results in the future.

M. C. Weld, of the *Homestead*, read a paper on Grapes. The Diana, Isabella, Hartford, Prolific and Concord are those recommended by the Association. Of the Hartford Prolific he spoke highly. The Catharine is a native of this city. A number of Connecticut seedlings were found to be worthy of cultivation. A grape had been brought from El Paso, the clusters of which sometimes weighed 20 pounds, had been brought to domesticate in this climate.

Rev. Mr. Loveland, of Granby.—Think it is not well to manufacture wine from Fox grapes without sugar. With cultivated grapes wine had been made without sugar which was of good flavor and improved with age. The intoxicating quality is possessed in a great degree by the best native sweet wines. By using pure native wines, we drive out the poisonous, injurious liquor.

S. B. Case, of Canton—Gave his experience in making wine. First used four pounds sugar to the gallon—found it too much, and gradually came down to *no* sugar at all. Made 60 barrels last year. To a keg of pure juice I added 1¼ lbs. sugar and three gallons of water—it made a very good "dry wine." From cultivated grapes, fully ripe, I think wine may be made without sugar. Wild grapes do not generally mature perfectly, and some sugar is needed. His "Crystal White Grape" was found wild in a swamp, and cultivated. It is white and transparent.

Col. Dewey spoke of the fruitage of the Rebecca.—He had but one year's experience, but the fruitage was satisfactory, and it promised to be prolific. It grows slowly at first, but afterward becomes very thrifty. Noticed the same fact with regard to the Delaware grape. Both were proved to be hardy vines.

E. A. Holcomb, of Granby.—Kept grapes in good condition very late in the season, by packing in layers with newspapers between. Sawdust is next best, and cotton third. Kept in cold chamber, as he would apples.

Mr. Dyer's opinion was that they should not be packed in any thing of an absorbent nature.

T. A. Mead, of Greenwich.—Had a friend who kept grapes very late—till New Years. A cool temperament was very important. Had kept apples in the same way months after maturity.

Mr. Loveland.—It is important to avoid the gathering of moisture among the fruit. Laid down in dry cotton they kept well.

David Clark.—Adopted two methods—first by laying in alternate layers of dry cork dust, second by similar layers of cotton batting; the cork dust proved best. Grapes kept very plump as late as April. A neighbor of his had kept them very fresh till the last of April, in cotton batting. Grapes and packing must be perfectly dry.

Mr. Weld moved that the four grapes recommended by the association last year, should be adopted for this year, in the same order—Diana, Isabella, Hartford Prolific and Concord.

A vote on the question changed the order, as follows: 1st, Diana; 2d, Hartford Prolific; 3d, Isabella; 4th, Concord.

The Association then proceeded to the choice of officers—Mr. Clark declining a re-election—with the following result:

President—Col. D. S. Dewey.

Vice Presidents—C. S. Middlebrook of Bridgeport and E. A. Holcomb of Granby.

Secretary—M. C. Weld.

Treasurer—Richard H. Phelps.

The following resolution, among others, was discussed and adopted:

Resolved, That the samples of wine exhibited at this meeting show a decided superiority over those of the last year.

MEETING OF FRUIT GROWERS AT WILMINGTON, DEL.

A Meeting of persons interested in Fruit culture, was held at the office of Dr. Norris, on Wednesday evening, December 7th, 1859, when, on motion of Dr. Asken, Hon. John Wales was called to the Chair, and Dr. Norris appointed Secretary pro tem.

The President, in a few remarks stated the object of the meeting to be the formation of an association, with a view to the encouragement of the culture of fruit. He, in his usual happy manner, alluded to the mutual advantage accruing to members from a discussion of the different varieties of fruits, and the great benefit to be derived from a comparison of views, and the advantages to be derived from a society where the members were practical men, would be very great. Other gentlemen present concurred in the views expressed by the president. After quite animated discussions, the meeting adjourned to meet at the same time and place, on Wednesday, December 21st. Geo. Pepper Norris, *Secretary.*

Adjourned meeting held at Dr. Norris', December 22d, 1859. On motion of Mr. Taylor, it was resolved that a society for the promotion of fruit culture be organized. Edward Bringhurst presented samples of Pears—Glout Morceau, Beurre d' Aremberg and Winter Nelis; last was very large and fine, without skin, most equal to Bartlett—well kept. Mr. Taylor asked if he should plough an old orchard. Ploughing and top-dressing with well rotted manure, in fall, recommended by E. Bringhurst and Dr. Norris. Wood ashes, strongly, by E. Tatnall, had applied at rate of 400 bushels to the acre. Tangny thought plowing would do no harm even if roots were slightly injured, root pruning increases productiveness. Mr. Sayers related his success with Seckel pears. Dr. Bush knew some kinds improved with oxide of iron. Ely's pear trees were in iron soil, and no smother barked trees or better apples were produced in Delaware.

Can Pears be grown for market on Dwarf?

E. Tatnall said it was too early to tell. Dr. Beech knew first dwarfs here, fifteen years ago; they fruit annually and show no symptoms of decay.

Grapes—Delaware. Dr. Banks', no growth. Dr. Norris thought they would pay with proper culture. Tatnall's, sixteen feet. Diana—universally agreed to recommend. Rebecca—doubtful; Taylor's had made good growth. Tanguy's had all died.

Strawberries, etc.—A few words about strawberries terminated the remarks for the evening.—Wilson's Albany, McAvoy and Hovey, all had admirers. Mr. Tatnall alluded to a very promising Wilmington seedling, whose merits have not yet been made known to the horticultural public.

MISSOURI FRUIT GROWERS' ASSOC'N.

This Association held its Second Annual Meeting, at Jefferson City, on the 29th and 30th of December last. The interest in the Association continues undiminished. Grape culture is rapidly becoming a matter of paramount interest, to Central and Southern Missouri especially. The Officers elected for this year are as follows:—*President*, Norman J. Colman. *Vice Presidents*, Dr. A. W. McPherson; Prof. Geo. C. Swallow; Gen. M. Horner; Dr. Mc Guire; W. C. Price; E. Burden, John Dedrick. *Corresponding Secretary*, Dr. L. D. Morse, Allentown, Mo *Recording Secretary*, William Muir. *Treasurer*, Dr. C. W. Spalding. L. D. M.

January 5th, 1860.

OREGON FRUIT GROWERS' ASSOCIATION.

The second annual meeting of the "Oregon Fruit Growers' Association" was held at Salem, Oct. 5th and 6th.

The display of fruit was universally conceded to be very fine and very extensive.

The collections of the different exhibitors mostly comprised specimens of all the leading varieties grown in the State. On the stand of Mr. T. B. Ricky, we noticed a *Blue Pearmain*, measuring 15 inches in circumference, and on Mr. Wm. Cox's stand a *Rambo*, 14½ inches in circumference. The largest Peach on exhibition by Mr. J. L. Parrish, measured 9¼ inches in circumference, of good flavor. Of grapes, J. W. Ladd, of Yamhill, had the largest and choicest collection, comprising the *Royal Muscadine, Diana, Isabella*, &c. Among the really *nice* things, was a bouquet, comprising 36 varieties of Dahlias, presented by Mrs. Philip Ritz, of Benton County.

HORT. SOCIETY ROYAL OF BRUSSELS.

At the last grand exhibition there were twelve species of Anœctochilus exhibited, and splendid collections of leaf plants; amongst the newer kinds, not already named in our pages, were Bœhmeria argentea, Aristolochia leuconeura, Tradescantia cupreata. The Roses in pots are spoken of as splendid objects.

ABIES WILLIAMSONII

DRAWN ON STONE EXPRESSLY FOR THE GARDENER'S MONTHLY

THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, Editor. MARCH, 1860. VOL. II.---NO. 3.

Hints for March.

FLOWER GARDEN AND PLEASURE GROUND.

Pruning of Roses and other flowering shrubs will be the first operation in order. In the "summer" roses, or those which bloom only once in the season, the rule is to thin out the weak shoots and leave the stronger ones, merely shortening their tops. If pruned severely in the usual shortening style, they will not bloom freely. The hybrid perpetual roses, if wanted for early flowering, should also be served much in the same way; but as their chief value is as fall flowerers, a severe pruning now produces a vigorous autumn growth, bearing large and luxurious blooms. The Tea, China, Bourbon and Noisette roses which flower best on young wood, should be well cut in.

Pæonies, Dicentras, and other hardy herbaceous plants that have been two years in one situation, should be taken up, divided and reset in new soil, if the finest flowers are desired. There is a growing revival of the taste for beautiful herbaceous plants, which the Frenchy fashion of growing a few kinds in masses for mere gaudy display, had well nigh annihilated. Herbaceous plants take a little more tying and fixing through the summer, but make up for it by variety and peculiar interest.

The edges of walks, beds and borders, should have their annual edging—not cut deeply down like a wall, but as neatly and shallow as possible; a good eye is necessary to avoid harsh lines; and a very sharp spade, or what is better, an edging iron made for the purpose, employed. Walks should be forked up with a drag or fork hoe, and an additional fine coat put on the gravel where needed, and then rolled over. The wetter the gravel, the better for the rolling operation, provided it is not wet enough to adhere to the roller. It is bad policy to have more than half an inch of sand on the stone bed of a carriage road, as it cuts in too deeply in wet or frosty weather. In foot walks it is not so important, as the rounding of the centre throws off the water to the sides, and it soon dries hard after a rain.

Where box edging is employed, it often becomes too large and thick after having remained some years in the one place—now is the time to take it up and relay it. After digging up, the lower roots are cut off with a hatchet, and the young top shoots squared with a sharp knife. The border is then tramped hard and firm, made level or plane on the surface, a smooth cut down three or four inches into the soil, made with a sharp spade along the face of a line stretched on the surface for a guide, and then the box set in with the hand, neat and level, finishes the process. The surplus box can be sold or exchanged with the nurseryman, or employed elsewhere in the ground. Laying of turf and sodding should be forwarded at the earliest opportunity after the frost is out of the ground; the earlier it is done, the better will it be during the season following.

It used to be the universal practice to dig up amongst shrubbery clumps at this season of the year, "to let in the air about the roots," but a light dressing of well rotted manure, raked in with a coarse rake over the surface is now preferred by all the principal European gardeners, and will no doubt prove as good here.

In the more favored latitudes, where cold wintry winds are not likely to occur again this season, planting may at once commence; but otherwise wait awhile. A bitter north-easter coming soon after a tree has been transplanted, leaves it but a poor chance for its life; evergreens especially, from the great amount of evaporating surface their leaves expose, are particularly to have attention in this respect; hence, in this latitude, few good planters remove evergreens until April, and many not till May; when, if the roots are healthy and the plants vigorous and thrifty, they often do better than at any period of the year.

Nothing adds so much to the beauty of a place as plenty of shrubbery. This is the season for putting in cuttings; many kinds growing easily so. The

pieces are cut to about six inches in length usually, and inserted about two-thirds of their length in the soil—much left out of the ground exposes too great a surface to the atmosphere, and if the cutting does not dry up altogether, it is a long time rooting.

Chrysanthemums are now indispensable for autumn decoration of the flower garden. Now is the time to procure a supply. They do well in any rich garden soil that is not too dry. The Lilliputian, or Pompone class are still popular for conservatory or pot culture, but the large flowering kinds still remain the gems of the open ground.

Hyacinths, Tulips, Liliums, and other hardy bulbs set out in the fall, and covered through the winter, should be occasionally examined, and when they show signs of active growth, must be uncovered; in this latitude this is not safe until towards the end of the month.

Whenever it is prudent to accomplish the last feat, hardy annuals may also be sown; the earlier they can be started, the finer they flower. Sometimes, after sowing, cold wet weather ensues, when the seed, if it is started at all, is liable to rot. It is best to save a few seeds in each packet, and in two or three weeks after sowing, go over and scatter in the places where the other portion was sown. Every place where seed is put in should be marked, and with the kind; when the border plants are then set out, the annuals will not be disturbed. A change of soil occasionally is beneficial to the flower border. With some kinds of flowers, the Verbena for instance, a new soil is a great luxury, for which they will be very grateful to you. The first two inches of the surface soil of an old pasture, mixed with about a third of the surface soil of an old wood, makes an excellent medium to grow border plants in. Not the mere rotten leaves from a wood, but the dark, black *humus* in which the roots of the trees, and other rank vegetable roots, have already began to run riot among.

The improvements that the last few years have made in the Hollyhocks have rendered them very popular for ornamenting shrubbery borders, to which they add very great interest, and are peculiarly appropriate. They may be transplanted quite early in the season, and flower the more freely for it. They are propagated by dividing the roots in the Spring, or by seeds sown as soon as ripe in Summer. The choice kinds are increased by eyes made by cutting up the flower stems. These are struck in a gentle bottom heat.

VEGETABLE GARDEN.

This is a busy season south of Pennsylvania in this department; here, we must wait till the end of the month, and northward, still later. The crops noted, will, of course, be dependent on the arrival of the *season*, which is rather indicated by the ground becoming warm and dry, than by the almanac. It is very important to have crops early; as soon as the ground is therefore in good condition put in the seed. Possibly a cold rain might come and injure them and you may lose, and have to make a new sowing. Even so, it is but the loss of the seed and labor, while if the seed do *not* die, the early crop will more than repay that risk.

In the hotbed, Pepper, Egg-plant, Tomato, and Cucumbers may be sown,—and in a cooler hotbed frame, Early York Cabbage, Cauliflower and Celery. Those who have not got a hotbed can sow a few pots or boxes, and keep them near the light in a warm room.

In the open air, Peas and Potatoes are about the first crops to be attended to; of the former, the varieties have now become so numerous that even "new grapes" will soon have to give way in that respect. The difference, too, is so slight that we are in doubt whether yet to recommend to our readers any other as the earliest than the Prince Albert, so long cultivated, or the "Extra Earlies" of our own seedsmen. The "Daniel O'Rourke" has become *the* early pea in England, as we see by foreign journals; but we cannot see that it is materially, if at all, different from the Extra Earlies so long grown here. It may be the same thing taken from here, re-baptised, and sent back again to help swell the $700,000 which Staticians tell us we sent to Europe last year to pay for our annual little bill of "garden stuff." Of early Potatoes, we think Fox's Seedling is the earliest, though in some localities the preference is given to the Early Walnut. Beets, the Early Six Week Turnip rooted, is perhaps the earliest. Carrot, the Early Horn. Cucumber, the Early White Spine, or Early Cluster. Lettuce, the Silesian, or Early Curled—to cut before heading; and the Early Butter left to head, are the first in season. Amongst the Radishes, the Old Short Top, and Red and White Turnip are still ahead; and in Spinach, the Old Round Leaved; so that on the whole there has been little advance made on early kinds of vegetables.

In addition to sowing of the above, Onions, Leeks, Parsnips and Parsley must be sown at this season—not for the main crop, but to have a few in advance of the rest. To keep over the winter, almost all kinds of root crops become tough or coarse if sown too soon.

The old Green Globe Artichoke, though a delicious vegetable when rightly cooked, is seldom seen in gardens. Now is the time to make beds; they require no peculiar cultivation; what would suit a crop of rhubarb, does for this exactly; and the rhubarb—see that your garden is well supplied; now that it

can be dried like apples, and preserved in so many ways, it can be had on the table all the year round.

FRUIT GARDEN.

Pruning of most kinds of fruits has been accomplished through the winter; it is customary, however, to leave the peach till towards spring, in order to cut out any wood that may be injured through the winter. In other respects, the peach should have little pruning at this season, as it tends only to make it grow more luxuriously, and a too free vigor of growth is a fault of the peach in this climate. The only pruning admissible, is that which has for its object the production of shoots in naked or desirable places.

The Strawberry, where it has been covered during the winter, should be uncovered as early as possible in spring, that the warm spring suns may exert all their influence on producing an early crop; as soon as growth commences, a sowing of guano has been found to be of great benefit to the crop of fruit.

Raspberries and Blackberries may be planted towards the end of the month; they should be cut down to within a foot of the ground at planting; they will, of course, not then bear the next season after planting. But this is a benefit; no fruit tree should be allowed to bear the same season.

And it may be said of all fruit trees, they should be severely pruned at planting, and every other means resorted to in order to produce a vigorous healthy growth. Fruit, worthy of the name of fruit, is the result of healthy growth, the season previous, and it is impossible to obtain both the same season of planting. If any fruit set in a transplanted tree, it should be remorselessly torn off and cast away.

As we write, reports are reaching us from the Western States of an almost total destruction of peach and apricot buds, by the severe weather. Our friends will yet find it to their interest to take "trouble" with a few trees, and train them to stakes "*en espalier*," by which they can readily be protected by branches, from the sun, which is the cause of the injury by its shining on the frozen buds. Those who have such trees on boards or fences, should take measures to protect the flowers from the warm midday sun.

The currant forms very beautiful objects trained "*en espalier*," and are very convenient to protect from birds, or to shelter from sun and dry air when it is desirable to keep back the fruit until a very late period of the season.

VINERIES AND ORCHARD HOUSES.

In the early houses, towards the end of the month, grapes will be about setting their fruit—one of the most critical periods of the course. Many excellent gardeners object to syringing at this period, but the experience of others, given in our last year's volume, shows that it can be and is done, in some cases, with great advantage. The fact is, when a vine is perfectly healthy, a course of treatment that would be injurious under other circumstances, may be even advantageous to it, and so, treatment must, in a great measure, be regulated by the state of the vine. The roots must especially be maintained in a healthy state, which may be known by a free and vigorous pushing forth of strong fibres in every direction through the soil—and then these roots can only be continued healthy by carefully protecting the leaves from injury. The least injury to the leaves has a corresponding influence on the root. If, therefore, all sudden changes are avoided, either at the roots or about the foliage at the time of setting, so that the roots are allowed to progress without interruption, there will be little danger of grapes or any other fruit not setting.

While fruit trees are pushing forth their young growth, forcing houses can scarcely be kept too moist. As the wood hardens, the atmosphere must be kept gradually drier.

Above all, in forcing, *take care of the leaves*, and in all your operations let it be your first care to look after them. In pinching and stopping off vigorous shoots, the object should be to throw the sap's influence into the weaker shoots to make their leaves stronger and larger, so that the whole effort of the tree should be equalized—no shoot should be allowed to grow stronger than another, but should be taken out at once as soon as its ambitious tendency is discovered. The tubs or pots containing the trees should be frequently turned around, so that all parts of the tree may have equal advantages; "Liberty, Equality, and Fraternity," should be the watchword of their government, and every branch trained to do no injustice to its neighbor. Frequent potting or retubbing is of no material importance; manure water and top dressings will do the work. We have had peaches, cherries and figs to remain many years in the same tubs, bearing fruit annually as freely as could be desired.

Grape vines from eyes may now be propagated. Cut the shoot immediately above an eye, and about one inch below. Mix them with slightly damp moss for a couple of days or so, and then insert up to the buds or eyes in sand with a bottom heat of 70°. Native grapes having harder wood may be retained in the moss for two weeks, when the wood will be softened sufficiently to strike root at once.

GREENHOUSE PLANTS, &C.

Dahlias should now be brought forward. A good plan is to shorten the extremity of the roots, put them in six inch pots and place in a warm greenhouse. In a few weeks they will sprout, when they should

be shaken out, divided with a piece of root to each sprout and separately potted in 4 inch pots.

Camellias will require rather more water while growing than at other times. Just before they grow is a good season to graft. Cut down the stock, cleft graft in the crown, wax, and plunge in a bottom heat of 70°. A great many kinds may be had on one plant by the bottle system, practised by the writer's father, thirty years ago. A shoot about to grow is obtained and attached to the stock as in inarching, the end of the shoot being put in a small phial of water suspended beneath it. This plan does best, however, with the young wood in July.

Azaleas succeed well by grafting with the half ripe shoots of the present season's growth on plants raised either by seeds or cuttings. Old wood does not take readily.

Chrysanthemums should now be raised from cuttings for fall flowering. They make better blooming plants than off-setts.

Fuchsias may now be readily struck from the young growth from the old plants, which will make excellent blooming plants for the next summer season.

Geraniums, Pelargoniums, Cinerarias, and Chinese Primroses must be kept as near the glass and light as possible; they do little good in shady places. Keep off the green Aphis—for this on a small scale there is nothing like hot water, as described in our last volume; on a large scale, tobacco-smoke in several successive light doses is still the best remedy.

Auriculas, Carnations, Pinks and Polyanthus—the prettiest of florist's flowers must be kept cool, just free from frost, with plenty of air if the best results are desired.

New Holland and Cape plants, such as Epacris, Acacia, Heaths, etc., are now the glory of the greenhouse; hot bursts of sun on them should be avoided, as it lays in them the seeds of "consumption," which frequently carries them off the following summer.

Look out for a good stock of bedding plants in time: by striking cuttings of such things as grow rapidly and speedily, and sowing seeds of such annuals as may be advanced to advantage.

Pansies are coming now into flower. They like an airy frame, where they will not be roasted at midday nor exposed to drying winds, and yet have a free circulation of air and plenty of light. Planted out in such a frame, and the old shoots cut away as soon as the plant has done flowering, the plants will keep healthy over till the next season.

Superior varieties can be raised from seed. Choose those with the roundest petals, best colors, and the first flowers that open, to raise seed from.

Communications.

HISTORY OF THE BULLITT GRAPE.

BY DR. E. TAYLOR.

One word more in regard to the Cuyahoga Grape. I see, from my name having been associated with its introduction, that it has got mixed up in the minds of many that it is the same as the Bullitt or Taylor Grape, noticed in Mr. Samuel Miller's Catalogue and in some other publications. This is a mistake entirely. While on this subject, let me say that I hope I have no doubt but that friend Miller will drop the "Taylor" from the Bullitt grape as he appears to be the only one that so calls it, and it has been known for some time as the Bullitt.

As this grape is likely to elicit considerable attention, I will, with your consent, give its history as stated to me by Judge Taylor, of Kentucky, who has introduced it to public attention. A number of years since, a Mr. Cobb, passing from the southern part of Kentucky to Virginia, when on the Cumberland Mountains, near the line between Kentucky and Tennessee, observed a vine growing over a bush near the road, full of grapes. He rode up to it and gathered to his satisfaction, and was so much pleased with the fruit that he marked the spot, and on his return in the fall, dug it up, and took it home, and planted it out on his farm. He afterwards sold the farm to a Mr. Bullitt, and in conversation with Judge Taylor (who is a most enthusiastic pomologist) mentioned this vine. They immediately called on Mr. Bullitt, hoping to obtain some cuttings, but found that the vine had been so trampled down by the cattle that there were no cuttings; but Mr. Bullitt very kindly insisted on his old friend and neighbor Judge Taylor, digging up the vine and taking it, which he did, and has been amply rewarded by having the best table grape, he thinks, which he has ever tasted. He describes it as being a white grape, nearly as large as the Catawba, remarkably sweet and ripening some fifteen days before the Catawba, vines perfectly hardy, very strong grower and easy to propagate, and never mildews. Other persons who have seen the fruit, concur with him as to its quality.

[Other parties unite in hoping that the name Taylor be dropped, and the original name Bullitt be retained; which, we trust will be done.—Ed.]

LINUM GRANDIFLORUM RUBRUM.

BY JOSEPH KIFT.

Last summer, you recommended the *Linum grandiflorum rubrum* as a bedding plant. I lift mine on the approach of cold weather, and set them in the greenhouse, where they bloom till spring, and in my experience, much better than out of doors. I have tried them two winters and consider them quite indispensable.

HARDINESS OF CHINA ROSES.

BY CHARLES G. PAGE, WASHINGTON, D. C.

By China Roses I mean Teas, Bengals, Noisettes, and their intermediates. There is something very peculiar in respect to what is usually termed the "hardiness" of these roses. Several years since, I ventured the opinion that their hardiness was quite circumstantial; that is to say, they were hardy or not according to circumstances, and experience since that time has convinced me that many of these roses, which are generally considered tender, are, in reality, very hardy. The China Roses will frequently bloom out of doors in this region, after exposure to a temperature of 24° Fahrenheit, and the foliage will appear to be unharmed by a temperature still lower, if not too long continued. This looks like hardiness, and in what then consists their tenderness? And is it not possible to make them always hardy?

The extreme activity or tendency to grow and bloom, even at very low temperatures, seems to beget the tenderness of these roses, and it is reasonable to infer that if at proper times this tendency should be checked by any means so as to allow the wood and buds to mature before winter sets in, they would endure great cold without injury. It is well known that when these roses are set with a northern exposure, they are less injured than when exposed to the sun. They stop growing early, and the sap is quiet during winter. But we must have our roses in all kinds of exposures; and it is difficult to imitate the north exposure by temporary shade. We can do this however to some extent by a shade of pine or cedar brush, but it would be unsightly to retain such kind of shelter throughout the year. Cutting the roots or a partial lifting of the bush might have the desired effect if done in season, which should be before the hard autumnal frosts: in this region, about the latter part of October. Some years since, I noticed that a Solfatarre, which had been transplanted in the fall, escaped injury in the winter; while one near it, and undisturbed, was killed close to the ground. There is probably no variety of rose that will endure a temperature of zero Fahr. upon unripened branches, and expanded leaf buds; and there are probably very few roses that will not endure this temperature provided the wood has been fully ripened and the buds are all dormant and the sap quiet. The Gloire de Dijon is an excellent illustration. It belongs to a tender family, but is perfectly hardy here. Its hardiness is not, however, entirely intrinsic, but depends upon its habit of growth. Unlike Teas and Noisettes generally, it stops growing in the fall, and is not apt to be quickened again till the spring. It prepares for winter like a Remontant, and has proved itself here more hardy than the majority of Remontants. In that rigorous winter of 1855-6, it stood better than La Reine, Madame Laffay, Wm. Griffith, and others. This winter has been thus far very destructive to Teas and Noisettes, but the Dijon is unharmed. The bush recently described to you upon an east wall of the house, although it grew 75 feet the past year, exhibits no appearance of injury. Another bush upon a south wall is somewhat injured, and one upon a north wall is not injured in the least. The new rose America is somewhat injured in consequence of unusual activity late in the season, but where it was not over stimulated and ceased growing early, it is unharmed; showing a hardiness nearly equal to the Dijon. Solfatarre, Cloth of Gold, Augusta, Ophir, all of which were unharmed last winter, are now cut down close to the ground. All the Teas and Bengals and some of the Bourbons are also destroyed to within two or three inches of the earth; White Microphylla also is much injured, and Fortune's Yellow, a tender once bloomer, nearly killed out.

It is not amiss to mention here that Peach trees are much injured, many of them killed entirely. The winter has not been so very cold, but its vicissitudes have been such that vegetation must suffer sorely in this region.

IS SLOW GROWN TIMBER THE TOUGHEST?

BY W. ADAIR, ADRIAN, MICH.

I feel like taking exceptions to the editor's remark in the answers to correspondents, in the January number, when he says, "Usually, the more climate or soil favors a luxuriant vegetation, the more brittle any given wood becomes." Now this does not coincide with my experience. That a strong succulent growth is more likely to be injured by a severe winter, is true; but if a good hard and tough piece of timber is desired, select it with a large grain, viz: that which has made the most rapid growth; this is the rule always used by me, in selecting a spade, for instance, where the handle is full as important as the blade, the timber that is the most rapidly grown takes my money.

[Some years ago, in perusing some reports of the English Admiralty Office, we came across some accounts of experiments made by their orders, on the relative strength of slow and rapidly grown British Oak, for shipbuilding, and the result favored the former. Our ideas were formed on those experiments.]

CHARCOAL AS A BLANCH FOR CELERY.

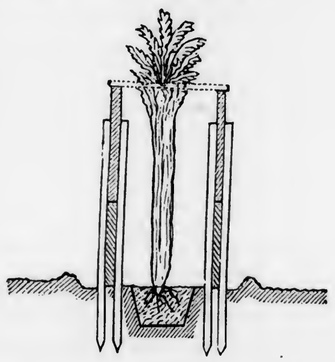
BY NOVICE, GERMANTOWN, PA.

Permit me to coin a noun, expressive of a new use to which I have lately put this useful substance.

As a *mulch*, its value is universally recognized.—As a *Blanch*, I find it superior to any material I have

ever tried, including earth, dry sand, saw dust, tanbark, leaves, hay litter, &c. Its advantages are manifold; no slug or insect will harbor in it, it drains perfectly, retains the solar warmth without overheating the plant, absorbs all the ammoniacal gases arising from the application of liquid or other fertilizers, will not rust the stalk, is easily washed out of the celery when dug, and can be used many times over with little loss. By proper management, also, two rows of celery may be grown where one is by the old method.

Dig trenches 2 feet apart, about 8 inches wide, and 6 deep, and *fill up to the level of the ground*, with a rich compost of loam, well decomposed manure, and *tanners' hair refuse* (the latter being the best possible food for celery, and obtainable at the same price as stable offal) and set out the plants about 8 inches apart, in single rows. On either side the rows, about 6 inches distant, commencing at one end, drive two stakes, say 3 feet long, and 1 to 1½ inches square, 1 inch apart, to allow a board to slip in between them, and repeat the stakes, at intervals of 5 feet, or thereabouts, the entire length of your rows of plants; then, between the stakes, put boards 12 to 14 inches wide, and a piece of board at each end of the trench, connecting their ends. See figure 1.

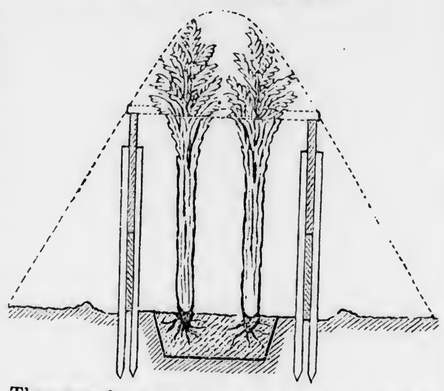


The young plants will need shading for a few days after transplanting, if the trenches run North and South,—if East and West they will not require it.

Draw the earth slightly away from the base of the boards, to form a *feeding trough*, into which pour liquid manure, frequently, during the growing season. When the leaf of the *central stalk* or *heart* of the plant shows itself above the board, fill in the whole space with coarsely pulverized charcoal (cinders from the smoke stack of locomotives, or the braise of old charcoal hearths,) holding the stalks snugly together in the left hand while filling in with the right.

After a few days, place a second set of boards, which may be connected by cross pieces nailed on at intervals on the top of the first, and repeat the blanching as before. I have found two blanchings to be sufficient.

For winter celery the trenches should be dug 4 feet apart, 1½ feet wide, and the plants in two rows, 9 inches asunder, as indicated in figure 2.



They may be banked up in the usual way, first throwing a little litter on the top. Celery thus treated will keep perfectly; the loose texture of the charcoal preventing its becoming solid by the action of frost.

It may be objected that the above plan is more expensive than the traditional method, but it will be found productive of so much higher quality, longer blanched stalks, greater crispness and whiteness, and certain exemption from rust or decay, as fully to warrant the *apparent* increased outlay. If the boards are well coated with gas tar or good boiled linseed oil they will last many years; and the charcoal is worth, for general garden purposes, more than its cost, if not required again for blanching.

DATURA ARBOREA.

BY A WORKING GARDENER, BROOKLYN, N. Y.

Mr. Editor:—Amongst all the plants I have ever grown, I think the Datura has still the strongest hold on my affections; new plants appear annually, many of them beautiful, and in many respects desirable, but for a combination of good qualities, give me this.

I think my mode of treatment is not common, and if you think so too, I should be pleased to see it in the *Monthly*.

The first week in May, I take a rich piece of garden ground, and turn out a young plant into it, choosing a conspicuous spot for it to show off its beauty to the best advantage. It soon begins to grow rapidly, and should be kept to one straight stem, all the side shoots being taken off as they come. In August, the

flowers begin to appear, and produce a succession of immense pure white and exceedingly fragrant flowers until frost. On the approach of cold weather, I procure a box, a soap or any other case will do, take up the plant, and I plant it therein, first divesting it of its head, all the leaves and succulent parts, then give it a good watering, and place it in a dry cellar where it will be secure from frost.

In May, the next year, I take it out and plant as in the former season, and carefully keep off all suckers, or any shoots except those which are to form the *head*.

When these head shoots have pushed about six inches, they are stopped off, which makes them still more bushy, and in the fall following, the flowers will be produced in the greatest abundance, and produce a most gorgeous effect. In the fall they are treated, and preserved in the cellar, as in the past season.

Treating it as a *tree*, and growing it in the *open air*, I consider the main points in which my practice differs from all others I have seen; and then I do not think it is generally known that it can be safely taken up and wintered in a cellar.

I have frequently heard gardeners speak of the difficulty of propagating this plant, the succulent stems rotting off so easily. My plan is, when I take up the plant in October, to save the succulent pieces, cut off the leaves, and lay the green stems by under the greenhouse stage, for two or three weeks, until they become partially withered. They are then planted in pots with common soil, and seldom miss. The plant is often called Brugmansia suaveolens, pray which is the most proper.

[*Datura arborea:* the genus Brugmansia does not essentially differ from Datura. We shall be glad to receive the similar favors promised on other plants. Like our correspondent, we think this old plant one of the most beautiful; and must say it deserves to be as common as an oleander or an orange.—Ed.]

SHALLOW PLANTING *VERSUS* PLANTING RIGHT.

BY JOHN QUINN, TROY, N. Y.

Mr. Editor:—Having planted several thousand trees of all kinds in this country, and invariably made it a rule never to bury the collar below the surface, believing that every inch the collar was so buried was a notch in the wrong direction, and being entirely satisfied with my success; at the risk of being considered an "old fogy," I must differ, in the main, from Mr. Bright's mode of planting, for several reasons. First, its impracticability for planting on a large scale; secondly, while it would answer for very wet and marshy places, it is not the method for high, dry, and exposed situations, which latter comprise nine-tenths of the locations that American gentlemen select for their rural residences now-a-days.

On the top of one of these bluffs, I fancy I see Mr. Bright practically working out his new theory. I would say, friend, those trees will be likely to dry up, mulch as heavily as you may; that mound you are raising around them, when it becomes solid, will have a tendency to cause every drop of rain that falls on it to run away from the roots; it is a concave surface we would want around a tree on this high ground and not a convex one, and they will certainly blow over, unless you persuade "Merriam" to intercede with "Old Boreas" to stay his hand for two or three years until they send down some tap roots into that cold sterile soil, of which you are so much in dread. Nature, of which you are happily so ardent an admirer, never forms mounds around what she plants; there is no analogy between a tree in the forest and one in an isolated position, the roots of the one are protected from excessive drought and other changes by the umbrageous covering overhead, those of the other are exposed to dry winds on all sides.

Your mulching will not enable you to place an isolated tree, or group of trees, on a par with their neighbors of the forest, unless you can carry the climate of the forest along with you—which, you are aware, is warmer in winter and cooler in summer than it is outside of it; if we were to take that mulching away, your whole theory would soon become a dissolving view. Don't you think, with the exception of the Hemlock Spruce, and other conifers, whose roots naturally run near the surface, that other forest trees—the Oak, Ash, Maple, Beech, Chestnut, etc.—send about an equal number of roots downwards? What these latter might lack in number, they certainly make up for in size; they are the anchors that enable the sturdy denizens of the forest to resist the iron blast of the storm king. It is useless to assert that these tap roots do not draw a vast amount of nutriment from the cold subsoil—if not, how do you account for their great size? The fact that a pear tree, that sends down a large amount of tap roots, invariably makes great annual growths of wood, is an illustration of this. Upon this point is centered the whole theory of root pruning. I boldly assert that the subsoil furnishes food for trees and plants as well as the loamy soil on the surface, and the first effort of all seedling plants is to send a tap root down there; they are but fulfilling a wise provision of Dame Nature in doing so. Upon this point hangs the whole theory of deep trenching, of which I am a warm advocate. Tap roots then, being favorable to vigorous growth, why should we be uneasy if forest trees that we want to grow as fast as possible, should be furnished with all of them that nature chooses to give?

With fruit trees, they are rather an evil than other-

wise, retarding as they do, to a certain extent, their fruit bearing properties. There are thousands of as fine specimen trees as those on the lawn of J. S. Lovering, on gentlemen's lawns all over this union, and they were not planted on the surface, nor in holes 4 inches deep, either. There they are, not on a mound, but their lower branches lying flat on the smooth, green turf. The whole tenor of your remarks would seem to infer that there is only two methods of planting: the one as deep as you would a post, and the other on the surface. I wish to show there is an intermediate one—that practised by all intelligent gardeners with unbounded success—the one I have been, in a feeble way, endeavoring to elucidate. The evil of deep planting is fast disappearing before the light of superior intelligence. Still it exists, and some men carry it with them into the greenhouse and conservatory, and impart a sickly hue to their Camellias, Heaths, New Holland Plants, Geraniums, Fuchsias, etc.,—the "hards" and the "softs," by putting down their collars too deep in the soil; their is no doubt that by dint of mulching, staking and spending as much labor on one tree as you ought on ten, that you have succeeded, being always of Sam Patch's opinion, and believing, "if a man was regardless of expense, with all the light of science that surrounds him, he could make a tree grow on top of Bunker Hill Monument, only give him the fixins."

[The evils arising from too deeply planting, are so many, while those arising from too shallow planting so seldom occur, that we feel a "sort of sorrow" when stern matters of fact weigh against the latter; and in view of our own communication to Mr. Downing, years ago, to which we referred, showing some facts in relation to such shallow planting in wet ground, could not help "cordially endorsing" Mr. Bright's article, so far as that went. Mr. Quinn was one of the most distinguished correspondents of Mr. Downing, and the present subject could not be in two abler hands.—Ed.]

ALOES FOR INSECTS.

BY AN ENGLISH GARDENER, POTTSVILLE, PA.

Having read, in your valuable magazine, Dr. Uhler's translation of Mons. Raspail's article on the use of aloes as a preventive of the attacks of insects on plants and vegetables, I was forcibly struck with the remarks therein made, corroborating in part an idea common to some English gardeners.

In the raising specimen plants for exhibition, take for instance the Geranium, which, for prizes open to competitors from all parts of the kingdom, are generally confined to 8 inch pots. Now it is no easy matter to get a plant from 3 to 7 years old into that space, and be in a healthy condition. I have exhibited plants full two feet in diameter, one mass of bloom in these pots.

To work out the problem, we used as a drainage bones, shells, and charcoal as experiments; but we found charcoal the best, and the reasons, as we supposed, were: First, Through carbonic acid gas being given out by the charcoal. Second, That it is of such a porus or sponge-like nature that it will contain, say twice its weight in water, besides considerable air. Third, Its well-known properties as a deodorizer. We were obliged to stimulate and feed our plants in these small pots with liquid manure up to a certain period, tending to cause an acidity or sourness to the soil after leaving it off; in this case all the plants drained with charcoal were the healthiest. Another evil we had to contend with, was, that after the pots became full of roots, or after the stimulus was left off, the plants were liable to be infested with Aphis. It not being desirable to fumigate, we concluded to to pass charcoal through a solution of soot, lime, and liquid manure. The consequence was, that the plants resisted the attack of Aphis much better than before, unless in an instance or two where they were very much pot bound.

Charcoal drainage is also very good against worms. I would not recommend it for hard wooded plants; but for such as geraniums, cinerarias, calceolarias, etc., I have always found it preferable to potsherd.

I have experimented for the space of ten years with a result in favor of charcoal as a drainage for large plants.

Now this brings me to Dr. Uhler's translation. In place of soot, lime, etc., why not pass the charcoal through a solution of aloes: if it does not answer, it can do no harm.

As our friends may be giving some of their specimen plants their final shift for the season, if they try the experiment perhaps they will let us know the results through your useful magazine.

[We doubt whether charcoal furnishes much carbonic acid gas, except while being consumed. That it absorbs other gases however, is a well-known fact: as also it is equally well ascertained, that plants will take into their system certain matters, which will remain therein unchanged. We hoped some of our friends would have followed up Dr. Uhler's suggestions, believing that they would most probably result in success.—Ed.]

ON TRITOMA UVARIA.

BY JOSEPH KIFT, WEST CHESTER, PA.

Dear Sir: I was much surprised on reading an article in the November number of the *Horticulturist*, in regard to that beautiful fall-blooming plant, *Tritoma uvaria*, as it was quite contrary to my experience, and further, as I had seen it described in the catalogue of one of our prominent nurserymen as a plant that does well in the winter. M. A. W., in the communication referred to, states that he caused the death of one by giving it a little *water*, and another by giving a little *soap-suds*.

Now my experience is as follows:—Last summer I lifted a large bed of tulips, which operation caused the soil to be well loosened up, the Tritomas were then planted in the centre, the balance of the bed I filled with *Pompone Chrysanthemums*. The weather setting in quite dry directly afterwards, I mulched the bed, and gave it occasionally copious waterings: the Tritomas coming in for a full share. As the bed was near the dwelling, it received several soakings of soap-suds. The plants *throve* well under the treatment, and I was rewarded by a fine bloom of Tritomas in the fall. I saw them blooming in different parts of this *county* the past season, where I knew they received no especial care. I consider them a plant of easy cultivation.

HEDGES.

BY J. C. S.

Although many attempts are made every season to form a Hedge, how few do we really see that are successful! Most people think it is sufficient to stick in the plants to see them grow, when probably no department of planting requires more care to produce what is required. The difficulty is often increased by the fact that the hedge is wanted on the outside borders of a place, where the soil is left to take care of itself, very often where many trees overhang, whose roots interlace those of the plants, and often on a slope or behind a wall, where the drought easily penetrates.

Whenever a hedge is planted and whatever kind of plant is used, a trench at least 3 feet wide by 2 feet in depth, should be made, and where the soil is not of very good quality, filled in with rich earth or compost. The *beginning* is every thing, and no after treatment, however well applied, will produce one-half the good effect.

Many different species of plants have been tried and suggested for the purpose, but experience has proved that the following are the only kinds which can be relied upon in the Middle and Northern States, viz.: The Hemlock Spruce, Arborvitæ, Norway Spruce, Privet, Osage Orange, Honey Locust, Beech, and Hornbeam.

Where a place is occupied during winter as well as summer, an evergreen hedge is by far the most desirable, affording as it does a protection from cutting winds as well as giving an idea of warmth and comfort, whilst, for a mere summer residence, the fresh green of the deciduous plants have a more cheerful look.

Amongst the evergreens the Hemlock is the most deservedly popular. Its advantages are that it will grow under other larger trees where nothing else would succeed. It is always of a fine dark green, and never becomes browned by frost or sun, is of very dense growth and bears clipping well. Its principal drawback is, that it requires time to make a compact hedge, as large plants will either not grow, or if they live will never become thick at the bottom. The plants should be *nursery* grown. Many people, because they can go to the woods and take them at a trifling cost, imagine they are saving money; but wild hemlock trees are more difficult to transplant than probably any evergreen we have. The plants should be from 2 to 3 feet high, and may be put in at any time during spring or summer, but the best time is between the first of April and the first of June. After planting, mulch around the roots with dead leaves, and do not disturb the soil over the roots afterwards. The leaders should be cut out at the nursery the year before removing if practicable, as the plant will thereby gain a denser habit of growth at the bottom. As the plants grow they should be clipped on each side during the summer, keeping the top in a conical form, at least for the first 3 or 4 years, to give the undergrowth a chance which, when once established, will hold its own, and the top may then be trimmed to any desired shape, and will with care become almost compact enough to walk upon.

To those who have not the patience to wait, I would recommend the Norway Spruce; plants 4 to 8 feet high can be moved with certainty and without any detriment to the foliage. By taking plants, say 6 feet high, and cutting them down to 3 feet, a thick hedge of that height may be formed the first season. As Norway Spruce varies much in its habit, those of a close and compact growth should be selected. The color is not so good, especially when trimmed, as that of the Hemlock, but it has that great recommendation, especially to beginners, of making what is wanted without much delay. It may be objected that the cost of such a hedge is important, but this is not the fact, as a tree of 6 feet in height would have sufficient breadth to easily fill a space of at least 5 feet in length of the hedge, requiring but 20 plants to each 100 feet.

A hedge formed of alternate Hemlock and Norway Spruce has a good effect, from the contrast afforded by the variety, in color as well as in the shape of the foliage.

The American Arborvitæ has much to recommend it; it is easily transplanted at almost any season of the year and bears trimming well. It is cheaper than either the Hemlock or Norway Spruce, but will never form so dense a hedge, and the foliage becomes browned during winter. For a screen it is very use-

ful, as high plants can be removed with safety. The Siberian Arborvitæ would make a beautiful hedge in every respect, but it is expensive and difficult to obtain in large quantities, and rather slower in growth.

The Privet is a very hardy and quick growing plant, thriving well in soil where many other trees would be thrown away. In favorable situations near Philadelphia it is almost an evergreen, and as far north as New York it sheds its leaves very late in the season. It is easily propagated, is of a beautiful bright green during spring, becoming darker during summer and throws out an abundance of white fragrant blossoms. By putting in two year old plants, trimming well down for the first two years, a fine thick hedge may be obtained in four years from the time of planting. It thickens well at the bottom and will form a more compact screen than any other deciduous tree. The little care required to keep it in order, its very *natty* appearance, and its easy cultivation are great inducements for its more general use. To make a good fence the plants should be set in two rows and about three to the foot.

The Osage Orange is at present more popular than any other deciduous plant, probably on account of the protection afforded by its thorny branches. With careful treatment it forms a beautiful hedge; but how few out of the many annually planted do we see that present anything like an even and compact appearance? It is late in coming out in the spring, but during summer the color of the foliage is very fine; (bye the bye, why do we not see more of the Osage Orange used as standards for lawns? Few deciduous trees equal it in depth of color or make a handsomer growth.)

For a hedge the plants should be not less than two years' old, (if three so much the better), and should be selected of an equal size and strength, so that they may grow up equally together. The soil should be rich; the plants cut down to within three inches off the ground and kept perfectly clean and free from weeds. The second spring they should be cut down again to within one foot of the ground, and kept afterwards well shortened down till the desired shape and height is gradually obtained. From five to six years will, in most cases, be required to make a good hedge. The plants should be put in in the spring just before budding, as they are very liable to be heaved out by frost if planted in the fall. Where ground mice prevail, some other plant should be chosen, as they are very fond of the bark of the roots, and I have seen three-fourths of a season's planting thus destroyed.

The Honey Locust is beautiful as to foliage, is a strong and hardy grower, and makes a compact and thick screen; it has also strong thorns; it should be treated in the same manner as the Osage Orange.

The Beech and Hornbeam are but little used; both (especially the latter) requiring a number of years to make a good hedge. When once obtained, however, they are as beautiful as any other deciduous plant, and easily kept in order; neither of them growing so luxuriantly as either of the above named plants. The trees should be planted when from 18 inches to 2 feet in height, and topped down, or they will be "scraggy" at the bottom.

A good effect is obtained by planting Climbing Roses, Clematis, Honeysuckles, etc., amongst the evergreen hedges, giving them during summer a more lively and cheerful appearance, especially as they break up the formal line of a hedge.

The Cedar makes a good hedge, but is hardly worth mentioning as the difficulty of transplanting and its slow growth militate against its general use.

The Berberis I have never seen used for hedges, but believe it would repay any person trying it, as it thickens well, is very hardy and strong in growth; would form a good protection even against pigs, and its many red berries would much enhance its beauty.

The Deciduous Cypress would, I believe, make an easily grown and handsome hedge.

The Lilac makes a good screen, affording a beautiful show with its brilliant and sweet-scented blossoms but is not compact enough for a hedge, and all its beauty would be done away with by the necessary pruning to keep it low.

Many other plants have been tried or suggested; but I have seen none other than those named which will produce a really desirable hedge. The Hawthorn, or Quick Set, as all those know who have seen the hedge-rows of England will testify, forms the finest of hedges, but even if our climate would allow of its growth, few would be found who would bestow upon it the care necessary to bring it to perfection. The Yew makes as good a hedge in England as the Hemlock does with us, but our droughts in summer and frosts in winter will not allow us to enjoy it.

Fences are necessary evils, and there are few instances, even with a good hedge, where the boundaries of a place would not need them for protection; but hedges can and should be planted behind the fences, and could be substituted much oftener than they are for interior divisions, especially to separate the kitchen garden from the lawn. The taste for country living, and all the pleasures to be derived from planting and growing trees is increasing with us; and I believe that all will agree with me that there can be no comparison between the grounds enclosed by a mere fence, however handsome, and those surrounded by a hedge of whatever plant it may be composed.

SEQUOIA *VERSUS* WASHINGTONIA.

BY L.

Mr. Editor:—Your readers have all heard of the great trees of California; those remarkable productions which for size and magnificence are unequalled by any others known:—One of these monsters measures 93 feet in circumference, and 300 feet in height. Another, prostrated, measured 40 feet in circumference, 300 feet from the butt and must have been between 450 and 500 feet long.

For the great tree, "big" tree, many call it incorrectly, the names of Washingtonia and Wellingtonia have been proposed; but it has been found to belong to the genus *Sequoia*, which contain the celebrated Redwood of California. Much has been written concerning the age of these giants—one writer making them of considerable size at the time of Moses. A section of the trunk of the tree first noted above, which was bored down with pump augers and upset with battering rams and wedges, was carefully examined by Prof. Torrey, who counted all the rings, and could discover but about eleven hundred. Still, they are sufficiently old to command respect; and should they be preserved to future ages will continue most wonderful representatives of the vegetable kingdom.

Whence is the name Sequoia derived? Has it been intentionally applied, or is it an accident that this American tree commemorates the name of an American, of whom, perhaps, few white men have ever heard. Away with the misnomers Washingtonia and Wellingtonia, and all honor to See-quah-yah, the American Cadmus, the inventor of the Cherokee Alphabet. Surely if the genus were not named in his honor, it should be so now. History does not furnish forth a parallel to this untaught, this self-taught Indian, who struck out, as it were, at a blow, a perfect system of written speech; and these unrivalled trees may fitly hand him up to fame.

See-quah-yah, (*Sequoia*) or George Guess, the inventor of the Cherokee Alphabet, was a half breed, his father being a white and his mother a Cherokee. He was, at the time of the invention, not only unacquainted with letters, but entirely ignorant of any other language but his own. His invention appears the more remarkable since he received no instruction from without but by the unaided force of his reasoning and inventive powers, placed in the hands of his tribe the instrument by which they have advanced beyond all other Indians to a respectable degree of civilization. He appears to have possessed a reputation for talent when very young, and was especially expert in the manufacture of ornaments in silver, which were the admiration of his people. As an artist in colors he was excellent, drawing from nature with surprising accuracy. A man of extraordinary shrewdness, of diversified talent: passing from metaphysical and philosophical investigations to mechanical occupation with the greatest ease.

He early understood and felt the advantages the white man had long enjoyed, of having the accumulation of knowledge from generation to generation, stored up by means of written language; while the Red man could transmit his thoughts and discoveries by uncertain tradition alone. To remedy this difficulty, and to place in the hands of his people the instrument of progress, was one of the great aims of his study; one which he accomplished beyond that of any other who ever existed in a rude state of nature.

The story of his invention is told as follows:—Sequoia was present when a letter which had been found upon a prisoner was wrongly read by him to the Indians. Reflecting on the power of the white man to impress his thoughts upon paper, the question arose whether the mysterious gift of the *talking leaf* was derived directly from the Great Spirit or the discovery of the white man himself. Most of his companions were of the former opinion, while he strenuously maintained the latter.

At one of the council fires, at which the recollection of their fellow tribes who had perished as if blasted by the touch of civilization; the retrospect of their former extent, compared with the present limits of Indian power, filled the chiefs with gloomy forebodings, and disposed them to envy the influence of that civilization which rendered the white man immeasurably their superior. Sequoia arose from his seat and pointing to a book told them that *there* lay the secret of the white man's power; that it was by recording his thoughts and observations he had been enabled to effect the wonders they witnessed; and that if the Indians could but invent a method of writing their language, their inferiority would no longer be felt.

Having become disabled by lameness from partaking of the excitements of war and the chase, opportunity presented during his confinement for deep reflection upon the power of speaking by letters; the very name of which was not to be found in his language. From the cries of wild beasts, the talents of the mocking bird, the voice of his children and companions, he knew that feelings and passions were conveyed by different sounds from one intelligent being to another. He at first attempted to represent these by pictorial signs, but finding them to multiply infinitely he abandoned the method. He possessed a stamp which had been made for him by a white man, with which he marked his work. He knew that the white man could express himself by signs; and he had a fragment of a book, a sealed book to him, for he did know how these signs expressed the sound in English. His next effort was to find a sign

for every sound in the Cherokee language, but these became too numerous. At length his way appeared more clear. He found that many sounds were variously combined; that words could be divided into syllables; and that these same syllables aided in forming many words; and that his language was made up of but a few sounds variously arranged. Could he give a sign for each of these sounds, his end would be attained. He was living apart from his people, absorbed in his labor, seeing but one attendant who supplied him with food. He had reached the right track and made rapid advances and already believed he had completed his labors.

His daughter, however, possessed a more acute ear, and on teaching her the new alphabet, she detected differences which he had not perceived, and pointed out compound sounds he had supposed to be simple. By these joint analysis the language was reduced to eighty-five monosyllables, for each of which he had assigned a separate letter. This invention was made in 1821. Considerable improvement was afterwards made in the formation of the letters. In 1827 a fount of type was cast and the first number of a paper called the *Cherokee Phœnix* issued.

The paper was originally printed partly in Cherokee and partly in English, and I am not aware that the plan has been changed. The alphabet, which is before me, is composed mainly of English Capitals, Roman and Italian, small letters advanced to the dignity of capitals, Arabic numerals, some resembling the Greek letters, the remainder inventions and combinations of English, and new forms bearing no analogy to any ancient language, but allied to the inventions of the phonographer.

Like all other inventors, See-quah-yah was not permitted to pursue his investigations undisturbed. Alone, secluded from his fellows, who passed his wigwam without entering it, he persevered amid ridicule and the imputation of witchcraft and mystery. Without the knowledge of the pen as an instrument, he made his characters on a piece of bark with a knife or nail. Afterwards he procured pen and paper from an Indian trader. The ink he supplied from some bark whose coloring properties he had previously known. After seeing the construction of a pen he learned to make one, but the first being without a slit, his own sagacity soon removed the difficulty.

He was now prepared to bring his invention before the assembled wisdom of his nation, and demonstrate that he had indeed made a discovery with which no supernatural agency was concerned. His daughter, as yet his only pupil, was ordered to go beyond hearing distance, while he requested his friends to name a word or sentiment which he wrote out. She was then called in and read it to them. The father then retired, and the daughter wrote with similar success. The Indians were wonder struck, but not satisfied. "I have learned to talk on paper, and hereafter the Indian may do what the white man has done," said Sequoia, "I will prove it to your satisfaction." He proposed to select several of the brightest young men of the tribe, to whom he might communicate the mystery. This was agreed to, not without a lurking suspicion of necromancy aiding the business. The tribe watched the youth for several months and when they offered themselves for examination, the feelings of all were wrought up to the highest pitch. The boys were separated from their master and from each other and watched with great care. The untaught directed what the master and pupils should write to each other, and the tests were varied so as to prove their accuracy and freedom from any collation except a common knowledge of the signs invented by Sequoia, and to firmly fix their faith. See-quah-yah became at once distinguished. A great feast was prepared, in which he was made conspicuous. He became at once, school-master, professor, philosopher and chief. His countrymen were proud of his talents, and held him in reverence as one favored by the Great Spirit. The council of the nation voted him a money reward which he declined. A silver medal was obtained for him by the delegation to Washington City, in 1824, but what inscription it contained I have not learned.

From this hour the progress of the Cherokees has been onward and upward. Their system of government is republican, their religion the Christian; bringing the attendant blessings in their train—public schools and seminaries of high grades, for both sexes, are in operation. Bible societies and agricultural associations prosper, and under the wise government of their chief, John Ross, every stimulus is given to aid in developing the resources of the country, and a wise improvement of the manifold social, intellectual and political privileges they are permitted to enjoy, and by which they have made so wonderful a progress in the pursuits and knowledge of civilized life.

Honor to the inventor, to the man who pioneered the path of civilization and enlightenment, and sowed the seeds of innumerable blessings, to be reaped by millions unborn. Let the name of See-quah-yah, whose genius towers aloft above that of every other native of this inventive land, live forever in the majesty of the denizens of the primeval forest that bear his name in the Sequoia.

[Endlicher does not give, in his *Synopsis Coniferæ*, where he names and describes the genus, any reason for his choice of the name, and as he was no less noted for his philological knowledge than his botanical, it is not at all unlikely that he knew Sequoia's history, and that L. has hit on the secret.

The whole history is one of the most interesting we have had the pleasure of recording in our columns. Our intelligent correspondent, himself having family relationship with the Cherokees, renders the history the more reliable. With regard to Wellingtonia, we believe all European botanists have united in considering that Dr. Lindley was mistaken in dividing it from Sequoia, and no botanist has described it as Washingtonia. It is gratifying to the national feeling that Sequoia stands in the pleasant association L. has found for it.—Ed.]

EXPERIENCE OF A FRUIT GROWER.

BY A NEW YORK FRUIT GROWER.

No. 1.—GRAPES.

Mr. Editor:—No department of fruit culture is at present exciting more interest in all parts of our country, North, South, East and West, than the grape, and every article that appears in the public prints pertaining to that subject is eagerly sought after and read by the people; and in this section, grape growing for the New York market is certainly the most profitable of all the branches of fruit culture. If we get a crop of peaches or apples every other year, we think we are doing pretty well, but the grape grower can, with proper care, secure a good crop annually, which will find a ready sale in the market, at prices ranging from $200 to $300 per ton.

In various sections of the country, grapes of wonderful excellence, productiveness, earliness and hardy enough to grow in the most Northern section of our country, are discovered and introduced to the public as candidates for special favor. Amongst this multitude of varieties there are indeed some of intrinsic worth, some that will bear the test of time, but the great mass are of little value and will never become popular with the grape growers of our country. Some are too sour, some too foxy and some too late to be of any value to the market grower.

Again, others are of the best quality, but unfortunately, in most cases, where very great excellence is attained, it is at the sacrifice of the wood-producing principle, and most of the richest and highest flavored sorts that have been brought to public notice are either wholly or in part of foreign origin; and every one familiar with the history of the grape in America, knows that such never will be of any value in the vineyard, but may in the hands of the "amateur:" one who has but a few pet plants to care for, can well afford to spend his time nursing them and fighting the mildew in order to obtain such luscious fruit. Again, it is a fact well known to men of experience, that the mildew is held in check with far less difficulty where there are only a few specimens, than where there is a vineyard or very large collection of vines.

No prudent man will, however, plant extensively of any variety unless it be a hardy and thrifty grower, not subject to mildew, and fruit in quality as good as the Isabella. Unless these qualities are combined, no one can expect to make grape growing profitable, no matter how high it sells in the market.

Isabella—This popular variety is extensively grown on the Hudson, and more tons of it are annually sold in the New York market than of all others put together. It is a good grower, and when properly planted and pruned, it does not suffer from the mildew either in the leaf or fruit in this locality. It is so amazingly productive that when not pruned close enough it is apt to set twice as much fruit as it can mature, and the vine will yield up all *her* strength in order to mature the fruit; which, however, in such cases, does not ripen or become sweet if it remains on the vine till winter, and the vine, in such case, will almost invariably be found in a bad condition for either standing the winter or fruiting the next season. The wood will be found soft and immature, with scarcely a bud well ripened, and such vines usually require a year or two of good treatment to restore them to their former fruitful condition.

Hence the importance of pruning with care and skill, and he who is master of the business will seldom leave more bearing wood than the strength of the vine will admit of, but if he should he will before the fruit is half grown thin it so the vine will suffer no injury. No grape that we cultivate is so prone to overbear as the Isabella, and every one who grows this grape in a rich soil should be careful to remove superfluous shoots from the old wood and all the the spurs from the bearing branches and only one fruit-bearing shoot should be suffered to grow from a bud. If these directions are followed, the result will be fine large clusters which will ripen by the first of October, with as much certainty as apples or pears. We generally commence picking and sending to market about the middle of September, but to attain its highest excellence it should hang on the vine long after it appears to be ripe, which it can and suffer nothing from birds, insects or high winds; nothing but pilfering boys and men will disturb it, and I am glad to say that this practice is far less common than formerly, and fruit is beginning to be considered as private property.

[We have from the same correspondent, his experience with the Diana and other well known grapes for our next number.—Ed.]

FROM "EGYPT."

BY J. M. SMITH, GREENVILLE, ILL.

Friend Mechan:—If the winter continues as it commenced, *we* shall have plenty of sleighing and but little else. Mercury down to 0°, and below not unfrequently. So, if you reciprocate, please add—"a warm Spring to thaw out."

So far, we have had one of the steadiest cold Decembers I ever remember of in this part of Illinois. With the exception of the snow, however, it has been very dry, and that is far better than mud. Yet, I fear many will lose fruit trees, vines, etc., who have been dreaming of "peaches and cream, voluptuous bunches of grapes, etc." Time will tell.

We have about the finest country in the United States, which I consider equivalent to saying—"the finest in the world." *Egypt*,—that is *our* Egypt, has been noted for its fine climate, big corn, superior wheat, excellent fruit, beautiful prairies, splendid timber, immense beds of coal, hospitable inhabitants, etc., etc., ever since (and long before) it obtained the name of Egypt. Perhaps I might add to the list an *off-set* or two, but I will not just now. Egypt is a great land; suppose I give you an outline of its geography.

Egypt is bounded on the North by Alton and Terra Haute Railroad, East by the Wabash River, South by the Ohio, West by the Mississippi. The principal streams running through the interior are Kaskaskia, Embarras, Little Wabash, Big Muddy, Cahokia and Shoal Creek. The principal interior Railroads are, Illinois Central, Ohio and Mississippi, Wabash Valley, beside several smaller ones. About one-half of the surface is prairie, the other half timber. Products—Corn, Wheat, Cattle, Hogs, Hay, Fruit, etc. Will that do?

But little has been done yet towards ornamenting and beautifying our pleasant country. Too much emphasis is laid on the words *corn* and *stock;* yet when one farmer begins to display a little taste in ornamenting his grounds, others follow suit. But a number of farmers have been "bit" by pedlars of nursery stock, (and the country is full of them,) causing many to be a little backward in "throwing away money" during the hard times. But whenever times get a little *easier*, the contagion for ornamenting homes, and fruit tree planting will spread as far as the atmosphere will carry the perfume; and we shall expect to have a change from "hog and hominy" to somewhat of a verge upon refinement. But until those swarms of swindlers, nursery stock peddlars, stop their operations, many will fear to look at anything raised in a nursery. I know one farmer's wife who purchased, at a high rate, several roots of *Angelica* for fine varieties of Chinese Pæonia, and who purchased some twenty grape vines, at a high price, for three of the new varieties; (she did not remember the names,) and all proved, on fruiting last fall, to be our commonest grape—Catawba. This is a good grape enough, but that does not make it prove any less a swindle. What one *buys* he wants genuine.

[We are much obliged to our kind friend. Egypt has an enviable name horticulturally, and we have been all-anxious to know something about so prosperous a spot. There were some criticisms of another article appended to Mr. S.'s communication, which we have not inserted, as the author himself had previously corrected himself in our last number.—Ed.]

DRAIN TILES.

BY "NOVICE."

Friend Meehan:—I send you herewith, samples of drain tile and brick of miniature size, and of the manipulated clay from which they were made by the working model of the new machine invented by S. C. Salisbury, on exhibition at the office of the "*Working Farmer*," corner of Nassau and Beekman Sts., N. Y. From the December number of this paper I extract the subjoined article. The expense of making two-inch drain tile in a one-horse machine is stated by the inventor as follows:

"One Man and one horse, one day,		$2 00
Two boys,	" "	1 00
Digging Clay,	- - -	50
Wood for burning,	- - -	50
Labor at Kiln,	- - -	50
Product, 3000 feet at $1.50,	-	$4 50."

Allow for interest, repairs and other contingencies, one-third, and they can still be produced for $2.00 per thousand feet, about one-sixth the usual price. This supposes them to be made by the consumer himself on land where clay can be had for the digging.

The remarkably smooth and even surface of the bore prevents the accumulation of obstructions which sometimes occur in the ordinary rough tiles; they are also much *straighter*, which is a great desideratum, especially on land where the natural fall is very slight.

All kinds of solid and hollow bricks are made in this machine, and of a quality entirely unequalled. We now only need an economical method of digging the trenches to render underdraining so cheap that no intelligent man can afford to cultivate undrained land.

"Novice."

[We are very much obliged by the specimens forwarded us, which show the process they have passed through, to be of a complete character. It is impossible for owners of land to be too fully impressed with the advantages of draining, and we look on Mr. S.'s invention, judging from the specimens and the articles before us, as one of the most important of any brought out for some time past. We give the article from the *Working Farmer*, below.—Ed.]

"DRAIN TILES.

It is very vexatious to American farmers to see in English journals that drain tiles of two inches diameter are there sold at four dollars per thousand, while we here, have to pay fourteen dollars per thousand for similar tiles, and to this is to be added the digging of the drains by workmen, at one dollar per day.

We are glad to be able to announce that the machine invented by Mr. S. C. Salisbury, for the making of drain tile, is now completed, and a working model may be seen in our office. This machine will turn out ten thousand tiles a day, by the application of sufficient power, say that of two horses, while a smaller number may be made by hand labor. The tile is finished with a surface as smooth as a most finished piece of porcelain, and is made from clay as it leaves the clay bank, without the use of a pug mill, dolly tub, or other preparatory machine; the principle may be thus understood:—We have all seen a glazier take a dry lump of putty that would break if pressed and crumble instead of being adhesive, and by rolling and manipulating this mass for a while, it becomes plastic, so that he can glaze a sheet of glass before the putty can assume the granulated form; and when once set, it is much stronger than freshly made putty. The ancients made their mortar by the admixture of lime and sand, a year before its use, and buried it in a pit. When required for use, it was taken from this pit, beaten with pieces of wood, shaped like a cleaver on a mixing board, continually drawn together and again beat out into a sheet, until the mass became plastic; and then when put between bricks, it would set harder than the bricks themselves, as every old Roman wall clearly proves. Now these facts are true in a degree with clay. Mr. Salisbury's machine receives the clay in a hopper, it is passed between steel-surfaced rollers, forming a sheet which continually rendered thinner and thinner by continued rolling, until it finds its way to the mouth of the form intended to shape the tile; and while in this plastic condition it is forced through, presenting an outer and inner surface finely polished, and of the form required. Its moisture is so slight that it does not alter its figure while drying, and the amount of water is not so great but that it may be burnt by any farmer, either with brush or coal.

The machine is also capable of making brick, and with these the kiln may be built before the brick are burned, so that the first filling of tile and fuel will not only burn the tile, but render the kiln a permanent fixture, capable of being continuously used for burning the tile. The cost of this machine, which we hope soon to see on sale, will be about $100, and in every particular it appears to be complete. With this contrivance, tile may be made at a cost not to exceed three dollars per thousand, and but few neighborhoods are so devoid of clays as not to furnish the necessary raw material. In the making of drain pipes it is not necessary that the clay should be of an extraordinary quality, for as they are intended to permit the water to percolate through them, a fair amount of sand is no detriment in tile making."

GREENHOUSE PLANTS IN SUMMER.

BY F. H. L., MORRISANIA, N. Y.

Much time and labor is wasted in the treatment of greenhouse plants in summer. I send you a list of the more commonly found kinds, which will bear turning out of pots in summer, with a view of repotting to flower them well in winter:

Azalea indica—Layering them makes the plant bushy and the layers good specimens; Bouvardia leiantha and others; Burchellia capensis; Calceolaria (the shrubby kinds;) Citrus sinensis and others; Cuphea; Daphne; Epacris; Erica—had them on fresh manured ground and did very well, only plenty light and air required. Eugenia, Myrtle, Nerium, Pittosporum, in fact all these hardy greenhouse shrubs when they are potbound before planting out. Pentas carneas; Polygala, Monthly carnations, Pomp. Chrysanth.—pinching in well helps them; Aphelandra; Asclepias; Begonia—all for flowering, as fuchsoides, incarnata, sanguinea, Prestoniensis and others. Euphorbia jaquiniflora, Poinsettia, Hibiscus, Inga, Justicia, Geisomeria, Linum trygynium, Cactæ, Russellia juncea, Habrothamnus, Primula sinensis, Calla aethiapica, Eranthemum nervosum, Veronica, Brugmansia, these I have tried, fully exposed to sun and air, and proved better than the same kept it pots. In a shady situation the family of Ferns does well. Heliotropium roses, Salvia, Ageratum, and Scarlet Geranium I keep half starved in pots through summer and repot in August, in strong soil, for winter blooming. Many others do well, but flower too late.

[We can corroborate our correspondents remarks, as we turn out most of our plants in summer. We have often wondered that the practice was not more common.—Ed.]

SHALLOW PLANTING OF TREES.

BY J. W. JONES, CHARLESTON, S. C.

It is hardly possible, now-a-days, to take up a book on gardening without finding the author continually referring to nature and her mode of doing things as the *sine qua non* of perfection. She is held up as a mirror in which the gardener or amateur may see the true mode of performing his multifarious operations. She is held up as a perpetual example and guide, from whose dictum there is no appeal. Her laws are like those of the Medes and Persians, unchangeable. The poor dame is dragged in by the ears to stand Godmother to all the bantlings that the busy brains of our numerous horticultural writers bring forth. Let it only be proved, or rather supposed that

such or such a process is founded upon a natural law, or upon what we conceive to be a natural law, and the writer imagines his argument to be irrefutable. But, before we "quote nature," we ought to be quite sure that we understand her; that we have read her book aright. I fear we know very little of her operations; we conjecture or guess at a great deal, but the science of vegetable physiology is yet in its merest infancy, and the subject of vegetable nutrition, notwithstanding all the light that has been thrown upon it, is still in comparative darkness.

Lindley, in his great work "The Theory of Horticulture," diffused much useful and valuable information through the gardening world; valuable, not so much from the theories he advanced being incontrovertible; but because he taught the gardener to think; he taught him the reason why any particular operation, done in a particular manner, would succeed better than when done in a contrary manner. He showed that gardening was not a mere mechanical pursuit, to be carried on by the aid of certain old laws and axioms as guides; but an art, and a fine art, whose chief operations were based upon, guided and assisted by a knowledge of certain laws of vegetable economy.

It has been the fashion then, these twenty years, little as we really know of the matter, to take what we call nature for our guide in gardening operations. We have drawn certain conclusions from our observations of her manner of doing things; but are we quite sure that our premises are right? We do not imagine that we have penetrated all nature's secrets; we see the results rather than the causes, and are apt, I fear, to confound the two. Nature and experience are sometimes in apparent conflict—our theory and our practice do not agree; we sometimes do things in gardening, and with success, too, that are quite contrary to the teachings of nature or theory. Chemists tell us that the substance of a plant can be reduced to certain well-known elements; and that the tree must derive such elements from the earth or air; and therefore, it must be advantageous to place such substances as are naturally found in the body of a tree, within reach of its roots or leaves, as a supply of food. Yet what do we really know of those nice chemical changes and combinations continually going on in the body of a tree? We cannot explain how one plant extracts such starch or sugar, another resin, another opium, another indigo—all from out of the same plot of ground. We can analyze the products, and separate such component part, and "find out what it is made of;" we may, in some cases, recombine, but we cannot, as nature does, draw from the soil or air for ourselves, that which a tree seems to do so easily and so surely. Will it ever come to pass, I wonder, that chemists shall be able, easily and cheaply, to extract *our* food directly from soil or air as plants do? If they can, as they profess, feed plants, why in the world cannot they feed us of the animal creation? Are we forever to be dependent upon the vegetable creation to prepare our food for us? I think the preparation, or rather formation of food directly from mother earth may, *sometime*, be arrived at; but the chemists have to find out a few more "elements" first.

I have been led to these irrevelant remarks from reading an article in your last January number, on the shallow planting of trees, by Mr. William Bright, of Philadelphia. Superficially viewed, the reasons given for the practice of shallow planting are plausible enough. I have nothing to say against the greater part of his article: it is only his reasoning and conclusions I cannot agree with.

If I have not mistaken, Loudon was the first to advocate shallow planting, or rather, planting on mounds—which is quite a different thing. If that colossal book-maker had had all the trees to pay for that died under the treatment he recommended, he would have had need of a dozen fortunes. Like your correspondent Mr. Bright, Loudon based his practice upon nature. Because, forsooth, Loudon had observed that all trees, of any size, appeared to stand on a mound or slight elevation; *ergo*, all young trees ought to be stuck on a hillock already formed for them. It is a wonder that such an acute observer never discovered that the gradual thickening of the roots, and consequent upheaval of the soil, caused the mound-like appearance.

I well remember that a sort of *furore* existed in England for planting everything high and dry after Loudon's remarks appeared. To say nothing of young forest trees, even poor little plants in pots were elevated on miniature hillocks—much to their discomfort, no doubt. All the time of which I speak, a plantation of young forest trees resembled nothing so much as a collection of ant or mole hills with a stick thrust into the middle of each.

Mr. Bright's trees do well enough, I have no doubt; and so they ought after such a world of trouble. To save the lives of his trees he necessarily mulches the mounds heavily for the first two years; *id est*, until the roots have descended to the general level of the soil, and have become independent of the mounds. I must confess I cannot see why they should not have been planted on the ground level in the first instance as being, after all, the more natural position of the tree.

Mr. Bright is not satisfied with nature in one respect; for he does not like her mode of arranging the roots of trees, that is, so far as to their taking a downward direction. Mr. B. seemed to expect that if he once places the roots in a horizontal position they must continue to extend in that direction; though every-day experience must have proved to him the contrary. All trees, except perhaps when growing in very wet soil, naturally form perpendicular as well as horizontal roots; and if the former be cut off, will try to remedy the evil. It is not to be supposed that trees form tap roots to their own prejudice. It is to be supposed that these roots descend down deeply into the earth for some special purpose. It may, in some cases, be of use to deprive a tree of such roots, where fruitfulness or an early and perfect maturity of the wood, rather than a vigorous growth is desired; but, as a rule, it may, I think, be safely stated that tap roots are essential to the vigorous growth and durability of a tree. Moisture has a great deal to do with the direction of roots. If we could measure the quantity of water evaporated from the leaves of a large tree in the course of a single day, we should be better able to appreciate the value of the tap roots.

In an uncongenial soil, to plant trees on mounds with the expectation of thereby permanently correcting the evil is evidently fallacious, for the roots must eventually extend into, and be entirely dependent on the surrounding soil; and if that soil be bad, suffer just as much as if not planted on a mound; the mound may defer, but cannot cure the evil. If the soil be good, I do not see the utility of elevating the plant above the ordinary ground level.

Mr. Bright's chief, and so far as I see, his only reason for shallow planting is because it is "nature's own method" of growing trees, and experience has proved it to him *the best ever devised by man*. Now, nature does not, when the plants require a mound use a heavy mulching of leaf mould or litter to keep her nurselings alive for two years. She plants on the surface, even or uneven, and one of her first operations is to send *down* a root, and as long as that root finds itself in a suitable medium it continues to extend downward. I have probed with a stick the hollow root of a Carolina Pine tree to the depth of twelve feet or more, and the root was then more than a foot in diameter. I have seen beautiful examples of nature's own planting on some of our bluffs where the soil has been washed away, and left the tap roots of trees exposed to the depth of fifteen feet, and thick roots at that depth, so that the tree seemed to have nearly as much wood below as above ground.

Now, I might argue that what is true of a pine tree in the light sandy soils of Carolina must be true of a pine tree in the heavy clays of Pennsylvania, yet, such an argument would be evidently absurd. Taking nature for my guide, I might assert that, as our trees sent down their roots to an immense depth—to the water line in fact, be it two or ten feet,—I might assert that it would be to the manifest advantage of the tree to sink a well where the tree was to be planted, and fill it up with good soil to encourage the development of the tap roots, which would be another absurdity.

Gardeners generally appear to have a particular spite against tap roots, as if the gardeners knew better than the trees themselves what is good for them. Not content with nature's operations, they seek to improve upon them; yet, by a singular crookedness in reasoning, stultify a self-evident law by depriving a tree of its main stay—a tap root.

No one will dispute Mr. Bright's conclusion, that a tree set comfortably on a mound of good earth and warmly mulched with leaf mould, is in a better condition to live and thrive than a tree plunged deeply down into a cold, dank cistern of a hole. But the latter is not the proper mode of planting a tree. If Mr. B. wrote his article merely to prove that trees planted as he directs, would succeed better than when planted in this horrible "dank hole," I have no doubt of his superior success. The question is, I think, whether his trees will succeed better planted as he directs, than if properly planted on a level surface—the same pains, the same amount of labor being expended in each case. If he proves less than that, he proves nothing.

As a matter of taste, I should object decidedly to having a fine lawn disfigured by those formal rounded mounds at the base of each tree, giving a peurile and artificial effect, suggestive of ancient circular flower beds, that had been indiscreetly planted with a large growing tree in the centre of each, which tree had finally overpowered the more humble flowers and become sole possessor of the land.

These remarks of mine are not intended to afford aid and comfort to that large class of bunglers who thrust a tree into a hole anyhow, though, I may believe, that people sometimes give themselves a great deal of unnecessary trouble in planting a tree; yet, I have no sympathy with those who, as Downing says, plant a tree as they would a post.

HARDY HERBACEOUS PLANTS.

A Boston Correspondent kindly furnishes us with an additional list to those already given by Horticola and ourselves in our last volume.

"Homerocallis flava, Ranunculus aconitifolius, Pulmonaria virginica, Lychnis chalcedonica flore pleno, Spiræa venusta, Spiræa Japonica, Corydalis aurea, Orobus vernus, Saxifraga cordifolia, Saxifraga Crassifolia, Achillea rubra (new,) Geranium Lancastriense (sometimes, but erroneously called *Sanguinea*—Do you know a herbaceous Geranium as good as this?) Geranium macrorhosum, Arabis albida, Sedum hybridum, Phlox repens (syn. stoloniflora,) Dicentra eximia (syn. c. formosa,) Coronilla varia, Uvularia grandiflora (deep color, rose red,) Rudbeckia purpurea, Funkia Japonica, Pardanthus chinensis, Symphytum asperimum, Symphytum Bohanicum, Adlumia cirrhosa, Potentilla formosa, Potentilla Hopwood-

iana, Polygonatum multiflorum, Epilobium Angustifolium album, Ranunculus acris flore pleno, Ranunculus repens flore pleno, Lamium rugosum, Trollius Asiaticus, Lilium aurantiacum, Lilium chalcedonicum rubrum, Lilium superbum, Lilium Philadelphicum, Lilium lancifolium album, Lilium lancifolium speciosum, Astrantia major, Clematis flammula, Liatris scariosa, Sanguinaria canadensis, Dianthus barbatus, Dianthus incarnatus (rich color,) Wahlenbergia grandiflora, Helianthus multiflorus, Datura meteloides (roots live with me in a south border, fine,) Iconopsis Cambrica, Anthemis nobilis *flore pleno*, Plemonium cæruleum, Plemonium album.

Hibiscus mochœtris (the white, crimson centre,) Papaver Orientalis, Lychnis flos cuculi, Lychnis flos cuculi alba, Erythronium dens canis alba (handsome mottled leaf,) Tulipa sylvestris, Allium molle, Agrostemma coronaria, Veronica elegans, Lilium longiflorum, Viola odorata alba pleno, Viola odorata cœrulia, Corydalis glauca, Actæa rubra, Actæa alba, Pulmonaria officinalis, Lilium canadense, Orobus Niger, Spiræa aruncus, Œnothera fruticosa, Gentiana saponaria, Apocynum androsmifolium, Eupatorium Ageratoides, Tiaretta cordifolia, Spiræa palmata, Leucojum Æstivum, Scilla siberica, Gillenia trifoliata, Plemonium reptans, Lysimachia nummularia, Corydalis nobilis.

GRASSES.

Uniola latifolia, Chloris radiata, Pennisetum longistilum (tender)."

PERENNIAL PHLOXES.

BY JOHN SAUL, WASHINGTON, D. C.

Within the past few years the cultivation of good herbaceous plants in this country and Europe has occupied the attention of florists; and, in an especial manner, has the beautiful family of Phlox—the only wonder is how this tribe, so capable of improvement, should so long have been overlooked. Many are dwarf and procumbent growers; others are of tall and showy forms, with all intermediate sizes and habits. In spike of bloom and color, the variations are equally great. We have some of snowy whiteness, whilst others are a warm crimson or deep purple. Here, then, was a field for hybridizing, and one which latterly has been turned to advantage by French and English cultivators—especially by the former has this genus been so greatly improved. This improvement has been effected in the general habit of the plants, spikes as well as form of the flowers, but especially in the exquisite delicacy and tint of coloring in the fancy varieties, and the clear and decided colors of the self or plain. To the amateur they are invaluable—perennial, perfectly hardy, producing a profusion of bloom during summer and fall.

Their culture is exceedingly simple, succeeding in any good rich soil, not over dry. In planting, some well-decomposed manure or leaf-mould should be worked into the ground. During summer they are much benefitted by mulching; and in hot, dry weather, occasional watering with liquid-manure will be of much benefit. I generally allow not more than one shoot to form a plant, and never, however strong the plant may be, will I permit more than three. As a consequence, the spikes of bloom are much larger and finer, produce more lateral shoots, and continue much longer in bloom than where a crowd is allowed to grow up from the base. When passing out of bloom, the flower-spikes should be cut off before the seed forms; after which side-shoots are produced on the stems lower down, which immediately commence blooming by pursuing this system—allowing no seed to the plants—will give bloom up to the middle of October or later; whereas, if seed is allowed to form and mature, the plants "dry up" and cease blooming.

A couple of years since a list of sorts was given in the *London Gardener's Chronicle*, by Mr. Barnes, of Camberwell. This has lately been re-produced in the *Horticulturist*; but many varieties on that list are old, and much inferior to the gems of more recent introduction. I annex a list of 24, descriptions of which I made from plants in bloom, and they are such as may be relied upon by amateurs:

Admiral de Linois, white, deep violet centre, fine spike.
Baron Davesne, light purplish crimson, fine spike, showy.
Catharine Saxe, carmine, with darker centre.
Charles Rouillard, bright pinkish crimson, dark centre, fine spike.
Comte de Merona, deep purplish crimson, fine shape and spike.
Comtesse de Rodepont, white, bright pink centre, good spike.
Comtesse de Sericourt, white, deep violet eye, clear and beautiful.
Emilie Ferry, white, shaded with bright pink, crimson centre.
Judith, white, deep bright violet centre, fine shape and spike.
Ketelerii, rosy crimson, dark centre, fine spike.
Laurence Lecerf, white ground, suffused with violet, deep pink centre, fine shape and spike.
Laurent de St. Cyr, rosy lilac, petals of lighter mottling.
Madame Andry, white, crimson centre, beautiful shape and spike.
Madame Guldenschurch, rosy crimson, dark centre, large and fine.
Madame Lecerf, clear paper white, excellent shape and spike.

Madame Pescatore, white, violet centre, suffused with pink, fine shape and spike.
Madamoiselle Albertine, lilac crimson, bright centre, good shape and spike.
Marechal St. Arnaud, dark purplish crimson, fine shape and spike.
Morjeuir Cambaceres, purplish crimson, deep centre, large, showy.
Morjeuir Gros, white ground, suffused with violet, deep centre, beautiful spike.
Morjeuir de St. Prajet, rosy crimson, dark centre, magnificent spike.
Purpurea Nova, clear purple, fine shape and spike.
Souvenir de Ma Mere, white, violet centre, good shape, long spike.
Souvenir de Passy, light pinkish crimson, dark centre, good shape and spike.

[We were engaged in compiling a list of the best Phloxes, when Mr. Saul's excellent enumeration arrived, most of which we know to be superior. There is not a more desirable tribe to cultivate.—Ed.]

DAHLIAS AND THEIR TREATMENT.

BY PARKER BARNES.

DORCHESTER, Massachusetts.

Editor Gardener's Monthly:

Dear Sir,—The writer of the following article on the Dahlia and its Treatment, having been an importer, propagator and grower of them for more than twenty years, (and if you should deem it worthy a place in your valuable paper,) believes the following hints will be found of some service to the novice, and, perhaps, not wholly lost to the veteran in dahlia-growing.

SOIL.

My experience is in favor of a compost made of old black garden mould, stiff loam, and sandy peaty loam; trench the bed twenty inches deep; the finest flowers are produced with the least trouble in a rich soil, for the Dahlia is a gross feeder, though not fond of unrotted manure. Any garden soil will grow this flower, but by a little attention to the soil a great improvement in both the quality and quantity of the bloom will be produced.

PLANTS AND PLANTING.

My experience has shown that plants struck from cuttings produce the most perfect flowers, the blooms being less inclined to become semi-double than those borne on plants grown from tubers; the latter often produce very coarse flowers, and are always of a stronger growth. The cuttings should not be rooted so early as to become pot-bound before the time arrives to turn them into the border; if the roots are strong and numerous enough to keep the ball of earth from breaking, it will be sufficient. By the autumn, the tubers become large and solid enough to keep well during the winter, and in the spring the eyes break more freely.

The plants should be set three feet apart between the rows, and two and a half feet in the rows. *Shade of every kind is injurious to the plants.*

The ground being prepared by trenching as above directed, choose straight spruce poles (which are the strongest and most durable) and stake the whole bed; let the poles be seven and a half feet long, and be driven into the ground one and a half feet; then plant your dahlias, one plant to each stake; the plant should be set about one inch lower than the surface of earth in the pot, if the plants have been struck from cuttings; if from tubers, place the crown of the tuber two inches below the surface. Dahlias may be planted from the first of May to July; those latest planted give the *best* flowers, though, of course, do not afford as early or profuse a display. *Dahlias may flower too early*, and the blooms be burned up by the hot summer's sun; then before autumn the plant is exhausted, and no good flowers are produced. A dahlia should not begin to flower before the latter part of August, for cool nights are essential to the production of fine flowers.

The plants should be tied to the poles with soft bass matting, and should be carefully and frequently examined for this purpose; a high wind will often break the plant and destroy its symmetry and beauty.

PRUNING.

No arbitrary rule can be prescribed; the plant should never be allowed to become bushy with small branches, nor should severe pruning at any time be resorted to. Prune little, but often, is a good rule. Varieties differ as to the amount of pruning required, and experience alone will teach the amount beneficial to each.

Some varieties produce too many flower-buds, and consequently all the flowers are small or imperfect; when the buds are small, many may be removed to advantage; after they have attained any growth, however, this operation is of little benefit; in this experience must also be the teacher.

INSECTS.

There are many insects injurious both to the stem, leaf, and flower of the dahlia; I shall, however, only mention a few of those which prove most destructive in our climate.

The grasshoppers do much damage to the blooms by eating off the lips of the petals. To remove them by hand is difficult and wearisome. The best remedy is to turn some turkeys or domestic fowls into the dahlia plantation about the middle of August.

The striped squash bug (Galeruca vittata), and a small oval bug, destroy many flowers; they live in the bloom and eat holes in the floral rays, seldom leaving the flower till it is ruined. The remedies for these latter are unknown, for the flower is destroyed by the application of lime, &c. Fine blooms, or those which promise well, may be protected by a covering of gauze or lace; but this is too expensive and laborious an operation to be performed in a large plantation.

WATERING

Is never beneficial to the plants, not even in dry weather, unless persistently continued, for it has a tendency to bring the roots to the surface, and when the water is withheld the plants suffer from the change. If the dahlias are to be watered, the ground should be mulched with coarse litter of some kind, or sea-weed; this will better retain the moisture, and will prevent the earth around the plants from becoming hardened. Syringing the tops with soft water is of advantage; let it always be done in the evening; care should be taken *not* to use very cold water.

SELECTING BLOOMS FOR EXHIBITION.

This is often a difficult task to the most experienced, and often one or more points have to be sacrificed. To my mind, diversity of color should be a matter of attention, with, of course, a due regard to form and size. A stand of flowers of similar colors never shows as well as one where some attention has been given to a selection of dissimilar varieties. The general rule, as before laid down, is, form before any thing; next, color, which should be bright and clear; and, lastly, size. The blooms should never be handled or exposed to rough usage more than necessary, as the dead appearance thus produced can never be removed.

FANCY DAHLIAS.

These have lately become popular, as many very fine varieties have been produced. Miss Church, Loveliness, Lady Popham, and many others are quite as fine as any of the selfs; they are perfect gems, and creditable to any stand of show blooms.

It seems to me that the best effect is produced when the two

classes are exhibited in the same stand: the contrast is pleasing, and each cause the other to appear to greater advantage.

DEGENERATION.

A double flower being a monstrosity, there is always more or less tendency to revert to the primal state. With dahlias this disposition is particularly marked. It has always been my practice to keep a good old variety, if possible, till a better of its color or shade was produced; yet among a collection of 250, not more than five, new five years ago, can now be found.

A striped or mottled or other fancy dahlia will often produce self-colored flowers, and all, both fancies and selfs, will in time so far run out as to produce single self-colored flowers.

SEEDLINGS

Are grown largely by florists in England and on the Continent. Much attention has been given to hybridization during the last fifty years; but, as in other plants, many of the seedlings are worthless, and most not superior to those already grown. About six very fine seedlings in a thousand is considered good success.

These fine dahlias, when brought to this country, are often worthless, producing poor flowers on account of the difference of the climate.

In this country very few good seedlings have been produced probably because there is less attention paid to hybridization, and no encouragement is offered by our Horticultural Societies.

WINTERING.

Take up the tubers soon after the frost has killed the tops; do not separate them, but pack them away in a dry cellar in dry loam, out of reach of the frost, till wanted for propagation in the spring.

In taking a retrospective view of the dahlia fancy we find a gradual improvement up to the present time. Of late years many of the finest varieties have been produced, and a really fine seedling commands as high a price now as at any former period.

The dahlia is eminently worthy of attention, on account of its cheapness, its ease of cultivation, and the rich display it makes in the garden when other flowers are gone.

The following is a list of the best now in cultivation, and the year they were introduced:

AUGUSTA LOUISA. Color light scarlet, brilliant, well formed flower, and constant. Height, 5 feet. 1854.

ANNIE, (Rawlings.) Color beautiful lilac, fine form, good bloomer, fine habit. Height, 4 feet. 1854.

ADMIRAL, (Barnes.) Color lilac, fine form and substance, good habit,—a good old variety. Height, 4 feet. 1853.

BESSIE, (Turner.) Color deep golden yellow,—a compact, well-formed flower; good habit. Height, 4 feet. 1855.

BEAUTY OF THE GROVE, (Barnes.) Color yellow, tipped with rosy pink; good outline, high centre. Height, 4 feet. 1854.

CONSTELLATION. Color bright rosy pink, with violet rays; very constant. Height, 6 feet. 1859.

COSSACK, (Fellowes.) Color bright carmine; an excellent variety. Height, 5 feet. 1854.

COCKATOO. Deep purple, with white tips; fine. Height, 4 feet. 1854.

COMET. A fine mottled and striped variety; fine form,—early. Height, 4 feet. 1854.

DUCHESS OF WELLINGTON, (Turner.) Pale cream color full and fine form; one of the best dwarfs. Height, 2 feet. 1856.

DUCHESS OF BEAUFORT, (Bush.) Blush-white, tipped and edged with dark purple; a full and constant flower,—one of the finest. Height, 4 feet. 1857.

DUC DE MALAKOFF. Deep carmine red, free bloomer; form and habit very fine. Height, 5 feet. 1857.

GOLDFINDER, (Turner.) Deep yellow; form of flower very fine and constant,—one of the best. Height, 3 feet. 1859.

GENERAL BOSQUET. Deep red,—one of the best. Height, 4 feet. 1859.

KING OF YELLOWS, (Collier.) Clear yellow, very good. 1852.

LORD FIELDING. Color nearly black; large and good flower,—*the best dark*. Height, 6 feet. 1859.

LOVELINESS. Pure white, edged with rich purple,—a good variety. Height, 6 feet. 1859.

LORD PALMERSTON, (Holmes.) Deep scarlet,—a fine show flower. Height, 4 feet. 1857.

LADY POPHAM, (Turner.) Color white, slightly tipped with rose; superior form. Height 5 feet. 1858.

LOLLIPOP, (Holmes.) Color salmon buff; good form and habit. Height, 5 feet. 1857.

MONS. PAUL L' ABBE, (Choirdines.) A fine crimson, form good, constant and reliable—one of the best dwarfs. Height, 3 feet. 1858.

MISS PRESSLEY. Color white, heavily edged with dark purple—constant; a new and pleasing variety. Height, 6 feet. 1859.

MISS WATTS. Pure white, good form and habit, the best of its color. Height, 5 feet. 1859.

MRS. CHURCH, (Church.) Color deep yellow, tipped with lake; a full sized flower; constant—one or the best. Height, 3 feet. 1859.

MRS. RAWLINGS, (Rawlings.) A blush-white, of good form and habit. Height, 5 feet. 1859.

MRS. EDWARDS. Color clear lilac, shaded with buff; a good flower. Height, 4 feet. 1858.

MRS. B. COUTTS. Fawn color; quite novel. Height, 5 feet. 1856.

M. GARDIER. Deep rosy red; fine form. Height, 5 feet. 1855.

OBLATA. Pure white; fine form and habit. Height, 5 feet. 1859.

OTHELLO. Deep, clear purple; good habit and form. Height, 4 feet. 1857.

PRINCE IMPERIAL. Color violet crimson, shaded with rose; good form and habit. Height, 4 feet. 1858.

PRINCE FREDERICK WILLIAM. Crimson; good flower,—always perfect. Height, 2½ feet. 1859.

PRE-EMINENT. Color purple, full size; fine form and habit. Height, 4 feet. 1855.

PRINCESS, (Rea.) Color bright rose; a distinct and superb flower. Height, 6 feet. 1856.

ROLAND. White, heavily tipped with dark purple; fine form and good habit. Height, 4 feet. 1857.

STANDARD BEARER, (Alexander.) A very close-formed flower, beautifully tipped with white, of excellent habit. Height, 6 feet, 1859.

SIR HENRY HAVELOCK. Bright orange scarlet; a fine show flower. Height, 4 feet. 1859.

SUMMIT OF PERFECTION. Deep crimson maroon, of the best form. Height, 4 feet. 1859.

TOUCHSTONE. Light purple; form and habit good. Height, 5 feet. 1858.

YELLOW BEAUTY. A fine yellow. Height, 4 feet. 1857.

QUEEN OF THE EAST, (Barnes.) Clear blush; a flower of good size and substance. Height, 3 feet. 1851.

QUEEN OF YELLOWS, (Harrison.) A good flower; form good. Height, 6 feet. 1854.

VILLAGE GEM, (Green.) Color clear white, edged with rich rosy crimson,—always an attractive and desirable flower, habit good. Height, 5 feet. 1859.

The above-mentioned varieties can all be recommended as fine flowers; many more might be added almost as fine, but a choice selection can be obtained by choosing colors from those above enumerated.

DOWNER'S PROLIFIC STRAWBERRY.—Mr. Reeves, Keysburg, Ky., writes, that when he stated in his January article, that in his district Wilson's Albany seedling stood pre-eminent, he alluded to such as have been disseminated.

Parties in the neighborhood are under the impression that he included Downer's Prolific in his comparison. This he disavows, as he has not seen this kind.

He adds that he knows Mr. Downer, and many who signed his report; and that they are all men of the highest honor and standing in the community.

MAXATAWNY GRAPE.

BY DR. W. D. BRINCKLE.

In 1843, several bunches of Grapes growing at Maxatawny, Berks county, Pa., about twenty miles above Zieglersville, were sent to a friend residing at Eagleville, Montgomery county, Pa., six miles above Norristown. The seed of all these grapes were planted at once, only one, however, vegetated during the following Spring. This plant after remaining three years where it had come up, was removed to near the summit on the north slope of Camp Hill, Montgomery county, Pa., where it still stands, and is in a flourishing condition. The only protection it has is a dwelling house on the west side of it about five feet from the vine. It has been permitted to run wildly over a plum tree that stands near it. Specimens of this fine Grape were received by me in September, 1858, from Peter Crans, Esq., of Springfield township, Montgomery county, Pa., (Post Office address Mount Airy, Phila.,) who deserves the credit of bringing this valuable Grape into notice. He has a number of vines growing from wood taken from the original vine, and during the next Winter will have a large supply of the wood, which he will take pleasure in distributing, without cost, among those wishing to grow it.

Bunch—Five inches long, loosely formed, usually not shouldered, and occasionally quite compact.

Berry—Greenish white, sometimes with an amber tint when fully ripe, roundish oval, eleven sixteenth of an inch long, by ten sixteenth in width.

Flesh—Tender, not pulpy. *Flavor*—Saccharine and delicious. *Quality*—"Best."

Maturity—Eaten 23rd of September.

The original vine bore one and a half bushels of grapes in 1858. During the past season specimens even finer than those I received in 1858, were sent to me.

My friend L. E. Berkmans, Esq., has seen the fruit and fully agrees with me in regard to its excellence. He has a fine plant of this desirable variety.

ORCHID CULTURE.

BY AN OLD GARDENER.

MR. EDITOR:—In the February number of the *Farmer and Gardener*, I have read a leading article on *Orchid Culture*, and was surprised that the writer should recommend to the Orchid growers of this country a "Practical Treatise on the management of Orchidaceous Plants, by J. C. Lyon," written in Ireland fifteen years ago. As all who now grow orchids, well know the fallacy of Lyon's directions. Just fancy the practical grower of the present day, subjecting the splendid epiphytal genus *Stanhopea*, to pots filled with peat cut with a knife into lumps or blocks three inches square, pegged together, and heaped up in the shape of a cone six inches above the rim of the pot, and affording a complete nest for wood-lice and other insects. Even if we could procure in this country peat similar to that found in the bogs of Ireland, and such as is termed *Exeter peat* in England, no man of modern experience would think of adopting the Lyon's system.

Had the writer in the *Farmer and Gardener* witnessed the splendid specimens of orchids exhibited within the last ten years at the Metropolitan shows in London, he would doubtless hesitate before too confidently endorsing as reliable such a work.

Those about to commence the cultivation of Orchids, should beware of using lumps of peat about the size of "pigeon eggs," as recommended so freely in the work before alluded to. Experienced orchid growers know that such treatment is certain death to many species of epiphytal plants.

[We cannot in future admit any controversy into our pages that may be partly carried on in any other journal. Our readers cannot judge of the merits of such controversies. We insert this communication because it contains some excellent hints on Orchid growing that will benefit our readers.]

HYACINTHS.—Much has been written respecting the culture of Hyacinths in the open ground, the greater portion of which has, however, been calculated to deter persons, dependent upon such sources of information, from attempting their growth. It is usual to state that to grow a Hyacinth successfully, a very rich soil is absolutely necessary; but it has just been shown that any well-drained garden soil is easily rendered suitable for its growth. If the soil is of a strong adhesive nature, and the plunging in pots not resorted to, add two inches of sharp sand, and as much well-decayed manure; then dig the soil 2 feet deep with a steel fork, taking care to mix the sand and manure with the mould as the work proceeds. Friable loamy soils will require merely a liberal dressing of manure and deep digging; and it will be found that the Hyacinth will produce equally fine spikes of blossom grown in soil prepared thus, as when planted in more expensive compost.

The season for planting Hyacinths in beds, in the open air, is from September onwards. Select a dry day for putting in the bulbs; and if the same can be chosen for the preparation of the soil, it will be in much better condition for the growth of the plant than if worked when wet. Plant in lines, 9 inches by 12 inches apart, which will afford space between the plants, when up, to work a hoe for the destruction of weeds, and keeping the surface friable, to prevent the escape of moisture in dry weather.—*Gardener's Chronicle.*

The Gardener's Monthly.

PHILADELPHIA, MARCH 1, 1860.

☞ All Communications for the Editor should be addressed, "Thomas Meehan, Germantown, Philadelphia," and Business Letters directed to "The Publisher of the Gardener's Monthly, Box 406 Philadelphia."

NOTICE TO CORRESPONDENTS.

In consequence of the heavy increase in the circulation of the *Monthly*, and the consequent necessity of going to press earlier in order to issue the Magazine punctually to all our subscribers by the 1st of each month, it is desirable that communications requiring immediate attention, should reach the Editor before the 10th of each month.

THE NEW REVOLUTION.

DOWNFALL OF THE SPADE.

It is a remarkable fact that there is not a new idea that suddenly becomes popular, but finds scores of persons ready to contest its originality, and to protest that it was known to their grandfathers long, long ago. They are generally right. On the Solomonian maxim, that "there is nothing new under the Sun;" Plato or Cicero may have been the founder of the American Republic,—and as for the Steam Engine and the Electric Telegraph, were not the ideas known to some of the remotest heroes of profane history?

After all, invention is of little merit, unless the public is benefitted. The man who popularizes an idea,—who makes it acceptable to the masses,—and who renders it applicable to the increase of the luxuries and comforts, or the alleviation of the wants and miseries of mankind, is after all the real benefactor.

Within the last few years a revolution of ideas has been silently going on, with regard to the proper management of the soil. No one knows who originated the idea—but the fact has been for some time gaining ground, that the *surface soil* plays an all important part in vegetable nutrition. The old writers, Jethro Tull in particular, taught that the best manure for garden crops was a "bright spade." The grand principle that illuminated this idea was, that frequent stirring of the soil admitted the air to the roots; a point still conceded to be of vast importance.

But as chemistry and vegetable physiology progressed, it was found that the feeding roots of plants were mainly at the surface; and that the stronger and coarser roots which penetrated deeply into the earth, had for their great aim the supplying of the tree with a continuous and regular amount of moisture; and so the object of deep cultivation became very much changed.

No cultivator of any eminence *now* digs his soil with the view of supplying air as *food for the roots of plants*; but as a means of giving the soil a greater non-conducting power, by which it is warmer and dryer in Winter, and cooler and moister in Summer; and no one now digs manure deeply into the soil, as *manure*, but as a sort of mechanical means of keeping the particles of soil from packing closely together. In other words, it is for the purpose of keeping the ground "open and porous."

A great deal of this revolution has no doubt been owing to the spread of knowledge as to the true theory of the benefits of under draining. In land thoroughly under-drained and well subsoiled, a current is continually flowing through the surface, the soil is thoroughly ærated; and digging, one of the most laborious of manual operations, is nearly dispensed with.

When once the body of earth we cultivate has been reduced to this perfect condition, an annual surface manuring and forking or harrowing over, will have the same effect as the enormous labor of the digging and deep plowing of the past age.

The single idea that for a long time held up the advantages of digging the surface upside down was, that the mineral matters contained in the soil, and essential to the plant's perfection, were prepared by the action of the atmospheric elements, the better by annual exposure. With this view whole fields have been left for a season "in fallow,"—bearing no crop—all for the benefit of the season to come. Now, that chemistry has shown what are the elements of fertility, these are applied artificially with the manure, and the last vestige of cultural barbarism has disappeared.

Admitting heat and air to the subsoil, and applying all the elements of nutrition to the surface, is now the code of faith in the new order of things. Every inch of surface soil now possesses a value. No one thinks of burying it. It's glory never departs; and to the good cultivator, its virtues have become perpetual.

To the valued contributors to this periodical, does the merit of popularizing this idea in a measure belong. One of the most recent communications under the signature of "Digging Fork" (see page 39) is particularly well worthy of being read over again,—and when in the course of time, our posterity shall read of the miseries of old diggers, and the back-aches suffered by doubled up old delvers, —and shall learn after patient investigations in some old museum or curiosity shop what kind of an instrument the "spade" they read about was; they will bless the past memory and continued existence of our little work for aiding in achieving their emancipation from the bondage of diggery.

NEW HAVEN LECTURES.

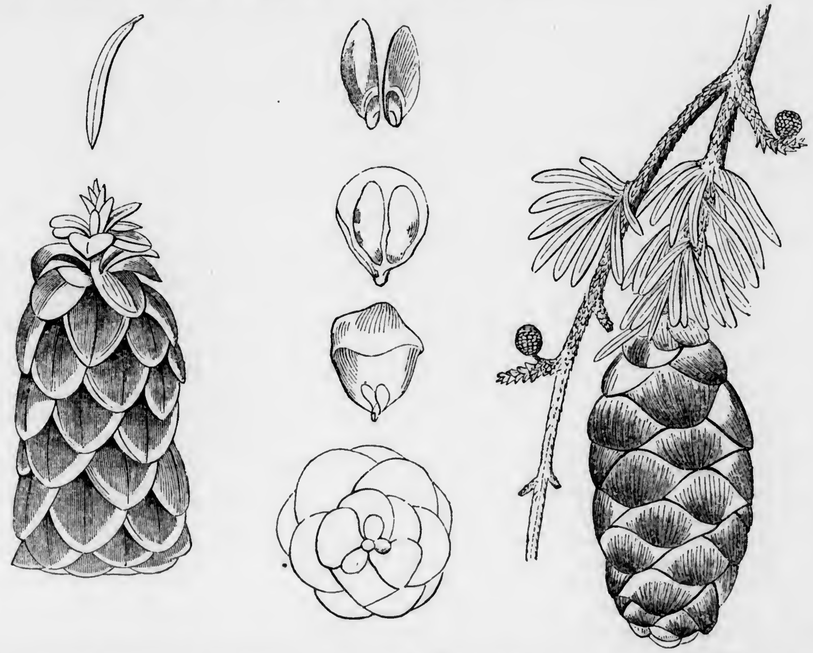
We are indebted to our friend, Dr. J. S. Houghton, of this City, for our Special Correspondence from New Haven.

ABIES WILLIAMSONII.

(*See Frontispiece.*)

We consider ourselves fortunate in being able to present our readers, this month, with a lithograph of this beautiful new hardy conifer, from a sketch made by the artists connected with Lieutenant Williamson's late Expedition to the Pacific. The specimen which our engraving represents, was growing in the Cascade range of mountains, between latitude 45° and 46°, near the Columbia River; and as it grows in company with *Picea amabilis* and *Picea grandis*, which stand out hardy in Mr. Sargent's grounds at Wodenethe, and other places, there can be little doubt of its proving entirely hardy here.

Dr. Newberry, the botanist, who has described and named it, speaks of it as being one of the finest of the genus. It is the most Alpine of all the firs, growing near the region of perpetual snow. Its usual height is about one hundred feet, with an irregular spreading, and remarkably graceful habit. The annexed cuts exhibit the botanical characters of its leaves, cones, scales, seed, etc.



The following is Newberry's description: "A tree of large size and Alpine habit; leaves short, acute, compressed, with a lenticular section. Cones pendant, long ovoid, acute, 1½ inches long, purple while young, when old cylindrical or somewhat conical, with a flattened base; scales rounded entire, large, in old cones strongly reflexed, except at the base of the cones; seed small, ovoid, black, wings elliptical, entire, pellucid; male flowers in small, nearly spheroidal small heads."

We find that in some English works they speak of A. Williamsonii, *or Mertensiana*. But this is evidently a mistake, perhaps originating in the Edinburgh Philosophical Journal. Bongard, the Russian botanist, who named and described *A. Mertensiana*, gives Sitka as its locality, many miles further north than *A. Williamsonii* grows, and speaks of it as having *reniform* scales; ("Strobili squamis reniformibus integris,") a striking distinction, besides many other points of difference.

RETURNED.

Our correspondent Mr. Bright, we are pleased to find, has returned safely from his European trip, and informs us in reply to numerous correspondents, that his work on the grape will be put to press immediately. Mr. S. B. Parsons has also retuned from his trip, and our readers may anticipate some useful information from the gardens of the Old World.

BOOKS, CATALOGUES, &C.

Manual for the Pruning of Fruit Trees, by Henry Larsen.—Published by Challen & Son, Philadelphia.

Year Book of the Farm and Garden, by A. M. Spangler.

The Prarie Fruit Culturist, by C. Thurston Chase. Griggs & Co., Cincinnati.

Reports of the Mass. Hort. Society for 1859.—Received from Mr. Eben Wright; very interesting, and for which we are greatly obliged.

Roger's Hybrid Grapes' Circular.—Mr. Rogers has become famed as a successful hybridizer of the native with the foreign grape, and this circular details the results.

Weathersfield Seed Sower.—Circulars and testimonials. The cut would seem to indicate that the machine is a complete success.

Descriptive Catalogues have been received from *O. Taylor*, Purcellville, Va.; *Richardson, Warren & Co.*, Olcott, N. Y.; *Miles & Reeve*, Southold, L. I.; *H. W. Wilson*, Washington, Pa.; *D. P. Dyer & Son*,, Providence, R. I.; *White & Prentice*, Toledo, O.; *Louis Van Houtte*, Ghent, Belgium, seed; *Peters, Harden & Co.*, Atalanta, Ga.; *Joshua Pierce*, Washington, D. C.; *Casper Hiller*, Conestoga, Pa.; *T. S. & W. Humrickhouse*, Coshocton, O.; *B. Snyder Kingston*, N. Y.

Roses—J. Saul, Washington; and *Jas. Pentland*, Baltimore—two excellent lists. *Farmers' High School*, P. O., Centre county, Pa., is a model of ingenuity and accuracy, and reflects much credit on the institution in every way.

BEDDING PLANTS AND FLORISTS' FLOWERS.

Peter Henderson, Jersey City, has a very select list, and *John Henderson*, of the same place, sends us a full one also. *Isaac Buchanan*, Astoria, Long Island, includes also Green and Hot-house plants, and Orchideæ. The *Bridgeman's* Broadway, New York, Seed and Green-house catalogue, with their usual fullness and beauty. *A. Fuller*, Brooklyn, includes excellent treatises on the grape management. *David Griscom*, Woodbury, N. J., a handsome illustration of Pinus excelsa for a frontispiece. Lastly, a catalogue of *green-house and hot-house plants*, the property of an amateur, for sale by Mr. Farly, Baltimore, in which, particularly, Camellias and Azaleas, are many extremely rare and valuable plants, many of them alone in the country.

WHOLESALE LISTS.

John Saul, Washington, D. C. *J. S. Cook*, Cincinnati, O. *W. R. Prince & Co.*, Flushing, (grapes.) *Nealley, Bro. & Bock*, Burlington, Iowa. *J. H. Coggswell*, Poughkeepsie, N. Y. *Parsons & Co*, Flushing, L. I. *A. Frost & Co.*, Rochester, N. Y. *Hoopes & Bro.*, West Chester, Pa. *R. L. Allen*, N. Y., (seeds.) *Smith & Hanchet*, Syracuse, N. Y. *E. C. Frost*, Havana, N. Y. *O. B. Maxwell*, Livingston, N. Y. *Ingersoll, Murphy & Co.*, Livingston, N. Y. *F. Prentice*, Toleda, N. Y.

Questions and Answers.

APPLES—*Col. Frost, of Havana, N. Y.*, honored our office last week with a call, introducing us to his lady, and the scarcely less handsome King of Tompkin's County Apple. Like *that* original apple, it was large, beautiful, and fair without, and *not* filled with "bitterness within," but of excellent eating quality, and, as Mrs. F. assured us equally excellent for cooking. We never excused Adam before, but had Col. Frost been our unlucky first parent, with such a beautiful, but to us unhappy, combination of circumstances about him, he must have fallen.

APPLES *from Dr. R. Tyler, Warren, Mass.*, received last fall, and preserved till now, we find to be one of the best keeping apples, and for cooking *unequalled*—which we are conscious is a strong term—by any we know. It very much resembles the Focht, and is, we think, that variety modified a little in appearance by locality.

AMERICA AND CINDERELLA ROSES—*S. H. H., Port Byron, N. Y.*—Will find all we know of these at pages 60 and 172 of our last volume.

TO PREVENT BRANCH SPLITTING—*W. Z. B. Finley, O.*—The best way to prevent two large branches splitting at the intersection is to bore them with an augur a few feet above the divergence, and insert a rod of iron, with screw heads and washer at the ends. It will not injure the tree. Probably the rod might be put just *below* the fork, and answer well.

NAME OF PEAR—*Q. M., Petersburg, Va.*—We do not recognize your pear, though the sketch and description is very complete. We should be glad of a specimen of the fruit in due season.

GREENHOUSE STAGING:

S. M. H., *Lancaster, O.*—A compromise between staging and tables is best,—that is about two or three wide steps to the stage. The usual idea in favor of steep stages is that it gives more room; but this is a fallacy in a great measure—the perpendicular space remains the same. It is also an advantage to have sand on the staging for the pots to stand on.

HONOLULA NECTARINE SQUASH.—Specimens of the seed of this before mentioned variety from Mr. J. W. Briggs, of the "Rural Empire Club," Macedon, N. Y., enables us to say that it is of a totally different species to the Apple Pie Melon, with which we notice it is in some quarters confounded, and of which we were ourselves doubtful about. It is a very valuable addition to our vegetable list.

UNPACKING VERBENAS—*V. W., Athens, Ga.*—After coming some distance, may be set out in the open air at once, but they should have an inverted flower pot over them for a few days afterwards, until they get root hold.

SEEDLING JUNIPER—*W. S., Pomaria, S. C.*—Sends specimens of a Weeping Golden Juniper. The Juniper varies so from seed,—some having a habit quite equal to the *J. oblonga pendula*,—others almost as erect as the Irish; and these varying forms are so numerous and common, that we do not like to give an opinion of the merits of this variety from a small specimen. We can only say, that it *appears to be* a desirable variety.

WINDING WALK—*J. F. S.* says—"I wish to make a path from front door of house to gate opening into road in front of house; in corner of yard some eight or ten rods distant ground descends considerably; should I make the path perfectly straight, or with a regular curve, or in an irregular winding manner? Yard is filled with beds of flowers, roses, shrubbery, &c."

[A winding walk does not look well usually between two objects nearly close to each other; if the ground were flat and level a straight walk would be preferable. In your case a winding walk around the eminence would doubtless be best.]

PANSIES—*J. F. S., Lewis Centre, O.*—Sow the seed at once in rich turfy soil, in a hot bed. Pot singly in three inch pots soon after they appear, and keep in a cool and very light frame with plenty of air in good weather. As soon as all danger of frost is over, they may be set out in a bed of rich soil. In an airy spot, not exposed to the sun. Dry soil soon injures them.

CARNATIONS—*The same.*—You cannot get these to bloom this year from seed sown now. Sow as for pansies, and plant out in rich soil, in a sunny place.

DALIAS—*Do.*—Mr. Barnes article will tell you just what you require.

GREENHOUSES.—For Winter flowering, one of the charms of a greenhouse, side lights are important, and this you could not have if you dig down into the soil as you propose. A communication on Greenhouses, from the able pen of Mr. Strong, will appear in April, and will just meet your wants.

LANTANA CUTTINGS—*G. B. B., Denmark, Iowa.*—Where any difficulty is experienced in raising cuttings, they may be readily increased by layering the young and growing shorts into small pots.

JONES' SUN FLOWER.—Mr. H. R. Simmons, of Chatham Four Corners, writes us in praise of Messrs. Jones' Dwarf Sun Flower. We have already stated ourselves that it is well worth growing.

SELECTION OF ROSES.—In selecting one rose of each of the following kinds, what would be your choice:—one Bourbon, one Noisette, one Tea, one China, and one Hybrid Perpetual? Please answer through the *Monthly*.

S. H. H., *Port Byron, N. Y.*

[Our friend has handed us a nut we can scarcely crack, there are so many "best" Roses. We may say however that we should not like to be without Souvenir de Malmaison, Lamarque, Devoniensis, Louis Philippe, Lord Raglan. We do not like, however, to reflect long on this list, or we are sure we should soon think of many we like better.]

COLORED PLATES OF GRAPES.—Mr. Dewey, of Rochester, sends us handsome executed plates of the Delaware, Hartford, Prolific, and Catawba grapes.

BLACKBERRY—*E. H. Osborne.*—The New Rochelle or Lawton is not of the Dewberry species. Newman's Thornless appears to be, but we have not fruited it.

DIELYTRA SPECTABILIS—*Dear Sir:*—What shall we call that beautiful little pink flower *Dielytra spectabilis?* Shall we call it Dielytra, Dicentra, or Dicly tra I became acquainted with the plant a short time after it was sent to England from China, by Mr. Fortune in 1846; have never known it in England by any other name than ctabilis. would like to see the question finally settled.

[By strict botanical rules the right name is Dicentra.]

FLOWER PIT FOR WINTER—*.—Should nothing offer before the season arrives, we will see that proper hints for making and managing flower pits appears for you and others.

OSAGE ORANGE CUTTINGS—*A Subscriber, Catonsville, Md.*—These grow readily from root cuttings made with lengths of about two inches, and planted in Spring in any rich warm soil. While, however, you can buy seedling plants for a trifle per one thousand, or seed from almost every seed store, it will be a costly operation to raise them from root cuttings.

PROPAGATING GRAPES—*A Subscriber, Fayetteville, N. Y.*—Will find an answer to her inquiries in our

monthly hints this month. With regard to the weak young plants now growing in a hot bed, the best plan to get them to grow strong next season, would be to repot them as the pots become full of roots, and keep them growing in the house the whole season. Grapes root grafted grow stronger than those raised from eyes the first season.

Trenching Ground—*A. B. Shimer.*—We have an excellent article on hand from Mr. Fryer, of Dayton, which would suit you exactly, but must lie over for want of space till next month.

Many other inquiries coming in as we are closing this department, we regret to have to let lie over till our next issue.

Labels by Machinery.—We have received from Mr. Penfield specimens of pine labels, which he can furnish very cheap by machinery made for the purpose. We can only say that they are very well and neatly made.

Ptelea trifoliata—*W. C., Ottawa, Ill.*—From what we can learn from others, the seed of this plant make an excellent substitute for hops in cookery.

English Names of Plants—*J. B., Princeton, N. J.*—Suggests Don's *Hortus Cantabrigiensis* as one of the best, as it contains the English names of thirty thousand plants. Any importer of books could procure it.

Drying Flowers.—Mr. H. Baldinger writes that the beautiful art of preserving flowers, noticed in our Monthly, p. 59, is being successfully carried out by Mr. Frank, of Philadelphia. We noticed the pretty specimens of Mr. Frank at the State Fair at Powelton, and made a few enquiries concerning them of the gentleman in charge; but as the answers we received amounted pretty much to the effect that "it was none of our business," we presumed the gentleman did not wish to be known in connection with the art, and so furnished our readers with the translations instead.

Shallow Planting.—We have received many communications on this subject, from which we have selected two representing the views of parties at opposite ends of the States. Not having room for so many on the same subject, we are yet no less obliged to the writers, and trust they will continue to contribute their knowledge on other subjects also.

Pruning Apple Trees—*O. Wannemacher, Aurora, N. Y.*—Will find some excellent directions in the remarks of Dr. Eshleman, at the Lancaster fruit growers' meeting. There is no better authority on matters appertaining to apples than the Doctor's.

Machine for Weaving Matts—*M. L. Akers*—Enquires whether the French machine described in our specimen Number has been tried yet in this country, and with what results?

Archangel, Russian, or Bast mats are generally used for protection as well as home-made ones of Rye-straw. The latter are the best.

The Franklin Grape.—We have received a note from our good friend Mr. J. B. Garber, enclosing a letter from Mr. O. T. Hobbs, in relation to this grape, with permission to publish. Mr. Hobbs refers to the fact that the Franklin is erroneously stated to be a "seedling of Mr. Garber's" in some nursery catalogues, while it was first sent by him to Mr. Garber in 1856.

Whatever merit there may be in the Franklin, the credit of the discovery should be where it rightfully belongs.

Mr. Garber adds, respecting it:—"Of all the grapes with which I am yet acquainted, I have the most reliance on the Franklin for vineyard culture,—healthy, hardy, vigorous grower; free from mildew, rot, or any other disease so far as I have had it on trial. As a table grape it is not first-rate—yet a better grape than Clinton."

It is worthy of remark, that while most new grapes are "brought out" at high prices, Mr. Hobbs has advertised his at the moderate price of 25 cents. Such a rare experiment is commendable, and we hope will be successful.

New Roses.—The following are some of the best new roses introduced into English gardens last year:

Hybrid Perpetuals.—Anna Alexieff, Anna de Diesbach, Souvenir de la Reine d' Angleterre, Armide, Altesse Imperiale, Comtesse de Chabrillant, Comte de Beaufort, Delamothe, Empereur de Maroc, Prince de la Moskowa, Francis 1st, Imperatrice Eugenie, Lord Elgin, Mad. Bruny, Mad. Varin, Mdlle. Auguste, Mdlle. Marie Boyer, Mdlle. Haiman, Mount Vesuvius, Oderic Vital, Oriflamme de St. Louis, Reine de la Cite, Virginal (pure white.)

Bourbons.—Comtesse de Barbantanne, Dr. Berthet, Edith de Murat, Mad. Merechal, Octavie Fontaine.

Noisette.—Jane Hardy (our own yellow, raised same time as Isabella Gray.)

Tea Scented.—Homer, Mad. Damaizin, Mad. Falcot, Mad. Halfrin, Socrates.

Design of Fern Hill Grounds, Philadelphia—*The Seat of H. Pratt McKean, Esq.*—Mr. A. Burnett, now of Reading, Pa., and formerly so long and so

successfully gardener to Mr. McKean, writes, that although our remark at page 120 of last volume, that the house and grounds were from "designs furnished by Mr. J. C. Sidney" is correct so far as the original plan may be understood, the grounds in their *present* main and general details, are from his own designs, and of his own execution.

It is the inevitable fate of almost all places to be altered and "improved" after leaving first hands, by every succeeding party "in power;" too often indeed are the "improvements" of a very questionable character. It is gratifying that in the present instance no party has cause to blush for his successor.

Mr. B. also observes:—

"It was Mr. McKean's own idea to lay the flagstones along the centre of the gravel walks, around the mansion—a most excellent improvement.

The Fig trees which you noticed, are suckers from an old tree planted by the late Mr. Clapier, a long time ago, against the south side of one of the many old buildings which we razed to the ground.

Twenty years ago this tree bore, and matured most excellent fruit, so I have been informed by those who gathered them. I should suppose it received protection of some kind in Winter."

The valued contribution of our lady friend "Primrose," shall appear in our next.

Horticultural Societies.—S.'s interesting communication is laid over till next month.

Obituary.—*E. W. Keyser*, Esq., one of the Vice Presidents of the Pennsylvania Horticultural Society, and one of its most active and distinguished members, died in Philadelphia on the 7th of February, in the 69th year of his age. The fruit committee, will, in particular, suffer a severe loss, as his pomological knowledge was very superior. Very few members have passed away so universally beloved and esteemed.

Special Correspondence.

POMOLOGICAL LECTURES AT NEW HAVEN.

[SPECIAL CORRESPONDENCE OF THE GARDENER'S MONTHLY.]

The Lectures on Agriculture and Horticulture, which have been held at New Haven during the month of February, under the direction of Professor John A. Porter, of the Yale Scientific School, have justly attracted a large share of public attention. The enterprise we consider a very important one. Professor Porter called it a Convention. It was, as we understand it, a series of popular and scientific lectures on Agriculture and Horticulture, delivered by eminent practical and scientific men from all parts of the country, as an adjunct to the Scientific and Agricultural School already existing at Yale College. The object was to interest the public at large—farmers, amateur-pomologists, nurserymen and gardeners—in the subject of agricultural education; and no method could have been devised more likely to accomplish that object in the most thorough and effectual manner. The attendance was quite large, and comprised all classes of cultivators from widely distant parts of the Union, and persons of all ages, from the ruddy-faced farmer's son of sixteen to the grey-haired veteran of seventy. The greatest interest was manifested by all the lectures and discussions frequently occupying six and eight hours of the day and evening; which is a long time for persons unaccustomed to sedentary pursuits to sit on hard benches and listen to lectures and speaking.

The first week of the Lectures was occupied by Professor S. W. Johnson, on Agricultural Chemistry; Dr. Asa Fitch, on Entomology; and Daniel C. Eaton, Esq., a Botanist of New Haven, on Vegetable Physiology. Professor Johnson's lectures were very carefully prepared, and formed a perfect compend of the science. Every body considered them very valuable. Prof. Johnson presented some new views of old theories, which at first seem a little startling; but he sustains them with strong facts and sound philosophy and chemistry, and they deserve attention. We understand that the Lectures will be published, so that we shall have an opportunity to examine the new views more carefully.

The lectures by Dr. Fitch, on Insects, were exceedingly interesting and useful. Mr. Eaton, the botanist, also discussed his subject with much skill and intelligence.

The second week was opened by the Hon. Marshall P. Wilder, in a lecture on American Pomology and the Culture of the Pear.

The pomological subjects, of course, attracted a large number of persons who had not attended the previous lectures, and did not remain for the lectures on Agriculture and Stock-breeding. The appearance of Mr. Wilder on the speaker's stand was the signal for a greeting from the audience, in the highest degree cordial and enthusiastic. The fact is, the people really love the polite, accomplished and genial sage of Dorchester, who may almost claim to be the father of American Pomology, and no one could have been found, in the whole country, better qualified to inaugurate a national school of instruction of this character (as we feel assured it will be), than Mr. Wilder.

Some one near us remarked, as Mr. Wilder rose to speak, "He looks like a *ripe pear*." The comparison is not an inapt one. He looks like a ripe and sound specimen of a generous-hearted man, with a good physical constitution and a highly cultivated intellect. His head is shaped very much like that of the Hon. John Quincy Adams. It has the same round, broad form, and being sparsely covered upon the sides only with grey hair, increases the resemblance. Mr. Wilder's features, too, are not unlike those of the late ex-President, but somewhat stronger and more boldly defined, and never wear that expression of fierce determination which was often seen upon the face of Mr. Adams. Mr. Wilder, though probably well beyond the three-score mark in age, like Mr. Adams, wears no spectacles in reading his notes, and his eye is bright and twinkling with life and vivacity.

Mr. Wilder's lecture was an admirable one in all respects, highly instructive and interesting, and contained many passages beautiful in style and touching in sentiment. We did not know before that Mr. Wilder was so gifted in the art of literary composition. The delivery of his address was also good, and altogether it afforded a high degree of satisfaction. Many ladies were present, and seemed to enjoy the lecture highly.

We will only add, that Mr. Wilder expressed his decided belief in the value of the pear on the quince stock, and in its probable success, under garden culture, in all the States from Massachusetts to Georgia. That is, it will pay under such circumstances, and probably in the orchard also. He advocated "high culture," and the free application of manure to the pear on poor soils.

Both before and after Mr. Wilder's lecture, discussions were held by the pomologists in attendance, upon the various topics presented in the lectures. These discussions were exceedingly interesting and useful. They brought out a variety of conflicting opinions from numerous practical and scientific men and amateurs, which, when compared and debated, often modified and corrected the opinions of the speakers, and even of the lecturers themselves.

Thus a member called in question the propriety of "high culture" (as generally understood) for the pear on good soils, or the free manuring of the pear tree, and especially dwarf pears, with stable manure, as might be supposed necessary from the remarks of Mr. Wilder. This, he contended, was not practised by the most successful cultivators where the soil is good. Mr. Wilder not being present, it was explained by a friend, that he did not intend to say that the pear should be freely manured with stable-manure on good soils, as he does on the poor, thin, gravelly soil of Dorchester; and in proof of this, a passage was quoted from his lecture, as follows: "Surely it would be unwise to apply the same cultivation to the peach and the cherry as to the apple and the pear, or to treat any of these on new and fertile ground as in old and exhausted land." So that hereafter it will be well for cultivators to inquire what kind of a soil writers or lecturers have worked upon, before we adopt their advice.

The subject of deep and shallow planting, especially in its application to the pear, came up in this same discussion, and was pretty freely ventilated. The result of it was, a very general impression that the pear, and especially the quince-rooted trees, have been planted too deeply, and that their roots should, if possible be kept out of the subsoil. To do this, the pear must be budded low upon the quince stock, and the main root must be shortened as much as possible when set out, and in some instances it is better to make a slight concave mound around them with soil (in

order to cover the quince stock completely), rather than to set them too deep in the ground. Much valuable information upon these topics was elicited from Mr. BARRY, the distinguished nurseryman of Rochester, N. Y, who was in favor of a moderate depth in planting the dwarf pear (always keeping the quince root entirely covered), and of manuring only with well-decomposed muck and manure compost, and not with fresh highly stimulating stable-manure. Messrs. Pardee of New York, Allen of Buffalo, Coit of Norwich, Weld of Hartford, Fuller of Brooklyn, Houghton of Philadelphia, Bartlett of N. H., and several others took part in this discussion, which was one of the most animated of the week, and was the cause of doing much good.

The next lecture was upon Grapes, by Dr. C. W. GRANT, of Iona, near Peekskill, N. Y., whose reputation as a propagator of native grapes is well known to our readers. The Doctor came very thoroughly prepared for hist ask, with well-digested lectures and fine diagrams, some of them from six to ten feet square, beautifully drawn and colored, no doubt executed by his wife, who is highly skilled in this art.

Dr. Grant is a man somewhat younger, we should suppose, than Col. Wilder, but equally ripe and genial in his aspect. One of the New York reporters, we see, calls him the "good Dr. Grant." He certainly has a good and benevolent face, and he is a good lecturer. His head is covered with a mass of thick, flowing, greyish hair, and his countenance is instinct with acute reflection and vivacity of thought.

The lectures on the Grape were exceedingly valuable. Dr. Grant has devoted many years to the study of this subject, and has visited all parts of the United States to examine new varieties and to collect information in respect to the best modes of propagation and culture, and he presented the result of this ripe experience and extended observation in a very perspicuous and intelligent manner. A brief report of Dr. Grant's lectures will be found in another column of the *Monthly*. These reports must, from the nature of things, be very imperfect, often erroneous, and must not be considered as reflecting the real value of the lectures.

Dr. Grant advocated very thorough preparation of the soil for a vine border, by composting and turning, and argued against the use of fresh animal manures or night soil in or under the vine border. Few common cultivators of the grape are probably impressed sufficiently with the importance of thorough preparation of the grape border, or the vineyard soil. He described very fully the Thomery system of pruning the vine for high trellises, and also the Cincinnati system of vineyard culture.

In the discussion which followed, some objection was made to very deep borders, and especially to those over-rich in animal and fermenting manures, and to any system of training on high trellises over six feet for vineyard culture. Dr. Grant advocates borders thoroughly prepared and intermixed only two feet deep, for general purposes. For vineyard culture he proposes to plough up and fertilize one foot of subsoil before planting. Others were of opinion that ploughing and subsoiling, without turning up the subsoil, was amply sufficient for the Grape as for the orchard. Mr. L. F. Allen, of Buffalo, earnestly opposed the idea that it is necessary for success in ordinary vineyard culture, to trench two or three feet deep, and spend so much time and money in fertilizing the subsoil, when it is so easy to top-dress and to fertilize the vineyard from year to year with good composts, as it may seem to require. Others declared that the deeper the roots of the vine penetrate beyond a depth of eighteen inches, the worse it is for the health and fruitfulness of the vine.

R. G. PARDEE, of New York city, next lectured on Berries. Mr. Pardee has had several years of experience in the cultivation of small fruits and berries at Palmyra, N. Y. Mr. P. is a gentleman of middle age, of a slender figure, and a nervous, enthusiastic temperament, and possesses a happy faculty for extemporaneous speaking. He exhibited much practical and scientific knowledge, and gave two very instructive lectures, free from errors and absurdities, delivered from notes, in a very concise, intelligible and acceptable manner. Mr. Pardee, in fact, presented a very excellent model for lectures of this kind, saying much in a little time, of a purely practical and useful nature, without circumlocution or irrelevant words. Very little knowledge can be communicated in a lecture of one hour, at best, if the speaker be ever so careful to condense his style and matter; but when the speaker allows himself to be drawn off, by questions or otherwise, into irrelevant matters, the lecture must greatly suffer.

The principal things we learned from Mr. Pardee's lecture were, the value of deep and thorough pulverization of the soil for the strawberry, (and by this we mean a degree of working beyond any thing we have ever seen or practised,) and the usefulness of tan-bark mulching only half an inch deep to keep down weeds. The tan-bark mulch we are all familiar with, but generally we think of using it thicker than half an inch, or apprehend that it will cause mould or fungus growths, and invite insects. Mr. Pardee says, if not spread too thick, it will not do injury, and will greatly save the labor of weeding and cutting off runners.

Mr. Barry, of Rochester, suggested, that to get a good second crop from the ever-bearing raspberries, the first crop should be removed as soon as the fruit is formed. The idea is a very timely and valuable one.

LEWIS F. ALLEN, Esq., of Black Rock, Niagara Co., N. Y., was the next lecturer. His subject was, The Apple. Mr. Allen is well known to our readers as a writer on Agriculture, Stock-breeding, Rural Architecture, and Fruit Culture, and as an active member of Agricultural and Horticultural Conventions. He is a very intelligent, earnest and useful man; albeit, he is sometimes a little rough in manner, and a little dogmatical in tone. But he is of great service in a meeting like this, in exposing follies and absurdities, and bringing out facts in opposition to theories.

Mr. Allen is a large man, upwards of fifty years of age, about six feet high, with broad, square shoulders, a large head, covered with a mass of dark iron-grey hair, large, bold features, and a generally ponderous character, as expressed in his voice and manner. He is a man whom it is very hard to keep quiet while any nonsense (or what he esteems to be nonsense) is being promulgated in pomological lectures or discussions. At such times, his whole body is tossed about on his seat, and the muscles of his face twitch and jerk, as if he were in spasms. And then up starts Mr. Allen, with the not over-polite exclamation, "You may say that all this is thus and so; but *I know better!*"

As a lecturer he appears to better advantage than as a debater. He writes and speaks well, and to the point, and draws from the large store of his experience and observation a vast number of useful facts. He exhibits, also, much delicate taste and refinement of feeling and imagination, and even polish of style, and a rich fund of wit, of grotesque character, but highly useful to enliven and illustrate his remarks. His lectures on the Apple were both excellent, especially as adapted to the farmer, rather than the garden-pomologist.

Mr. Allen seized the opportunity of being upon the stand to make a digression upon the dwarf pear controversy, which he reviewed and considered at much length. We understood him to say that the pear was a long-lived tree, as a standard, under simple orchard culture; but that he still did not consider the budding upon quince stocks as a very useful process, unless for garden culture, and even there he did not think any great success had been attained, except by a few persons near Boston. We thought, however, that he had moderated his tone considerably since the newspaper war on the dwarf pear in 1858.

P. BARRY, Esq., of Rochester, gave us two very valuable lectures on the Nursery and Orchard management of Fruit Trees. No better, more fresh, or useful lectures than these were given during the week. Mr. Barry is, in fact, admirably qualified to give instruction to all classes engaged in fruit culture. His opportunities for experience and observation have not been second to those of any man in this country in respect to the propagation and cultivation of fruit trees, and no one that we know of has met with a higher degree of success in this work.

Mr. Barry is in the prime of life, a bright, keen-looking man, with glossy black hair, black whiskers and moustache, piercing black eyes, an energetic, business-like manner. He is a good writer, and a good extemporaneous speaker, and reads his lectures in a distinct and emphatic style. He is very careful in his statements, and what he says may be relied upon with much confidence. We think his lectures ought to be published in full. They were somewhat new in scope, especially in the parts relating to nursery management, which is a subject seldom touched upon by writers on horticulture. Mr. Barry gave us much information respecting the management of trees in the nursery, exceedingly useful to fruit-growers, as well as to nurserymen. Much of it, however was extemporaneous, and, we presume, was not included in the written notes.

Mr. Barry advocated the preparation of the soil for the nursery and orchard by ploughing and subsoiling to the depth of eighteen inches, and cross-ploughing and subsoiling when necessary, (and under-draining, if needed,) as amply sufficient in good soils, without trenching and turning up the subsoil three feet deep, as some have recommended. He also opposed very deep planting, and the use of highly stimulating manures, for pear trees on good soils.—He manures his own pear trees with old compost of peat and manure every year, applying it in the fall. His soil being highly calcareous, he uses no lime. Wood ashes he thinks very useful.

GEO. B. EMERSON, Esq., of Boston, addressed the convention on Forest Trees and Arboriculture. Mr. Emerson is a highly cultivated and accomplished gentleman, who has devoted many years to the study of forest trees, and other shade and ornamental trees, in this country and in Europe, both in their economical and artistic aspects. He is an eminent scholar, and a man who possesses the taste of a poet and an artist, as well as the skill of the landscape-gardener. He is a man of ripe middle age, with a head like that which is generally given to Falstaff, without the grossness of the traditionary model. But it is a head as capacious and pregnant of wit, and like it in the outlines and the arrangement of the hair. His manner of lecturing is somewhat formal, and his style may be thought by some excessively over-refined and elaborate; but it is a style suited to the subject, which deals with the elements of beauty and sublimity, as displayed in nature and in art, and hence must be elevated, refined and artistic, in order to discuss it in a proper manner.

We regret that we did not hear Mr. Emerson's second lecture on Shade and Ornamental Trees and modes of cultivation, as we feel sure that the practical part of his subject would display him in a new light to his hearers.

Practical landscape-gardening—that is, ornamental planting—independent of the higher principles of the art, is a subject that

Professor Porter should not neglect to provide for, in conjunction with the Pomological Course, another year.

THE LEVEE.—On Thursday evening, Feb. 8th, Professor Woolsey, of the Yale Scientific School, invited the members of the Agricultural Convention to attend a levee, given by the professors and students of the Scientific School, with their ladies. The reception was held in the College hall, and was pronounced by all who attended a delightful affair. Prof. Silliman, the elder, received the guests, and they were entertained by the students and a number of ladies in a manner at once elegant and unostentatious. A collation was also provided, of a rich and inviting character, set out upon tables decorated with the choicest flowers from New Haven conservatories, and many pleasant acquaintances were formed and renewed in the course of the evening. Many gentlemen were also invited to private dinner parties. The museums of the College were thrown open to their use, and they were invited to visit the fine gardens and greenhouses in the city.

The Pomological Lectures closed on Saturday, Feb. 11th. The following week lectures were given by J. S Gould, on Grasses; Joseph Harris, of Rochester, on Wheat and Indian Corn; T. S. Gold, on Root Crops; Prof. W. H. Brewa, on Tobacco and Hops; Levi Bartlett, of N. H., on Sandy Soils; Luther H. Tucker, of Albany, on English Agriculture and Hon. H. F. French, on Drainage.

The fourth and last week, lectures were given by Cassius M. Clay, of Kentucky, on Cattle; Lewis F. Allen, on Stock-breeding; Chas. L. Flint, on the Dairy; Sanford Howard, Ambrose Stevens, and Dr. D. F. Gulliver, on Horses; T. S. Gold, on Sheep; Mason C Weld, on Agricultural Associations; and Donald G. Mitchell, on Rural Economy.

This list presents a formidable array of names and subjects for a series of lectures, and every reader must perceive at once that the discussion, in the hands of such men, could not fail to be highly instructive to a young farmer, or an old one, if he had sufficient intelligence to comprehend and profit by it.

Prof. Porter certainly deserves great credit for commencing this novel and effective method of exciting an interest in the subject of agricultural education, and we feel assured that this is but a small beginning of what will in a few years be a grand system of public instruction in connection with the Yale Scientific and Agricultural School. Men in middle life, who become interested in rural pursuits, will discover that it is not too late to obtain a great deal of the scientific and practical knowledge which appertains to agriculture and horticulture, while they will, at the same time, see the advantage or even necessity of placing their sons at a Scientific School, if they desire them ever to become eminent and skilful in the practise of even agriculture. We think, after the plan and character of these lectures become known, that five hundred tickets at least may be sold for a full course next winter, besides tickets for single lectures.

A new College building and hall expressly prepared for this Scientific School and these lectures, has been erected, and will be in readiness for the next course of lectures, and many conveniences, especially in the way of illustrative apparatus, will, no doubt, be provided. We are assured that the enterprise is in the hands of men who possess such ample means and high professional character, that there can be no doubt of the ultimate success of the project. We should feel it not only a duty, but a pleasure, to give it all the aid and encouragement in our power. We believe such an Annual Convention of practical men from all parts of the United States, lecturing upon and discussing topics connected with agriculture and horticulture, giving the results of personal observation and experience, will do more to promote our national progress in these important pursuits, than any State Schools, Agricultural Bureaus, or other means ever yet projected. H.

Horticultural Societies.

MEETING OF THE EASTERN PENNSYLVANIA FRUIT-GROWERS' SOCIETY AT LANCASTER.

Feeling that this infant association is destined to be of vast benefit to the horticultural community, though our own duties are sufficiently onerous to demand all the attention we can bestow, we could not resist the temptation to "run down" to this the "ratification" meeting. The day was inaugurated by a severe snow storm. The railroads were blocked up, and the trains delayed for hours. Surely, thought we, the love of fruit-growing and pomological knowledge will not triumph over such obstacles. But how agreeable was our disappointment to find the large hall of the Cooper Hotel filled to overflowing with intelligent members from all the eastern and central parts of the State. We congratulate the worthy President and other officers (who have been re-elected) on their success, and trust they will not falter under the great load of good they are evidently destined to accomplish.

Our report, being made from our own notes, is necessarily brief and imperfect. In future they will appear officially.

At an early stage of the proceedings, Mr. Peter Crans, of Montgomery Co., was invited to give the history of

THE MAXATAWNY GRAPE.

He said he first heard of its growing on a farm at Camp Hill, Montgomery Co., Pa.; went to see it; found it growing over an old plum tree, thought the white fruit good; took them to the editor of the *Germantown Telegraph*, who confirmed his impression; took them to Dr. Brinckle, who thought them excellent, as also did many members of the Horticultural Society to whom, at the Annual Exhibition, they were freely exhibited. This was four years ago. Mr. Crans feelingly alluded to the insinuations that had been made in some journals, that he was a speculator in the vine. He had bought the right to the fruit from the owner, in order to control the right of gathering them when ripe; but he had freely and gratuitously distributed eyes all over the country, without a thought of remuneration, and now had with him a bundle of cuttings, which he would give to all the members present who desired them. The name of the party who has the original vine was purposely kept back, in order to prevent the intrusion of the "curious impertinent," which the history of other fruits has shown to be a serious annoyance to a retired individual. And this is the only "mystery" in the matter. After other business matter had been disposed of, questions for discussion were in order; and first

CAN FRUIT BE PROFITABLY GROWN FOR MARKET IN COMPETITION WITH OTHER STATES?

Mr. Harvey, of Jennersville, made an interesting address in the affirmative. Mr. Hiller thought only in a few favored localities; admitted they could years ago; now thought climate had changed to fruit's disadvantage, April weather especially. Formerly farmers in his locality (Conestoga) turned out their cattle to pasture on the 1st of May; now they were not able to do so till the 1st of June. Some seasons the hill-tops bore good crops, while the valleys failed; at other times the case was reversed.

Mr. S. Miller thought climatic changes could easily be regulated by planting for shelter, to replace the good effects of forests cut away—would plant evergreens Fruit could be grown profitably in his county (Lebanon). A friend, the past year, had netted $150 from two acres of apples. Farmers want too many crops—fruit and grain; spoil both. He would rather leave it in sod than crop an orchard; knew orchards in grass, that were heavily manured annually, generally to bear well. He spoke of the Kiem apple as having been brought thirty years ago to Berks from a tree growing originally at Lancaster. He had $250 worth of strawberries from one-fourth of an acre, at an expense of about $50. He praised the Focht and Kiem apples for their general good qualities.

Dr. Parry compared fruit-growing in Lancaster County in 1837 with the present day, to the advantage of the latter. Strawberries then would hardly sell at 12 cents per quart; now fine ones found a good sale at 37. Mr. Hiller had got $350 from 1¼ acres of strawberries. Mr Rutter has raised peaches at West Chester to great profit. He thought the seasons had not changed in one part of the States more than in another. A few days in blooming time made a great difference in the crop. Sometimes there were fifteen days of difference in the time of flowering; none in ripening. In 13 years always gathered Early York peaches about from the 4th to the 6th of August. On different aspects, so as to make but three days difference in the time of flowering, he had even seen it make a difference between a crop or no crop. Thought difficulties were not in the climate, but diseases were constitutional, which good cultivation, selection of good sites and proper soil, and, above all, good cultivation between the trees, of which he was a warm advocate, would, in a great measure, remedy. Mr. Whitson recommended the selection of good-bearing varieties. He spoke of a tree in his part that always bore—frequently *forty bushels* from the one tree. Dr. Eshleman had 28 quarts of strawberries from 60½ square feet. Mr. Gray knew an orchard of peaches adjoining where Mr. Rutter's was, that was a total failure—it was never cultivated, while Mr. Rutter's was. Mr. Hiller still thought we should look to the climate for a good part of the modern troubles. His apple orchard did not bear well, and was as regularly cultivated and taken care of as any one's. Wild trees that always bore regular crops, do not do so now,—while the common phrase of "a good fruit season" showed the popular idea of the season's or climate's influence. Hubbartson's Nonsuch apple, he had found, generally does well. Dr. Kellar also thought the seasons had changed, to the disadvantage of fruit-growers.—while the intelligence of the fruit-grower had not increased in proportion: an evil he thought this Society would do much to remedy. More attention should be given to selecting late-blooming varieties, and other circumstances necessitating a change of practice, and success would be as good as ever.—Dr. Libhart remarked that failures generally occurred when young trees were planted on the sites of old orchards. Climate and aspect had much to do with the crops in different seasons. On one side of the Susquehanna River he knew an orchard of peaches to realize $1000 from about two acres; when, on the opposite side of the river, the same season there were none.

Dr. Parry spoke of peach trees on his father's farm, while he was a boy, as large as his body. On the same farm now they live only about seven years,—thinks natural fruit the hardiest. Mr. Hiller said, in his section as many natural fruit as budded were grown, all indifferent. Mr. Lukens Pierce: Apples bore as good average crops in the Cumberland Valley as in any part of the Union. His peaches had been growing finely for six years; no

crop worth speaking of, except Crawford's Late; they were now getting the yellows; fruit rotted about the time of ripening. His experience in orcharding was discouraging, but yet had hope. Had taken a tour of observation; found, where the summers were shortest, apples did best; Kentucky clay bore excellent apples; apples from mountain sides keep better than those raised in the valley; had eaten Pryor's Red, in Virginia, from mountain sides, long after others from the valley were gone on the same farm of 600 acres in Virginia. Pears do better everywhere in Pennsylvania than apples. Mr. Rutter observed that if nature does change climate, the changed climate produced new varieties to suit. The R. I. Greening apple seemed to thrive well in Pennsylvania, but ripened too early to compete well with the same fruit from the North. The peach orchard from which he had his best success was planted in 1838—a poor, slaty soil; then a clover sod. He had it ploughed and limed—occasionally ploughed, but never manured; it lasted fourteen years; it had various aspects. Dr. Eshleman: Sixteen years ago, peaches produced every year in his neighborhood; has had but two crops the past eleven years.

INSECTS.

Mr. Engle, Jr.: The preservation of the birds was the best preventive against insects. Mr. Harvey had found hot water, as described in the *Gardeners Monthly*, an excellent method of destroying aphides and soft-skinned insects. Mr. Hiller kept out the peach-worm by banking about the stems. Dr. Kellar put boxes about his trees, filled with sand. Mr. Lefevre made some excellent remarks on the value and importance of birds. Mr. Libhart found the taste and odor of gas-tar, and preparations of soap, disagreeable to insects.

Mr. S. Miller gave some amusing anecdotes of curculio experiments by various acquaintances. One tied tobacco stalks to a pole, burned them, and poked about under a tree occasionally, for about sixteen days, and had an excellent crop of plums. Another succeeded by syringing with sulphur and soap. Had found hot water admirable for the cantharides on tomatoes, and squash bugs. Mr. Rutter thought the peach-worm did less damage than generally supposed: did not look after them much; they only penetrated beneath the bark; the apple-borer was worse; it went into the wood; the jack-knife was the best remedy; oil, tar, labor, etc., cost more than their value; advocated strongly the the correctness of Miss Morris's views regarding the curculio being the cause of the plum knot. Birds were very useful: referred amusingly to an argument in some leading agricultural journal, that a certain kind of bird was entirely *insectivorous*, and therefore, rather than destroy them, it would pay even to feed them with *grain* through the winter; was one of the original Committee on the Mathew's remedy, and could not, of course divulge the secret; was free, however, to say that ne did not find it successful; found salt applied under trees as far as the branches extended, a little benefit.

Mr. Stauffer urged the importance of the study of the habits of insects, and of insectivorous birds. Many other gentlemen took part in the discussion, but no new facts were elicited.

BEST SOIL FOR, AND MANAGEMENT OF, THE APPLE TREE.

Mr. Harvey suggested whether trenching and under-draining had not much to do with the success of the apple tree? Mr. Pierce had tried six years of good cultivation with an apple orchard, with such ill success, that he should in future lay it down in grass.—He thought the trees would do better. Mr. Rutter did not favor deep stirring the soil, except in soils impervious to moisture; preferred heavy manuring and cultivating with root crops; a good crop of apples was worth five crops of oats; regarded it very important in planting, to use dryish soil, and tramp in very firmly about the roots, to prevent the soil settling away from them. Dr. Eshleman remarked, that by trenching, the moisture was afforded a chance to rise to the surface by capillary attraction, in the dryest time, and thus he thought all soils would be benefitted. The mechanical condition of the soil was of great importance. He would select nursery trees that were well branched from below; plenty of foliage on the stem made it stocky and strong; he would, therefore, cut back the lower shoots to an inch from the trunk, which would ensure a good crop of foliage from the spurs. The head he would cut back at a point that would ensure the production of three strong limbs, out of which to form the future head of the tree. These limbs should be as equally divided in space as possible. Cut out all but those required, preserving a leader while young, covering the wounds with shellac. At the end of the season cut back the three, and the leader; and when the new shoots appear, preserve three more to each last year's shoot, always looking after a leader. This practice will insure a symmetrical tree.—When the head was well formed, the side shoots and spurs on the stem were taken off.

DISEASES OF FRUITS.

Though the discussion was quite interesting, nothing new was elicited, except the suggestion of Mr. Stauffer, the Entomologist, that the cracking of the Butter pear might be owing to the larvæ of very minute insects, which nothing but a very powerful microscope could detect.

CAN GRAPES BE PROFITABLY GROWN FOR MARKET?

Mr. Rutter thought, if they brought only three cents per lb., they would still be profitable; while the Isabella, by wholesale, usually brought 10 cts. in the Philadelphia markets. The discussion was quite animated, many gentlemen giving their views, but no one appearing to have any experience of their own in marketing. The prevailing idea was, that it would be a good market crop. Mr. Engle alluded to the ravages of the thrip as a discouragement. Mr. Crans referred to an experiment now being made at Pottstown A plot of fourteen acres has been trenched over 36 inches deep, and 28,000 cuttings of Isabella and Catawba set out. They were not allowed to bear for five years. The first crop was cut in 1858, and the beauty and size of the fruit were magnificent. Mr. Preston had been experimenting with wine the past season; found that three pecks of grapes made about five gallons of wine.

TRENCHING AND SUBSOILING.

Mr. Harvey had ground trenched about two feet deep, at a cost of $60 per acre, and the crop of potatoes the following year was so heavy, as to repay the whole original cost. Mr. Pierce spoke of the relative value of horse-subsoiling and hand-trenching. A gentleman remarked that he had found horse labor, subsoiling eighteen inches deep, cost him about $25 per acre; hand labor, twenty-four inches, $65 per acre. Mr. J. Hoopes found, in subsoiling, it best for his grapes, to bring the substratum to the surface. Dr. Eshleman had the subsoil thrown out in his grape border.

REMEDY FOR THE CURCULIO.

A gentleman of Lancaster was introduced, and offered to the Society a composition, the secret of which he wished to keep to himself. It could be manufactured at a low cost, and the odor would effectually drive away curculio. He asked for a committee to test his remedy thoroughly. Dr. Libhart opposed the application. The Society was instituted for the purpose of giving information freely to each other, and should shonld have nothing to do with "secret remedies." Mr. Rutter defended the application.—Any one, he thought, that would insure to the country a certain remedy against the curculio, would be entitled to the highest honor pomologists could bestow. The willingness of the gentleman to have it thoroughly tested before speculating on the spare cash of fruit-growers with a "certain remedy," was honorable, and he seconded the application for a Committee. It was adopted almost unanimously.

It was decided to meet again at West Chester on the 13th of June next.

Mr. J. Stauffer, of Mount Joy, was voted an Honorary Member, in consideration of the benefits he has conferred on the fruit-growers of Pennsylvania by the liberal use of his researches in the study of insects.

The *Gardener's Monthly*, as the only purely Horticultural periodical published in the district, was unanimously voted the organ of the Society. The investigations and reports of its working committees will appear officially in its pages. And the thanks of the meeting were voted to the *Germantown Telegraph*, *Farmer and Gardener*, and the other agricultural and family papers that had so liberally noticed and encouraged the establishment of the Society.

NEW HAVEN LECTURES.

The interest that these Lectures have excited induces us to give a very condensed abstract of them, and we regret that our space will not admit of their being given in full. That on VEGETABLE PHYSIOLOGY, by *Mr. Eaton*, was very interesting. He described the Vegetable Cell as a closed vessel like an egg, and is composed of an outer solid membrane which contains a fluid, and matter floating in the fluid, or attached to the sides. If this body, which is termed a *utricle*, remains closed throughout its life, it is called "a cell;" if the sides of several adjoining cells disappear, and the series is arranged into a tube, it becomes a "vessel." Cells are the base of all vegetation. The diameter of cells average from 1-200th of an inch, up to 1-250th. The membrane covering cells is of different toughness. In the sea weed it is very soft; in ash, hickory, and mahogany, very hard; and in vegetable ivory, harder still. Cell membrane never dissolves in water, but swells. It is called "cellulose," and is composed of oxygen, hydrogen and nitrogen, chemically written thus: C. 12; O. 10, H. 10. The spaces between the cells of a plant are filled variously. Sometimes with air; in the common red cedar with minute grains of red aromatic rosin; in sumac, with a thick milky sap, and in other plants with gums. The contents also of cells vary. The growing cells of some plants, as asparagus, are more nutritious, because they contain some nitrogen, which goes toward making muscle in the animal body. A granular matter, a viscid fluid, sap (which is almost water, but contains sugar sometimes,) and the green leaf-color, known as chlorophyll, are always contained in the cell. Starch, too, is sometimes there, and each grain of it is organized, and so organized *sui generis* for each plant that the paternity of any specimen of starch could be readily traced. Botanists divide plants into two classes as a general thing—viz: 1, cellularly solely, and. 2, cellular and elongated together. There are two grand divisions in the plant world—the flowering and the flowerless. The former have elongated cells, but the simpler of the latter class have not.

DR. FITCHES' *Lecture on Economical Entomology*. The Doctor expressed his belief that the difficulties of orchard culture was more traceable to insects than any other cause; and made an earnest appeal to all engaged in the culture of the fruits of the earth in behalf of the study of his favorite science.

PROF. JOHNSON on the *Proximate Elements of Plants* was very interesting. Speaking of the vegetable albumen which may be extracted from the common pea, he said that in China they soak this vegetable in water to separate the albumen, and by adding a little plaster of Paris precipitate it, after which it is pressed into cakes, dried, and sold under the name of taffo, but is really "pea cheese."

DR. FITCHES' Second Lecture on *Insects* was very interesting. He said there are 60 different insects which prey upon the apple, 12 on the pear, 16 on the peach, 17 on the plum, 35 on the cherry, and 30 on the grape. The curculio, or plum weevil, is a native of our country. Notwithstanding the volumes written upon it, we do not to this day know where the curculio lives and what it is doing for three-quarters of the year. The loss of the apple crop by curculio he said was as great as of the plum. After examining the black-knot in every stage, he says emphatically that it is not caused by an insect, nor is it a vegetable fungus, but purely a disease of the tree, like cancer in the human body. The curculio breeds in it, as do also other insects. Dr. F. found larvæ of curculio in the bark, where there were no knots, as well as in them. No available remedy against the curculio was suggested.

PROF. JOHNSON'S Second Lecture on the *Atmospheric Food of Plants*, created much attention. He referred at length to the well-known fact, that the greatest part of a plant was derived from the carbonic acid in the atmosphere. He startled the agriculturists by the avowal than the stiffness of straw is most decidedly *not* owing to an abundance of silica on the outside, but to "the denseness of cellular tissue in the stalk." This he considered proved in the fact that we get from the leaves of the oat and other plants a greater proportion of silica than from the stalk, and yet all leaves are pliant and soft. He further said that the atmospheric elements of the soil are not necessary to production, but are necessary to such rapid development as the farmer needs. Solubility of the mineral elements must exist in order that the plant may take them up. According to a new theory recently put forth, this is not so, but the rootlets of the plant take in solid matter, and the plant, by its vital force, transforms it into nourishment. This, however, is impossible. Ammonia is rapidly absorbed by the soil, and the farmer need not fear the loss of this valuable element of manure after the manure is incorporated in the soil. Nitrates, however, are not so easily taken up. But the physics of the soil are, after all, more important than its chemistry. A few years ago, chemical analysis was going to do great things for the farmer. He had only to send a piece of his poor pasture to the chemist's laboratory, to be told precisely how to make the rest of it as good as his garden. But it has been found that certain elements, without which, the plant cannot perfect itself, may exist in the soil in sufficient quantities for the plant, and yet be beyond the reach of the chemist. Chemical analysis pretends not to find a less fraction than the 1-1000; an acre of soil one foot deep will weigh 2,000,000 lbs.; an ordinary wheat crop will take off only 200 lbs. of mineral matter, allowing one-half of this to be phosphate, and we have only one twenty thousandth part composed of that element or quantity—too small, it may be, for the chemist to find. Four hundred pounds of guano, containing say one-fifth phosphates, applied to an acre entirely destitute of phosphates, would make all the difference there is between a good crop and no crop at all; but this eighty pounds, distributed through the two millions of soil, would be too trifling a quantity for the present state of chemical analysis to detect. Besides, this is too expensive for the farmer; nor does he need it, for the general deductions of the chemist are of more value to him than any particular analysis of his soil.

The fineness of the particles in any soil is an important point. A Boston chemist found a barren New Hampshire sand, to show the same analysis as a specimen soil from the Sciota Valley, one of the richest localities in the world; but the former was heavy and coarse, while the latter was an impalpable powder, flying away upon the slightest breath. It would take a pretty strong breeze to raise some of our New England soils. A soil, too, must have the right elements ready for the crop in a state of solubility as it goes along. The elements may be there, but if the crop cannot get hold of them they are valueless. Exposure to the atmosphere has a tendency to remedy that. The absorbing power of the soil is great, but this power depends on the minute division of its particles. The effect of the sun is different on different soils. To the vineyards on the Rhine, a black slate is often applied, to ripen the fruit earlier; charcoal does the same thing. This is not because black attracts heat, but because it has the power of converting a heat of great intensity into one of less—a heat of low intensity having a greater penetrating power. The heat of the sun is what is called a white heat, like that of a red hot ball of iron, and the slate transforms it into a heat which more resembles the heat from a ball of hot water.

MR. GOODRICH'S Lecture on the *Potato Disease*. He gave all that was known respecting the disease, and gave it as his opinion that it was caused by a lack of vital energy in the plant. The cellular tissue being weakened, passes into a state of fermentation, and mildew follows.

MARSHALL P. WILDER, on *American Pomology*, spoke with his usual brilliancy and intelligence. Of 72 pears enumerated by Quintinye, the gardener of Louis XIV, in 1680, only two are now recommended as worthy of cultivation in our country—so much more sensitive had our taste become. In 1828, there was not a single horticultural society in the United States, and scarcely an agricultural one; now we have over one thousand of the latter and fifty of the former. The grape had increased wonderfully in consumption; one dealer in Boston produces annually from the wild grapes gathered on the banks of Charles River, 20.000 gallons; Connecticut manufactures 200,000 galls.; Ohio, 800,000, and one vigneron at los Angeles, Cal., turns out 66.000 galls., or about 2000 barrels of good wine. Climate influenced the quality of fruits. The failures in fruit growing were mainly attributed to bad selection of soil and varieties, injudicious treatment, or bad cultivation. All soils are not suitable for fruit orchards. nor are all kinds of fruit adapted to every locality. Mulching the ground about trees with either straw or rotted compost, he thought an excellent plan. An orchard should always be kept free from grass and weeds, and no crop be grown between the trees, for fear of starving them. Trees once grown, there should be no plowing deeper than 3 or 4 inches, and not even that where the roots would be disturbed. The trees and plants of a country flourish better there than elsewhere. Hence, all our efforts are being, and should be put forth, to get new native sorts of first quality. He was decidedly in favor of putting the pear on quince stocks, and he was glad to know that some who formerly were bitterest in their hostility to the practice, were now of his opinion.

LEWIS F. ALLEY'S Lecture on Fruits. He did not think the pear well adapted to this climate. In some places it did well—in these it was *very* well. He named particularly along the Detroit River. Very refined varieties of superior quality he thought more liable to disease than others. With regard to dwarfs, he said the pear has been grown on the quince in Europe for hundreds of years; Normandy and Belgium were its proper home; and yet in those countries and elsewhere pears were dear and a precarious crop. Mr. Allen thought it would pay any one to cultivate dwarf pears in his garden, and perhaps, if soil and climate exactly right could be found, a man might be warranted in venturing upon field culture.

DR. GRANT, in his lecture, advanced some new hypotheses. He doubted whether there were more than one species of American grape. The Herbemont section he believed traceable to an European origin. In the management of the vine, he laid great stress on the pruning as of first importance. Shoots are the growth of one year, and are so called from the time that the opening bnd in Spring has developed its first leaves until it has completed its year's growth, and is ready for the pruning knife. When cut back to one bud, the stump is called a short spur, when cut to three or four, a long spur; and when left with more than this number of buds it is a cane, except when peculiar circumstances give it a special name. When two shoots spring from a stump near the ground, and are destined to have bearing shoots grown from them, they are termed thighs; and such, when laid horizontally, are sometimes called arms. The objects of pruning are: 1st. To restrain the roots and branches within convenient limits for cultivation. 2d. To concentrate the strength of the vine, and not suffer the production of useless wood and foliage. 3d. To get just enough wood to bear full crops of good fruit, and plan its distribution with reference to the health of the vine. There are three kinds of buds—the primaries, which come at the axis of the leaves, or where the footstalk joins the shoot, and which, in bearing vines, are the fruit buds one season, and the next produce the shoots on which fruit is borne; the secondaries, which come in the side shoots, or laterals, and which are removed in Summer pruning, and the adventitious buds, which are unseen, until they burst through the bark of the former year's wood. They are called wood shoots, as they produce no fruit except in a few varieties of remarkable productiveness. A bunch is a productive tendril; a tendril, an abortive bunch. The points or ends of bunches should be cut off, as this causes a complete ripening and sweetening of the upper grapes and prevents the growing of shriveled berries at the point, which is a sheer waste of substance. If a vine is left to itself to grow, the tendency of vitality is upward, the fruit gets beyond our reach, has a coarse quality and woody flavor, while the buds near the ground soon perish, and no after care can revitalize them. It is scarcely possible to fix the duration of a well-set vineyard; it may as well last 1,000 as 100, or a score of years. The vine needs moisture ever, wetness never. Nitrogenous manures are good if well rotted and composted, for they attract moisture, and a well prepared grape border is never dry in even the hottest seasons. If ripened too early, grapes lose flavor, and if the grape-grower is so far north that he is forced to lay down his vines through the Winter, he is amply repaid for his trouble in increased flavor and quality of product. The best methods of laying down vary: a mere covering with boards is enough to guard against slight frosts, but with the additional precaution of covering with sand one is perfectly safe in the worst places. But a slight covering is necessary—just enough to guard against having the sand wash or blow off and expose the vine, and two or three inches of depth is enough. The whole vine should be covered. If the vine is as large as a man's arm, it will still readily lie down if it has been so treated from the first.

MR. LEWIS F. ALLEN'S Lecture on the *Apple* afforded some useful statistics. He complained that the census statistics embraced no information on the fruit crop; and yet, after careful computation, he was convinced that its aggregate value could not be less than $26,000,000. Ten counties alone, in New York State gave an

average of $200,000 each. Niagara County, only 25 miles square, yielded $250,000 worth of fruit in 1859; Orleans, $200,000; Wayne gave of green apples $168.750 for exportation, and $25,000 more for consumption, and $35,000 in the dried state. The crop of all New York is about $6,000,000; of New England, $4,000,000; Ohio, $3,000,000; Pennsylvania and New Jersey, $3,000,000; the North-Western States, $4,000,000; and the Southern States, $6,000,000 in all.

Mr. Pardee's Lecture on *Small Fruits* was replete with interest. The Raspberry, he said, likes a moist, cool location. The northern slope of a hill, or the north side of a fence is best. The soil should be a gravelly loam, and be made very rich with rotted manure. This same treatment is appropriate to the gooseberry and currant, but not to the strawberry. To preserve raspberry stakes, he kyanizes them. A solution made of one pound blue vitriol to twenty pounds of water, and used for soaking the points or whole length of your stakes, will make them last almost forever. The proper way to gather Lawton or New Rochelle berries for the family, is to jar the canes with a hammer, and catch the berries which fall. The others—and these are those sent to market—are not fit to eat. Never leave more than three canes in a hill, and have no suckers growing near the bush, if you want fruit. Cut back your canes as soon as they have borne their crop, pinch off the ends of the shoots in September, and again in Spring; by which plan you will throw the strength of the vine into fruit-bearing on the laterals. The Cranberry, on bog lands to which a dressing of sand has been added, should give 50 bushels per acre the first year after planting, 150 bushels the next, and so on up to 450 bushels as a maximum. He said that, if compelled to choose one alone of the small fruits, the currant would be his favorite, as much of a strawberry man as he was.

For Dr. Grant's Second Lecture, Mr. A. Fuller was substituted through the Doctor's illness. Mr. F. spoke of grapes, with regard to their pruning and culture. Even with a choice grape, its quality and profit depended in a great degree upon the cultivation and pruning given to it. In Summer, during the season of active growth, the liquid portions of the sap are exhaled almost as fast as they can be absorbed by the roots, and no great accumulation can take place in any one portion of the vine. But the leaves once fallen, the roots continue to absorb their appropriate food from the soil, and thus the wood becomes quite filled with sap, which is kept in store for early Spring use. It is therefore plain that we should prune our vine as soon as the leaves drop off, that the sap which is afterward absorbed may all go toward the nutriment of the buds which remain.

Mr. Barry's First Lecture, *Orchard Management*. Whether Spring or Fall planting is best, Mr. B. said, depended whether the kind of tree ripened early in the Fall or not. Late growing trees were not successful when Fall planted. He prunes the head at planting, and cuts smooth bruised roots. He plants shallow, in deeply subsoiled ground, and cultivates between the trees; never, however, coming within six feet of the tree at least, with the cultivator. Never allows the roots to be disturbed in any way. Surface-manures in the Fall, and forks it in in the Spring. Mulching in Summer is good. Standard Apple trees, 30 to 40 feet apart; Pears, Plums and Cherries, 20 to 30; Peaches 20. In exposed situations, plant hardy kinds in thick rows, in more exposed situations, Dwarf Apples, Pears, Plums and Cherries, 10 to 12. Dwarf Apples on "Paradise stocks," near as 6 feet even, and Pyramid Pears on quince, 8 feet. Of pruning, he said the only instrument used in a good nursery is the pruning-knife; and this should be kept so sharp that any ordinary branch may be snapped off at a single draw, leaving a perfectly smooth surface. Shears should never be used. A saw is only required when trees have been neglected. Branches removed should be cut close to the trunk, so that the tree may not be injured by decay of a stump. Shorten shoots to a good strong bud that will make a leader, not too close to nor too far from the bud, and with a slope of cut of about 45 deg. In shortening your leader, do not always cut on the same side, for you would thus make the whole tree lean one way or the other. Pruning, rightly done, is a blessing; wrongly, a curse. Fools cut away branches, indiscriminately, until their trees are but skeletons, with a few bearing branches at the extremities only. The force of the tree is then expended in producing a crop of rank, watery shoots in the interior, to be again cut away to make room for a second crop. Trees should never be suffered to bear fruit until they have got strength and vigor.

Mr. Barry, on *Nursery Management*. Twenty years ago, two or three small nurseries in the neighborhood of each of our large cities, occupying in all not more than five hundred acres, and a few other small apple nurseries of an acre perhaps each, supplied the wants of the United States and the Canadas. Now we have over 1000 nurseries; and in Monroe County, N. Y., alone, where he resides, there are three or four thousand acres, producing annually $500,000 worth of trees. In the whole Union there are annually sold fifteen to twenty millions trees, for, say $5,000,000. The surface for a nursery should be nearly level, and sheltered from cold winds. Spruce or Larch is good for shelter. Stony, very stiff and very sandy soil objectionable. Should be well drained. The drains should be never more than two rods apart, and were better to be laid at a depth of 3½ feet. In a stiff, retentive clay bottom, they should be only 20 feet apart. He deprecated planting a nursery too closely as detrimental to the health of the trees. Fruit stocks should be thinly sown, and so managed as to be fit for working when one year old. To obtain strong quince stocks, plant out a certain number of stool or mother plants, in a deep, rich, well-prepared soil; when they have stood one season, cut them all off close to the ground. The next season they will produce strong, smooth shoots, which, the following year may be earthed-up half their length, as celery is earthed-up, and in the Fall they will have rooted well enough to bear separation from the parent plant. If left on during Winter the frost will ruin them. Such stocks as these may be set in nursery row the next Spring, and budded the same season. Only two crops of shoots can be taken from the same stool, and a good dressing of manure is necessary to get even the second. Pears propagated on small, weak quince stocks are worthless. In budding or grafting quince stocks, it should always be done near the ground, so that the whole of the quince may be set under ground without being too deep. Root grafting, although still an open question among nurserymen, Mr. Barry believes to be, if properly performed, as good a mode for propagating the apple, and more especially all the strong growing sorts, as any other in use. It has been sadly abused, and thus been brought into disfavor with bunglers and their victims.

Management of Young Trees.—Trees are too closely planted as a general thing; three and a half feet between the rows, and three or four inches between the plants, is too little space to give either air, light, hardiness of constitution, spread of root, or strength of top. For apples, pears, or other trees which are to remain two years in the nursery row, the distance from tree to tree should never be less than 18 inches for standards, and 24 inches for pyramids; and even at such distance the pruning-knife is to be freely used. Country people are too apt to value a nursery tree in proprotion to its height, rather than its strength and proportions—a too common and fatal mistake. Cutting back should be freely practised, and the leader, or main stem, should be pruned as well as the side branches, else one will get a tall and ill-proportioned tree. An enormous amount of money is annually lost to tree purchasers from rude and unskillful taking up. Trees are torn up by the roots, as if the trunk and branches were the one thing necessary, and the roots superfluous. The proper way is, to open a trench on each side of the tree with a common spade, *keeping the edge toward the tree*, so as not to cross a root. These trenches should be far enough from the tree to avoid the main roots, and deep enough to go below all, except a tap-root, which may be cut off. This being done, the tree may be pulled up with its roots entire.

CINCINNATI HORTICULTURAL SOCIETY.

Officers Elected January 1, 1860.

President, William Orange: *Recording Secretary*, E. J. Hooper, *Corresponding Secretary*, E. P. Cranch; *Treasurer*, Robert Clark; *Librarian*, T. F. Allen; *Council for Three Years*, J. H. Gerrard, S. W. Haseltine, Robert Reiley.

JANUARY 14th, 1860.

The retiring President, S. W. Haseltine, Esq., delivered his valedictory address, in which he gave a synopsis of the operations of the Society for the past year, and also much interesting information as to its present condition and future prospects. From it we gather that there are nearly six hundred members, and that the debt has been paid off, leaving a clear balance in the treasury. A lot has been secured in Spring Grove Cemetery, on which to erect a monument to those who have distinguished, or may hereafter distinguish themselves in horticulture.

William Orange, Esq., the President elect, then delivered his inaugural address. He estimates the income of the Society for the ensuing year at Two thousand dollars; one-fourth of which he recommends should be devoted to a fund for erecting a hall. He also expresses the hope that one of the City Parks may be obtained for the use of the Society. He alluded to the almost total failure of the apple crop last year, but said that this fact ought not to discourage any one, as, by his own experience, this is the first failure in sixteen years. He alluded feelingly to the death of Mr. John Sayers, a useful member who was lost at sea, and also to the severe sickness of Mr. A. Ernst, which has deprived the Society of his valuable services.

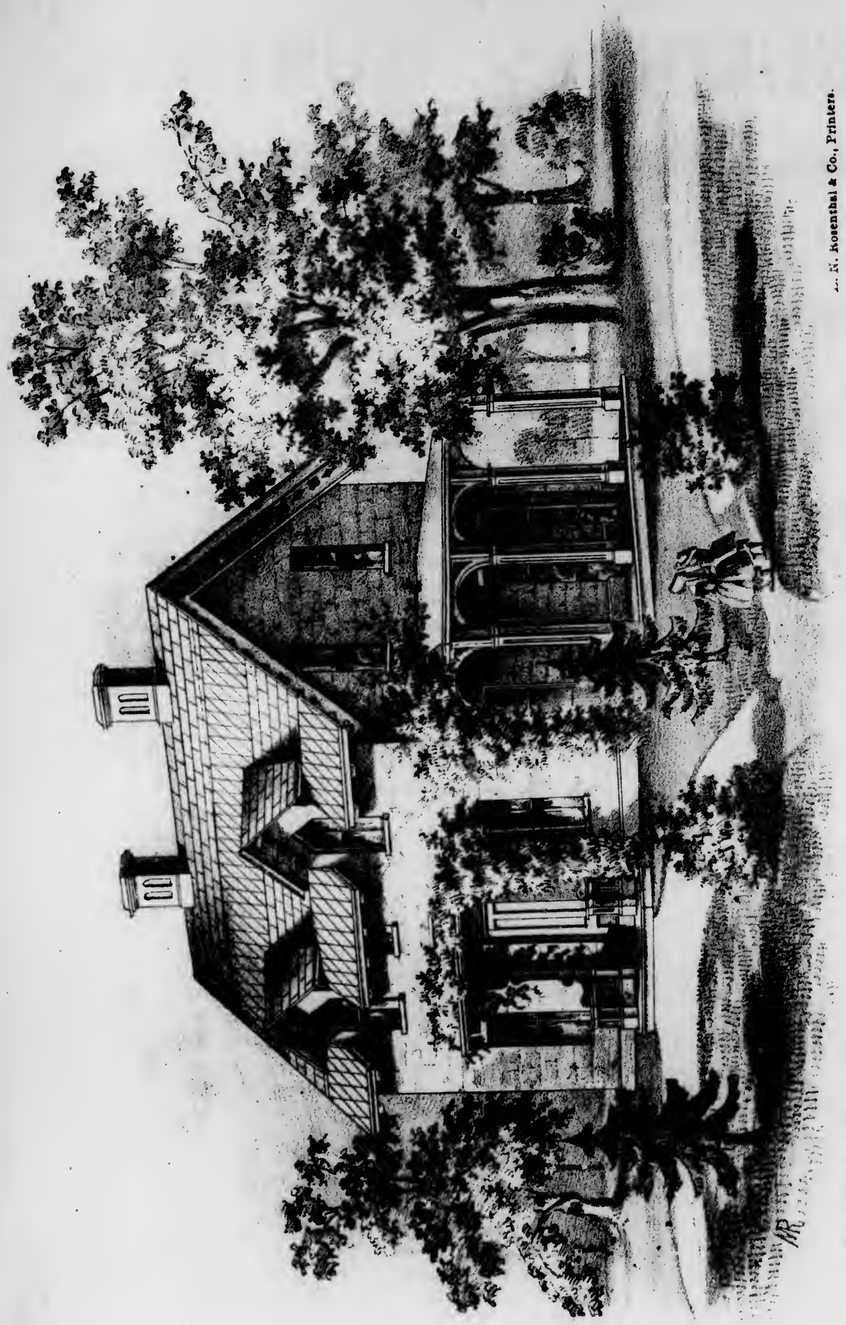
COLLEGE HILL (OHIO) HORTICULTURAL SOCIETY.

President—Jacob Tuckerman.
Vice-Presidents—Rev. H. N. Day, E. G. Ricker.
Recording Secretary—Rev. C. E. Bubb.
Corresponding Secretary—D. B. Pierson.
Fruit Committee—F. G. Cary, E. G. Ricker, J. Hammitt, Rev. J. H. Willson, J. W. Caldwell.
Flower Committee—P. J. Klund, H. N. Day, Rev. W. H. Van Doren, M. H. Litzenburg, M. Georgi.
Vegetable Committee—Dr. J. W. Brooks, Charles Parnell, F. Jessup, A. Grant, Eber Strong,

The Society is composed of about fifty members.

Very respectfully yours,

Daniel B. Pierson, Cor. Sec'y.



GARDENER'S COTTAGE OR TENANT HOUSE.

By J. C. SIDNEY, Architect, Philadelphia.

Max Rosenthal, Del.

...N. Rosenthal & Co., Printers.

THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, Editor. APRIL, 1860. VOL. II.---NO. 4.

Hints for April.

FLOWER GARDEN AND PLEASURE GROUND.

In preparing beds for flowers, *new soil*, where it can be obtained, is of great advantage. Some plants—Verbenas, for instance, soon get sick of the same earth. A moderately rich soil is also of importance, say about half an inch of well rotted manure, spread on the surface. If more than this be employed, and the soil be made too rich, a too free growth, and too few flowers may result. All this work should be advanced; but it is better to wait a little than to work soil when wet. If it stick to the finger on a slight impression, delay in working is advisable.

As soon as the weather seems settled, set out bedding plants — not fresh from the greenhouse or frame, but such as have been hardened a few days before setting out. Water the plants just before, and press the ball firmly in the soil after planting. Annuals are getting yearly more popular on account of their great variety, and the cheapness with which they may be obtained. A lady no more wants her flower garden to have the same look every year; here the same geraniums, there the same verbenas, and elsewhere the same patch of mignionette as she had last year—than she wants her new Spring bonnet to last forever. And to obtain this everchanging and pleasing variety, annuals are the very things for the purpose. But they must have good soil and careful attention, or the seed will be sure to be "bad;" a convenient term for neglect or bad practice in many instances. Very fine seeds may be sown quite on the surface, and a little moss, dried and powdered, spread thinly over the seeds. The common cause of failure is deep sowing. The nearer the surface, the better, provided they do not ever become dry—which is as fatal as deep planting. It is a happy practice that can just hit the middle way. Climbing annuals are particularly interesting. Tuberoses are best planted out as soon as all danger of frost is over, in a rich, moist, warm, sandy soil, if perfection is desired. Roots that flowered last year will not flower again for two seasons.

Bulbs that have flowered in glasses or pots in the house, if planted out into the open ground as soon as their flowers are fairly faded, and before their leaves have become seared, will, if left in the open ground till next Spring, give a small bloom again; though, of course, nothing to be compared to the imported roots.

Planting of deciduous trees must now be proceeded rapidly with, and towards the end of the month commence with the evergreens. We advocate strongly pruning or shortening the extreme points of the branches at transplanting, not only of deciduous trees, but of evergreens also. It is one of the modern "revolutions," to be able to speak thus of evergreen trees; the idea would have been laughed at not a half dozen years ago. Of course, there is a way to prune without injuring the symmetry or fine form of the evergreen tree, which a little practice will soon teach the amateur.

VEGETABLE GARDEN.

In the Southern States, the more tender kinds of Garden Vegetables may now be sown, Beans, Corn, Cucumbers, Squashes, etc., that it is not prudent to plant in this latitude before the first of May; and Tomato, Egg-plants, etc., may also be set out in those favored places. We notice that several of our friends do not report well of the Fejee Tomato; our own experience has been considerably in its favor, and we think a majority, at least of those who have tried it, think highly of it. Cucumbers, Squashes and such vegetables, can be got forward as well as Tomatoes, Egg-plants, etc., by being sown in a frame or hotbed, and potted off into three-inch pots; they will be nice plants by the first week of May. Rotten wood suits cucumbers and the squash tribe exceedingly well as a manure. Tomatoes and Egg-plants that are desired very early are best potted, soon after they come up, into small pots. They can then be turned out into the open air without any check to their roots; of course, they should be gradually inured to the open air—not suddenly transferred from a warm and moist air to a very dry one.

Bean Poles may be planted preparatory to sowing the Lima bean in May. Where bean poles are scarce, two or three hoop poles, set into the ground one foot from each other, and tied together at the top, make as good a pole, and perhaps better.

Dwarf Beans should not be sown closer together than two inches. The Valentine is still the most popular; a kind called the Early Butter came into use last season, and is valuable from the fact of its having very little "string," even when nearly mature.

Peas should be sown every two weeks to obtain a succession. There are few additions to the old stock amongst the early kinds; but in the later ones there have been some decided improvements. Harrison's Glory, Flack's Victory, and Fairbeard's Champion of England, have already got a good reputation here. Some new Marrowfats, that are dwarfish, are also improvements, at any rate in that respect, of which, Climax, Alliance, and Bedman's Imperial, are well spoken of. For those who have good sticks at command, a six footer, called Leviathan, and one nearly as tall called General Wyndham, has been introduced.

Lettuce, for a second crop of Salad, should be sown about the end of the month. The Drumhead Cabbage is usually sown for a summer crop; but the old kinds of Cos Lettuce would, no doubt, be found very valuable in rich soils.

Early York Cabbage for early use, should be set out early this month. It is an excellent plan to make the holes with a dibble first, where the cabbage is to be set, then fill up the holes with manure-water, and after the water has soaked away, set in the plants. It is rather more laborious than the old way, but the cabbage grows so fast afterwards, that it pays pretty well.

It is not a good plan to cut all the Asparagus as soon as they appear. A few sprouts should always be left to grow from each, to strengthen the plants.

Where Brussels Sprouts, Cape Brocoli, and Autumn Cauliflower are desirable, now is the time to sow. They require the same treatment as the general cabbage crop.

FRUIT GARDEN.

We have very few suggestions to add to those made last month. Fruit trees that have proved undesirable from any cause, may be re-grafted with more favored kinds. This is an advantage with some varieties—it takes an age, for instance, to get the Seckel Pear into bearing condition from a nursery raised tree, but by grafting it on one that has already "arrived at years of discretion," the advantage of placing a young head on old shoulders, in this way is soon made manifest.

Buds that were inoculated last Fall should not be forgotten, but as soon as vegetation has pushed forth, the buds should be examined, and all other issues from the old stock taken away. It may also be necessary to make a tie in order to get the young shoot of the bud to go in the way from which you would not have it hereafter depart.

Above all, do not allow the month to pass without posting yourself afresh on the various methods recommended for destroying insects, or preventing their attacks. The advantage of a stitch in time is never more decided than in the great struggle with fruit-destroying insects. A mass of information on these points lies scattered through our last year's volume, that will well repay a careful reperusal for the purpose alone of refurnishing ones ideas in that line.

In the other departments of gardening, the hints given last month are still, in the main, applicable; and in the path we have marked out for ourselves in these hints, namely, the suggestion of items that are likely to be forgotten, or in which improvements are from time to time being made, we have nothing further to offer.

Communications.

BUDDING WITH LAST SEASON'S WOOD.

BY G. MENDENHALL, RICHMOND, IND.

I tried, by way of experiment, to bud and graft a small lot of trees every week up till near the middle of summer, from old wood of last season, with reasonable success in both. Grafts put in after the leaves were full grown grew three feet. I shall try the experiments further this season. I think it may prove an excellent idea to fill up vacancies where buds get winter-killed, which is often the case here where we have so little snow to protect them.

[At page 49, Vol. I, we made the same suggestion, and are glad to have the corroboration of one of Mr. M.'s excellent experience.—Ed.]

COLD IN VIRGINIA.

BY O. TAYLOR, PURCELLVILLE, VA.

Would it not be interesting to hear from different parts, where the *Monthly* circulates, of the temperature, especially where it is excessive. I should be glad to know how the peach buds are affected in other places. They are all killed in this county except the extreme higher parts; the mercury on the second of this month was 13¼° below zero with us, and in one place, 16 below. It ranged from 5 to 16 below, at a variation of 200 feet elevation, being perfectly calm, it was the lowest in the deep valleys. I think it likely they are killed (the peach buds) at Washington, Baltimore and Wilmington in the open country, (but not in the cities, of course,) but I do not know.

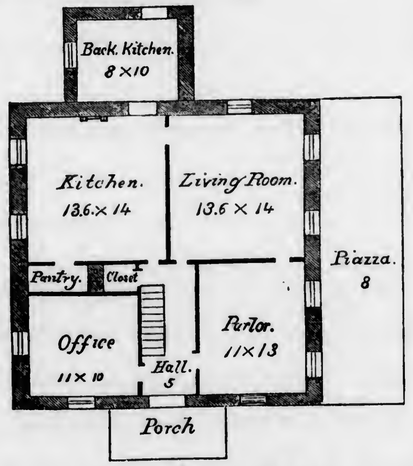
I have never known it colder but twice here before—once at 18 degrees, and the other at 20 below zero. This time it was of so short duration that the effect is not so severe on large limbs as it was then, but many a person not used to the observations of temperature will be much disappointed next Spring, I presume, in not seeing a peach crop, and bloom of many tender plants.

DESIGN FOR A GARDENER'S COTTAGE OR TENANT HOUSE.

[*See Frontispiece.*]

BY J. C. SIDNEY, PHILADELPHIA.

The design is intended to meet what is often found a difficult matter, viz.: a cottage containing sufficient accommodation for a moderate sized family at a moderate cost, with a due regard to comeliness. A Gardener's house on a gentlemen's place is often required to accommodate assistants as well as the gardener and his wife. Sometimes a gardener's tastes go beyond fruits and flowers, and may require room for a family. A Tenant House, at any rate, in a place of any size, should always have room for an extra hand or two, indispensable at certain seasons.



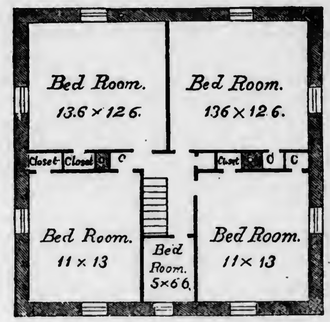
GROUND PLAN.

Such houses are generally either made too small, are costly, or are too pretentious.

The plan includes a cellar, and on the ground floor a parlor, office or library, large kitchen and back kitchen, and a dining-room or sitting-room with pantries. If not needed for other purposes, the office could be used as a bedroom. The second floor comprises four good bed-rooms, with closets in each, and a small room at the end of the entry, which could be used either as a store-room, or if needed, is sufficiently large to contain a single bed. Another bed-room could be built over the back kitchen at a slight additional expense.

The cost, if built of wood, with shingle roof, substantially but plainly finished, would be about $1350 in the neighborhood of Philadelphia. If built of stone, laid as rubble and pointed, with slate roof, the cost would be about $1550.

The addition of another story would double the sleeping accommodations, at a cost of about $250, but would not improve the proportions.



SECOND FLOOR

The cost would vary according to the locality, but in no section of the country, probably, would it exceed the the estimate made for Philadelphia, where lumber especially is high.

[We feel very much indebted to Mr. Sidney for his excellent plan,—excellent not only in the design itself, but also in the original idea. Gardener's houses, and other tenant buildings too often disfigure instead of adorn an estate by their pretentious character on the one hand, or mean appearance on the other. They should always express what they are:—gardener's or tenant houses, and not castles in embryo, miniature fortifications, or cheap tenements for the needy.—Ed.]

CHEAP AND DESIRABLE LABEL.

BY T. V. P., MT. CARMEL, OHIO.

The best and simplest Ink for Zinc Labels every man carries, as a general thing, in his pocket, which is nothing more than a black lead pencil. I have some labels marked in this way ten years ago, perfectly indelible short of scraping with a knife or scouring with sand.

DAHLIAS.

BY JOHN SAUL, WASHINGTON CITY, D. C.

Nothing is more common than to hear of dahlias recommended to be planted out about the middle of May; yet nothing can be more erroneous, if good, perfect flowers are desired. For this early planting large old ground roots are frequently used. As a consequence, they make an early and luxuriant growth,—are in full bloom by midsummer; hot weather is now upon them, which the dahlia does not like. They give, however, a profusion of imperfect flowers; are generally a prey to red spider, thrip, etc., and when Autumn arrives, are so enfeebled as to be incapable of producing a perfect bloom. Need we be surprised, after a few years of such treatment, to hear persons exclaim, "My dahlias degenerate!" They produce only single or semi-double flowers. This is just what a rational person may expect. "Degenerate" they will and must under such a course of treatment, and their imperfect blooming qualities become fixed. Animals degenerate under bad treatment; so will all kinds of fruits, vegetables and flowers, not excepting our favorite dahlia.

My mode of treating this flower is this:—Never plant out sooner than from the first to the middle of June. From the middle to the 20th is a good time. I have planted the first of July, and have had a good bloom. Manure and well prepare your ground before planting; use small plants in pots, of the current year's propagating; the most successful exhibitors use such plants only. As soon as planted, place a large stake to each, and tie as they grow. My reason for putting the stakes thus early is, to avoid injury to roots, which would take place after the dahlias had commenced growing. As the plants advance in growth, the knife should be freely used, cutting out at least one-half the bloom, as well as keeping the plants low. Under this treatment they will have no disposition to flower before September—a season quite congenial to the plant. Exquisitely shaped perfect blooms will be produced, faultless alike in shape, symmetry and size. I should remark, when the plants commence showing bloom buds, at least three-fourths, should be pinched off as they appear. Those which are allowed to perfect themselves will be superb. At the time of planting out, a deep mulching of half-rotted manure spread over the ground is of great benefit; and in dry weather, through all stages of their growth, they should be freely watered; if liquid manure is used occasionally, so much the better. With this treatment,—late planting, young plants, pruning, disbudding, and late blooming, — the good qualities of the dahlia become fixed, so that the good cultivator can, with almost a certainty, rely upon the production of flowers, exquisite alike in shape, symmetry and size, with every variety of color in perfection.

I could give a long list of superb varieties, but will confine myself to twenty-four, which the amateur may plant without the least disappointment.

PLAIN OR SELF-COLORED DAHLIAS.

Cherub, bright light orange yellow; a fine deep flower.
Col. Windham, deep rose, with a small bronze tip, fine shape.
Goldfinder, deep golden yellow; a large, useful show flower.
Hon. Mrs. Trotter, white, distinctly tipped and edged with rose; novel and attractive.
Lady Popham, white, delicately tipped with lavender; of the finest form.
Lollipop, salmon; shape nearly two-thirds of a ball, high centre.
Lord Fielding, nearly black, small, well-arranged petals, high centre.
Miss Pressley, white, heavily edged or picoteed with dark purple; a constant, new and pleasing variety.
Mrs. Church, deep yellow, tipped with lake; a full sized flower of fine form.
Rachel Rawlings, delicate peach, fine form.
Triomphe de Pecq, dark crimson, a large full flower, extra fine.
Village Gem, clear white ground, edged and tipped with rosy crimson.

FANCY DAHLIAS.

Beauty of High Cross, deep gold, heavily striped with rich crimson.
Carnation, white, beautifully and regularly striped with purple, constant.
Cleopatra, orange yellow, striped with crimson scarlet, good form.
Comet, dull red, mottled and striped, good shape.
Countess of Bective, rosy lilac, tipped with white, full sized constant flower.
Duchess of Kent, pale yellow, tipped with white; fine form.
Empereur de Maroc, maroon, tipped with white; dark and rich.
Lady Paxton, red, tipped with white; fine petal and form; beautiful.
Le Defi, orange buff, striped with lake; full size; good form.
Marc Antony, deep yellow, finely striped and marked with bright red; fine form.
Oliver Twist, the best purple and white striped fancy; very superior form.
Village Bride, pale yellow, striped with bright red; a full-sized flower, constant and large.

[It is very interesting to compare different experiences of good growers under different latitudes. We last month gave Mr. Barnes' experience with the Dahlia at Dorchester, Mass., and now have the pleasure of inserting the above from Washington, D. C. —Ed.]

EXPERIENCE OF A FRUIT GROWER.

BY A NEW YORK FRUIT GROWER.

Catawba—With me the Catawba is hardier, and a stronger grower that the Isabella, and invariably ripens its wood and fruit in this locality, and when well grown it is a superb fruit, which in quality is surpassed by only a few of the new grapes, and is worth in market from three to five dollars per hundred more than the Isabella. Unlike that variety, the vine will not sacrifice itself to ripen or mature all the fruit that happens to set. Consequently, a part of the fruit will shrivel and drop from the vine, and a part attain full size but never color or ripen, and these, when cut open, will be found affected with the "rot," having black spots in various places, not unlike those we sometimes find in a potato.

It is probable that a damp soil or aspect, which does not have a free circulation of air, may induce the "rot," but the writer has had abundant evidence that it is also induced by crowding the vines too close, and by bad pruning, which causes it to overbear; vines that are not overloaded with fruit, seldom are troubled with the "rot."

This grape should be planted in a high and dry soil and not less than 12 feet apart in the rows, and the rows about the same distance from each other, and if properly pruned, that is, close enough to prevent overbearing, it will seldom suffer from the "rot;" and such locations are seldom visited by untimely frosts, which is important to the grower of this grape as it should remain on the vine until about the middle of October to perfect itself.

Clusters very fine and large, firm, and well adapted to late keeping or sending to a distant market. Stem almost as tough as wire, and can only be taken from the vine with the aid of the knife and will bear pretty severe frost without injury. This is the wine grape of Cincinnati; it is not grown on the Hudson as much as it deserves to be, and is much easier to grow than people generally suppose.

Diana—For many years this grape has been a special favorite of mine, and I am prepared to endorse all that its most enthusiastic friends have said in its favor.

With me its "constitution" has always been good, nor does it require the aid of sulphur to hold its foliage or perfect its fruit. I will venture the prediction that ten years hence there will be found in the vineyards of the State of New York, ten times as many of this variety as there will be of the newer and more vaunted kinds of grapes.

No grape grows stronger, or bears the intense cold of our winters better, and the writer never has had a vine winter-killed, nor does he know of a case of the kind, and it is productive to a fault, which is no fault when it receives proper treatment, yet never suffers, under any circumstances, from the rot or mildew.

It is earlier than the Isabella, and much superior in quality to that esteemed variety, and will hang long on the vine, gradually improving in flavor and beauty. Clusters compact and perfect, so much so that one rarely finds a defective berry. Firm and well adapted to store for winter use; they have been found as fresh and perfect in April as when first taken from the vine, and the berries adhere well to the cluster, which is highly important to the market grower, as no grape sells well unless it has this habit.

I have planted this variety quite extensively for the New York market, where it is fast growing into public favor, and highly appreciated by all who are acquainted with it.

It has all the characteristics of an American grape, and without doubt is wholly of American origin, as the leaf is of a firm and heavy texture, which enables it so well to resist the mildew, that inflexible enemy to the European grape in this country.

[We are very much obliged to our kind correspondent, not only for his communication, but for the subject. In spite of the legion of new ones, which *may* contain amongst them a better grape in *every* respect, than any of those named, it is yet *to be tested*, and we like to hear of our well known and time-tested kinds receiving a portion of public attention. —Ed.]

HORTICULTURAL CONSERVATISM.

BY H., NEW YORK.

Mr. Editor:—By the general tone of the *Monthly*, thus far, it seems your desire to make it a thoroughly practical paper; not to be at all invidious, I believe it to be a desideratum never before so well supplied to the readers of gardening magazines here.

Gardening, with us, perhaps more so than any other profession, is yet almost wholly dependent on Europe for its skilled workmen. Somehow or other our American youth do not take kindly to it, and we consequently have comparatively few American Gardeners. Hence, both in private establishments and in nurseries, the English mode of operations, to some extent, prevail. But with all admiration for the high degree of perfection that our profession has attained in England, yet I cannot refrain from questioning the utility of the *manner* of some of the every day operations, which are religiously persisted in from one generation to another without a question,

seemingly, whether a simpler and less laborious mode might not be adopted. For instance, the hundreds of acres of market gardens around London, are, I believe, nearly all turned over with the spade, just in the same manner, probably, as they were half a century ago, no one seeming to have hardihood or common sense enough to introduce the plough and harrow, which our necessities here, by the scarcity of laborers long ago compelled us to adopt for all similar purposes, and which, in my humble estimation, does the work *better* at about one-tenth of the cost.

When I say better, I speak advisedly, having had extensive experience in the culture of market gardens, where the improved kinds of plough and harrow are used wholly for the cultivation of the soil, except in angles where the team cannot turn, there the spade or fork is used, but not with the pulverizing effect of the plough and harrow. If this, then, is the fact, which I think few who have had proper experience of both will dispute, is it not the extreme of "conservatism" to persist in a method of cultivation that costs ten times as much with no better result?

Another matter of less importance pertaining to another department of the business, but one so universally practised, even here, that it arrests our attention. I refer to the useless, to me worse than useless, practice of "Crocking" the pots preparatory to the potting or shifting of soft-wooded plants. That the practice is nearly universal in England is evident, for we find that in our importations from some of the leading establishments in London, of the usual varieties of florists' plants, such as Dahlias, Chrysanthemums, Fuchsias, &c., all are done up in the regular orthodox style, with the inevitable piece of potsherd in the bottom of each pot. It is true that many of our nurserymen and florists here dispense with this nonsensical formula, yet it cannot be denied that the majority still think it necessary to "drain" the pots in which they put their verbenas, geraniums, roses, &c.; but I must not be understood as condemning the draining of pots in whole. That it is, perhaps, indispensable in hard-wooded plants, and some few stove and greenhouse plants, is not questioned; it is the indiscriminate practice that is condemned. It may be urged that the time occupied in "draining" (?) a pot is trifling—which may be so in private establishments where only a few hundred pots are in use, but when a hundred thousand or more (as is the case in some of our florists' establishments) are passed through the hands in the course of three or four months, it is found that this small matter can very gladly be dispensed with. In this matter also, Mr. Editor, I write from experience; the establishment over which I have control, is one of the most extensive in the neighborhood of New York, not a crock has been used, with my knowledge, for the last six years, and yet, Sir, if you or any of your practical readers would step in upon us now, and see the state of vegetation in our pits and greenhouses, if not already, you would at once become converts to our non-crocking doctrine.

[This communication, from one of the best plant growers on this continent, will attract universal attention, and we commend it to our readers' careful study. We have ourselves abandoned the "crocking" of all our commoner things for years past; not that we thought there was no positive advantage attached to the practice, but because we found there was not enough to make it profitable. But, as H. suggests, is there any advantage in crocking small pots?—Ed.]

FUNGUS OF THE CUTTING BENCH.

BY AN OLD PROPAGATOR.

During a twenty years' residence in the smoke and fog of London, I noted some few hints that may be useful in overcoming the troublesome pest—fungus.

I fear the construction of the *propagating house* is too often a matter of *secondary* consideration. A properly ventilated, well constructed house, however small, would save a great deal of unnecessary trouble and expense. I have had considerable experience with what is generally termed a *half-span* propagating house. This is in two divisions, heated by hot water, and standing due south. In the front wall are ventilators, running all the length of the houses, which, when opened in foggy or frosty weather, direct the currents of cold air to the hot water pipes. By this means the air becomes heated and purified before entering the house, and passes off at the ventilators on the highest point in the roof. I have frequently noticed, during a spell of dense, foggy, moist weather, that if we neglected to raise the heat in the pipes, and open the ventilators for two or three hours each day, we were almost sure to have some soft-wooded cuttings *damp off*, as the gardeners term it.

These few brief hints may suggest some improvement in the future construction and arrangement of propagating houses. It may not be convenient to have houses now built so altered; but in the mean time it is well to substitute the use of *charcoal*, instead of sand, for striking cuttings. It should be prepared and sifted until it resembles blasting powder, when it will be found to answer the purpose quite as well as sand. I have never seen fungi on it, and the only objection I ever had to its use is, that it is not so cleanly to handle as sand; but the man who is afraid of soiling his hands, has no business in the propagating house.

LAYERING THE GRAPE.

BY CASPAR HILLER, CONESTOGA, PA.

Every body, now-a-days, seems to be interested in growing grapes, so I presume any plan that will show how to increase plants expeditiously will meet with favor. My plan, however, is nothing new, but, like many old things that are really good, it is not as generally known or practised as it should be.

A few years since, I received from a friend a single eye of a new grape, which I planted in a flower-pot and placed in the room window. After it had grown a few inches and the weather had become fine, it was set into the garden, where it made about five feet of wood.

The following Spring the ground around it was well prepared, by digging and manuring; a trench made about two inches deep, the length of the vine, into which the vine was laid and pegged down to keep it in place. In this way the vine was left until the eyes had grown from eight to ten inches, when they were tied up to stakes and the earth was drawn around their base. This, as the vines grew, was repeated, until the layered vine was about six inches under ground.

The result was, that in the Fall when the vine was taken up, I had a plant for each eye, many of them ten feet long, and superior to any vines that I ever grew by any other process.

Another circumstance may be mentioned in connection with this mode of propagating. If strong vines are laid down, they will produce an abundant crop of fruit, (I have seen good grapes raised thus,) without injuring the young vine in the least. It will sometimes become necessary, with the short-jointed varieties, to take off the first bunch, in order that the layer can be covered deep enough.

[This, as Mr. Hiller observes, is an old method, but yet so much of a secret that but a few practise it, while "outsiders" look on and wonder. It is an excellent plan, and will be new to many.—Ed.]

MANAGEMENT OF HORTICULTURAL SOCIETIES.

BY C.

My Dear Sir:

I agree entirely with you, that a well managed Horticultural Society is one of the greatest advantages any community can possess; but I must take exception to your further remark, that your humble servant is one of the best to illustrate those advantages that you know. For assuredly your circle of acquaintances cannot be so very limited. However, I am willing to aid your excellent and enterprising journal so far as you think I can, and will give you a leaf, as you request, from what you are pleased to term the "book of my valuable experience." Certainly, I have taken a great interest in our Society in former years; and if not doing much now, it is not for lack of interest in the cause, but because I think younger blood should lighten the burdens of age in the management of such institutions.

At the outset of starting a Society, two objects present themselves,—first, to render it popularly a favorite, and financially strong; and secondly, to create and advance horticultural taste. The latter cannot be accomplished without the former is first achieved, and to that every effort should be first applied.

Most of this depends on the selection of a President. He should be a popular man in every sense,—well known to the community in which he moves, and of such a disposition, that others would love to flock round, associate, and work with him. Once chosen, he should be, in fact, *the* Society. Unless he takes a personal and active part in the business and workings of the Society, it will soon loose caste. It is any thing but an honorary position in a prosperous Society. The Secretary is the next important personage, and should be no less popular as a man of character and business than the President; and these two together should have the most to say in selecting the business committees who are to work with—I might rather say, for—them.

Having organized, no time should be lost in securing the popular support. The advantages it is to confer on the community should be clearly and *continually* kept prominent; and as "fashion" is a great power in the world, instead of ridiculing it, as is often done, to the ruin of many good Horticultural Societies, make it fall in with your views, and lend you its powerful support. You say it is your province to reform and correct public taste. True, and this is the way to accomplish it. Get fashion once to love you and flatter itself that it supports you,—your influence will soon be felt over it, and will become immense, and surprise even yourselves.

There are so many ways of rendering a Horticultural Society popular, that I need hardly descant upon them. Of course the exhibitions are one of the chief items. No effort should be spared to interest the *whole community* in them. Love of novelty is one great weakness with the public, and something of this kind should always be prepared for them,—not merely something that you can tell them is a novelty, but which they shall all *feel* is to them a novelty. For instance, if you could announce to them that a beet would be exhibited that would weigh 100 pounds, or a cherry large enough to admit of "two bites" being agreeably taken from it, or an immense "bank of flowers," formed of the plants from neighboring greenhouses, or a geranium that has one thousand flowers fully expanded, or even the State House re-

presented with dahlia blossoms, peach trees in 16-inch pots with 300 ripe fruit thereon, or pot grape vines one year old, with fifty pounds of fruit on them,—any thing, in fact, that is a novelty *within their own experience*. Prepare such treats for them, and be sure at the same time to *let them know that you have them on exhibition*, and they will flock to your meetings. Unnatural "designs of cut flowers," "monstrous beets," and huge "specimen" plants, are not, by a long way, the means to correct the popular taste. They are not to be employed for that purpose. They are but the traps to catch the hare before you can cook it. All improvement is to be done by offering prizes for other things in the line of progress. And in such a schedule of premiums the same general principle should be observed, namely: prizes should be offered for things that every body grows or can grow, instead of what the society thinks ought or might be grown.

The handsomest half a dozen plants grown in cracked teapots in a mechanic's window should no more be forgotten than the best ten orchids in a millionaire's hothouse; and the best collection of plants grown in four or six inch pots should be thought as worthy of encouragement as a tub requiring a yoke of oxen to draw it, or a Victoria flower, that wants a house for itself to grow in. While the showy and attractive is thus not forgotten, the real objects of the society must be continually borne in mind.

All this implies that there must be a great variety, and a large number of exhibitors, and their peculiarities must be studied as much as those of the public. In the first place, you must make them inducements to exhibit. The day is gone by when men work for the mere honor of the thing alone. They want both honor and profit. A successful society must offer liberal premiums, and well advertise the exhibitors' success afterwards. It must also obtain the confidence of the exhibitors that their goods shall be fairly judged; and to do this, the most competent judges should be secured. This is a very important point. Parties, male and female, who have never even seen many of the kinds of articles they are called upon to "judge," are often selected, and the most absurd errors of judgment are committed, to the ruin of societies so governed. If competent parties cannot be found who can afford to leave their business to attend to these duties, it will pay to award them some recompense to ensure their attendance.

To sum up, Mr. Editor, I can only say, that to get up and maintain a successful Horticultural Society, you must get popular officers who will work, and who well understand how to make the society fashionable and popular,—who can draw in to their aid numerous exhibitors, and who, by liberally rewarding and honoring them, and guarding them from gross errors of judgment on the part of incompetent judges, will retain their good will and favor.

In spite of the best management, societies will, at times, cease to be popular. In this I presume they do but follow a law which seems to prevail in all natural things, which seems to call for a period of youth, maturity, and old age,—not only amongst plants and animals, but in nations, communities, and societies. We cannot remedy this; but we may make our creations live to a good old age, and when their time is come to die, bury them with honor, and with a feeling of veneration for their past usefulness.

ACHIMENES.

BY E. FRYER, DAYTON, O.

About the first week in March, procure bulbs, (they can be obtained of most nurserymen and florists,) prepare six inch pots, clean and dry, *inside* as well as outside, fill one-third with broken potsherds or charcoal, fill the remainder to within one inch of the top with earth composed of sandy loam, leaf mould or a little cow-manure, the latter well decomposed; place on this five or six bulbs to each pot, equally divided over the surface, cover by filling the pot over with the same kind of compost, place the pots in a lightsome and rather warm place in a pit, greenhouse, or even a sitting room where there are not too great vicissitudes of temperature. In a few weeks they will make their appearance over ground, after which, they should be well watered as often as they need it, the leading shoot pinched off two or three times during the season of growth, but not after the flower buds appear.

With this treatment they flower the latter end of August, and all the month September in the latitude of Philadelphia. The above treatment is best in the hands of ladies, and amateurs generally, but in the hands of the gardener the flowering season can be much earlier and more extended by starting plants in a frame or forcing house with bottom heat.

The best way of keeping the bulbs in winter, I have found, is, after the tops are thoroughly dried in the Fall by gradually withholding water, to take them out of the earth altogether and keep in a dry place where they will not freeze, the temperature not being lower than 40°.

The best kinds for a variety are, A. longiflora, A. longiflora alba, A. grandiflora, A. picta, and pedunculata; the latter, the tallest growing variety, according to my experience, requires a little more heat to perfect its flowers than any other, and A. coccinea, a pretty dwarf variety.

SURFACE MANURING.—Mr. Gardner, in the *Country Gentleman*, says one of the most prosperous farmers in New York State, has not plowed-in his manure for the past twenty years, depending altogether on "surface manuring."

NEW PLAN FOR GREENHOUSES.

BY W. C. STRONG, BRIGHTON, MASS.

Ice farming is now reduced to a system in New England. But the case was very different twenty years since. The pioneer and most enterprising man in this trade then asserted that it was as important to know what could *not* be done as what could. In imitation of early Babylonish husbandry, which attempted hanging Summer gardens, he conceived the idea of a suspended Winter farm. An immense "wooden" pond was accordingly constructed. But, whatever may be said of other farms, here was a case where the system of "thorough drainage" was too "thorough." In addition to this defect, by a curious freak of Nature, the pond, in a dry time, actually took fire and was consumed. Here was a case which proved what could not be done.

In this spirit of experiment, I conducted a glass house during the past season, and as I deem all experiments, whether successful or unsuccessful, to be of value, and rightly belong to the public, I send you an account of my experiment:

My site was a warm, sheltered side-hill, lying at an angle of about 20°. A strip, 100 feet long, and 56 feet wide was marked off and covered with a single lean-to roof. In other words, the side-hill was simply sheeted over with glass, having a back and end walls, and running nearly to the ground in front. The sash bars are straight strips, 2 by 3 inches, and running from the bottom to the top, being twice spliced. These bars have 4 inside cross bearings, being about 11 feet apart and supported by small standards. On the inside edge of the sash bars, a deep, narrow furrow is cut for the purpose of sliding in a second course of glass. This is done with great care, the panes being merely butted to each other. The bars being 3 inches deep, allowing half an inch for the outside and inside rabbets, there will be left a space of 2½ inches between the outside and inside glass. This column of dead air proves a wonderful protection; at the same time, the double glass is rather a benefit in softening the fierce sun's rays. The glass used being of large size, (15 inches between the bars,) it was an easy matter to insert sliding ventilators at suitable intervals. Free ventilation is also secured at the top back wall.

My objects in building so large a house were, First, economy of construction; Second, light and air; Third, Economy in heating and working. The wood work is the simplest possible, being all worked at the mill with scarcely any hand work. So large a space, with no side walls to shade, and so little wood-work over head gives the effect of a summer side-hill, even when the sun runs lowest.

And, thirdly, the side hill creeping up with the roof, the number of cubic feet to be heated is comparatively small; moreover, the proportion of outside wall exposed to the cold is much smaller in one large house than in a number of smaller houses. The advantage in working one large house, with but one fire, one system of watering, one force pump, and the saving of steps in passing from house to house, all this is too apparent to be dwelt upon. By actual experience, I find that the 10½ tons of coal laid in in November will last into March, and keep 6000 feet of glass in a state to grow peaches. By means of a hose and pressure of water from a tank at the top of the house, water can be conducted to any part, and the plants showered with great ease. The plants standing on the ground require less water and do better than when on stages.

In a portion of the house, a hundred peach trees are now in the different stages of fruiting, and their dark, rich foliage would indicate that they had the suns of August rather than January.

In closing, I would add that I should by no means recommend such a house for all places and all purposes. Away from the sea coast, such a house would be greatly endangered by heavy snows; even near Boston, it will require watching. But I have found the outside wood-work is so slight, and the suface of smooth glass so large, that not over five inches of snow can ever fall, in the coldest storm before it will slide. In all my experience with houses, I have never seen one that cleared itself of snow so speedily. The only all-important point is the giving a clear way for the snow at the foot.

Of course, such a structure is not designed for propagating purposes, nor for the growth of many kinds of plants, unless subdivided into different apartments and different atmospheres secured. But as an orchard house and for the cultivation of plants that require light and air; I think the plan has great advantages. Thus far the double glazing is perfectly successful. In case the glass becomes dusty or green inside, (of which I see no present indications,) it would not be a difficult task, in rainy weather, to slip out the inner glass and wash it. But I should think this necessity would be of rare occurrence.

MASSACHUSETTS WHITE GRAPE.

In the Annual Report of the Fruit Committee of the Massachusetts Horticultural Society, this grape is noticed as follows:

"It was introduced by Mr. Watson, of Plymouth, Mass., who described it as 'the greatest acquisition ever made to our hardy domestic grapes.' 'The flesh is tender, juicy and melting, and entirely free from pulp.' A vine received directly from Mr. Watson, has borne fruit the past season, which has been ex-

hibited before the Society. Other gentlemen have also fruited it, and state their fruit to be identical with that exhibited. There seems to be no good reason to doubt that the fruit is genuine. If so, it is rightly named.

The woods of Massachusetts abound with grapes of similar quality. 'Domestic' is an unfortunate adjective to apply to this variety, for, in the opinion of your committee, it is far from being domesticated. It has *all* the strongly marked characteristics of the Wild Fox, or Bullitt grape, and is utterly unfit for cultivation. The quality of the fruit seems to be wholly irreconcilable with the description of the introducer."

ACHIMENES--THEIR CULTURE.

BY W. PAYNE.

So many fine kinds have been introduced that the stove or warm conservatory may be made beautifully gay from June to September. My own practice has been very successful, though teaching probably little new.

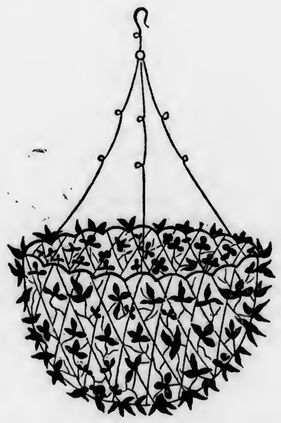
When Achimenes have done blooming, their little "*rhizomes*" are collected together, and kept in separate parcels in some dry and warm place, (where the temperature is not below 50°, nor above 60°.) About the first week in January, we set out our roots, picking the finest, and preparing some pans (such as are used for making cuttings in,)using sand, loam and leaf soil, in equal parts, filling to within one inch of the top. The bulbs are placed about half an inch apart, are covered with soil, and introduced to the most congenial climate we have at the time; a temperature of 60° to 70° will answer, provided the air is not what we gardeners call "dry." Here, in a few weeks, they make rapid progress. Where time can be afforded, and space is not of the greatest importance, and, where fine plants are required, the best way is to pot them from these dishes into small pots, putting one plant in each pot, until they become thoroughly filled with roots, which will be accomplished in the early part of March.

I have at times raised some very fine plants, which have bloomed well without the potting-off process, and have left them in the seed pans until transplanting time; we have found it good practice in this latter case, to stop or pinch out the leading bud in order to produce bushy plants; this plan we follow up until we obtain such plants as we need, and until we wish them to begin blooming.

I have seen fine strong plants grown without any stopping, where the atmosphere was just their element, but this seldom happens. We grow most of ours in wire baskets, partly because by suspending them from the roof of the stove we can economize our space and at the same time produce a charming display of combined coloring, ornamenting the house in the most beautiful and effective manner.

Achimenes seem to flower better in baskets than in pots. We prepare for them a mixture of leaf mould one part, old decomposed dung one part, fibery loam one part, and a little sand. In this mixture they grow and bloom well. The wire baskets we have of many different forms, shapes and sizes; ours are made of galvanized wire. In basketing, we cover the bottom of the basket with moss, putting on a sufficient thickness to prevent the soil passing through; next, we lay on this moss soil about an inch deep, and then turn out of the pots, or remove from the pans, very carefully, the plants, and place them on the layer of soil; four good plants should be sufficient, in an ordinary basket, to form the bottom row, and should be placed at equal distances from each other, the tops being carefully drawn through the wire openings, and allowed to hang over, and the stems must be noticed particularly that they do not rest upon the wire *at first*. Should they do so, and be permitted to remain there, the probability is that the pressure from above will break them off. It is a good plan to introduce some mosses below the stem of the plant, and the wire, to prevent this accident, for it is very important that *none* of the plants should be lost; if so, the uniformity of the flowering will be damaged.

When these are fixed, a layer of moss must next be placed round the sides of the basket, about three inches above the first row of plants, then soil nearly as high as the moses, then another row of plants, which must not be placed directly over the first, but placed in the angle between each pair, as shown in figure.



so that when they bloom, the basket shall be completely hidden from sight and nothing seen but one

uniform mass of color; the same operation must be performed for the other rows. We frequently plant four plants at the top of the basket, which come in very useful as a finish. Over the soil, on the top of the basket, we string a few pieces of wire to keep the moss from being washed away. From fourteen to twenty-four plants are generally used for one basket, the moss which hangs through the opening should be carefully trimmed off with a pair of scissors, and the process is completed, when a suitable situation is selected for them, they are suspended in some moist, shady stove, giving water seldom at first, more frequently as growth advances, and using liquid manure occasionally throughout the blooming season, which is useful in prolonging their time; if they are weak, then they should be stopped, and (if compatable with other things,) more air given.

We have had baskets measuring fifteen feet in circumference and four feet deep, covered all round with blossoms.

For our large specimens we use the strongest growing sorts, such as Sir Trehern Thomas, and picta gigantica; for blues we use "longiflora" and "longiflora major;" for whites, "Margaretta;" for purples and rose colors, "*Baumanii hirsuta*," "*grandiflora*," "*rosea floribunda*;" for scarlets, "*meteora*," with a few baskets of the beautiful "*Verschaffeltii*. Some of the new ones we have on trial, but these we have enumerated have proved themselves desirable and permanent kinds, and when properly managed they produce the most gorgeous display which can be created in the stove at their season, and at a trifling cost.

Black Knot on Plum Trees.—Mr. B. B. Warden, in an excellent article in the *Canadian Agriculturist*, does not believe the knotty excrescence is caused by the Curculio, because the trees are knotty, while the fruit is untouched, and he thinks, if they really exist there, which he seems to doubt, they would not attack the branches in *preference* to the fruit.

To Keep Cider from Fermenting.—Put a little sulphite of lime (not sulphate of lime, or gypsum), into the barrel with the cider. When the cider begins to ferment, the acetic acid formed, unites with the lime and liberates sulphurous acid gas, and this immediately checks fermentation. The sulphite is nearly insoluble in water, and lies inert and harmless at the bottom of the barrel till it is needed. This is a very simple and effectual method of arresting fermentation at any stage desired. Of course, in all cases, the cider should be kept as cool as possible, wihout allowing it to freeze, and the more effectually the air can be excluded, the better.

TRENCHING GROUND.

BY E. FRYER, DAYTON, O.

Having had some experience in the matter, I presume to express ideas. The "upside down" practice I condemn altogether, whether the subsoil be good or bad; but if the subsoil is good, or capable of improvement, it should be mixed—thoroughly mixed—in the process of trenching with the top soil. For this we have good authority. Leibig, in his late work, recommends a thorough admixture of the soil by the use of the spade, in preference to the plough. If the subsoil is bad, it should be left *where* nature placed it, but not *as* nature placed it. If there be only eight, ten or twelve inches of good soil on top of a very bad subsoil, the novice will ask, "How can I trench two feet deep under such circumstances, such depth being generally recommended?" To which I answer, turn clean over all the good top soil, and dig, loosen, pulverize the under-stratum to the same depth as that of the top, but leave in the bottom; do not bring it on the top, nor mix it. I reiterate a saying of the *Monthly*, in a former number, giving directions for making celery trenches—"Beware of bad subsoils." Prof. Way, in his "Absorbtive Power of Soils," teaches that in proportion to the *depth* at which the soil is cultivated, so also is its power to absorb ammonia and other fertilizing agencies from the atmosphere; hence the benefits resulting from deepening the soil, whether good or bad. The architect will not build his house on a shallow foundation, unless the fabric reared above the earth is very light; no more can the cultivator of fruits, vegetables, &c., expect to raise heavy crops from a shallow soil, or one deficient in the materials necessary to support the burden he expects it to bear.

SHALLOW PLANTING OF TREES.

REPLY TO THE CRITICISMS.

BY WILLIAM BRIGHT, LOGAN NURSERY, PHILA.

My reply to the criticisms upon my article on "Shallow Planting" shall be very brief. In my first article on this subject, I intended to present what I consider good practice in the planting of trees, in contrast with the common method of planting in holes wholly or partly filled with manure, or composts composed in good part of manure, as is too generally the custom. If any one should happen to be convinced of the merit of the plan advanced, and should be as much benefitted by it as I have been, it will be a source of much gratification to me. If any one's prejudices in favor of deep holes and deep planting are as deeply rooted as the trees they plant, and they obstinately refuse to be brought up to the light, I can only regret their unfortunate condition, and hope that they may not, like many of the trees alluded to, become affected with premature sap-blight, but may

live to discover their error, and ere many years may be dug out of the fossil strata in which they lie, and walk the earth in an improved horticultural state of existence.

But badinage apart, I do not feel that I can go into an extended discussion of this subject, without giving my friend, the editor of the *Gardener's Monthly*, an over-dose of the matter. Therefore, like the ghost in Hamlet, "brief let me be."

By "shallow planting," I mean the planting of trees entirely in the top or surface soil, digging no holes into the subsoil, except for the purpose of loosening it when it has not been trenched or subsoiled, placing no manure or composts under the trees, and doing nothing to invite the roots downward, but doing every thing to induce them to spread themselves chiefly in the six or eight inches of surface soil. I have never said, as my critics seem to infer, that under my method of planting, the roots would not go down, even into a poor subsoil. On the contrary, in an article on the Shallow Planting of the Pear, in this journal for March, 1859, I said, "the roots will go down speedily enough, and far enough, be sure of that," even if planted shallow. But what I want is, to prevent them from going down if possible; at least I urge planters not to put the roots down into the cold, poor, inactive subsoil to begin with, nor to invite them down by rich composts placed under them.

My excuse for so radical an article on planting is this. Thousands of trees of all kinds have been ruined by following the advice of the most eminent horticultural writer this country has ever produced, —the lamented DOWNING, —and it is time that a check should be given to the practice which he introduced, and which has been copied by numerous writers and followed by amateurs for many years, but is *not* practised (mark, you, my critics,) by the *best nurserymen* or the *most successful fruit-growers*. Downing had the soul of an artist, united to the hand of a practical gardener; but the trade of gardening was in its infancy in this country when he commenced to write, and he was not infallible. His merits were pre-eminent; his errors were few, but here is one of the gravest of them.

In Charles Downing's Revised Edition of A. J. Downing's "Fruits and Fruit Trees of America," published by J. Wiley, New York, 1860, page 44, we have this passage:

> "No fruit tree should be planted in a hole of less size than three feet square, and eighteen inches to two feet deep. To this size and depth the soil should be removed and well pulverized, and it should, if necessary, be properly enriched *by the application of manure*, which must be thoroughly mixed with the whole mass of prepared soil by repeated turnings with the spade."

In setting the tree, he says:

> "Begin by *filling the hole with this prepared soil*," etc.

Now, just fancy a man undertaking to set out a thousand or two of fruit trees after this plan, making a compost with manure and the subsoil of every hole! The truth is, amateurs and orchardists have not done this. They have gone a shorter way to work. They have just dug the holes, thrown in a mass of manure or compost, stirred it round with the spade, thrown in more soil and compost, set the tree, and placed compost or manure around and over its roots. They have done every thing they could to induce the roots to go down, and very little to induce them to remain and spread upon or near the surface. What we desire to do is just the reverse,—to set the tree with none of its roots below the good surface soil, and to put no manure or composts under it,—in fact, to dig no holes at all, but to make the soil loose to the depth of eighteen inches, still keeping the subsoil in its place, and, if possible, to prevent the roots from going down, by mulching and surface-manuring, which constantly invites them upwards.

With these words on the main question I have done with it for the present. Mr. Jones, who seems to be quite a clever philosopher, catches me on an error in the construction of one of my sentences, which I admit amounts to a sort of "bull." He winks knowingly at me because I said, "It is *nature's* own method of planting, and the best ever devised by *man*." If I had taken as much thought of my language as some people do of their dress, I should possibly have said, "It is nature's own method of planting, and man has never devised a better." But I do not pretend to know much about the mysteries of language or the refinements of rhetoric. If my critics will only take me on the practical part of the business, planting, etc., I shall come forth to meet the very Goliaths of the trade with all the simple courage which animated the heart of David of old, in his memorable contest with the giant; but if you assail me with mystic philosophy and the arts of the logicians, I shall be as powerless as Lemuel Gulliver when each particular hair of his unconscious head was pinned to the earth by the industrious Lilliputs.

"YE LAZIE FEVRE."

BY MISS E.

Mr. Meehan:—As the season is approaching when the disease for which the enclosed recipe is given as a remedy is apt to prevail, it has occurred to me that you might like to make the experiment among your own people, and also publish it for the benefit of the numerous readers of your very useful *Monthly*.

I found it some time ago in an old common-place book, but have forgotten from whence I first obtained it. But if receipts improve with age like good wine, this must be very valuable.

It is taken from an old book, entitled—"The Breviary of Healthe, by Andrew Boorde, Phisyche Doctoure," an Englishman, anno, 1557.

"A CURE FOR YE LAZIE FEVRE."

"The 151st chapitre dothe shewe of an evyll Fevre, ye wich dothe much cumbre yonge persons, named, Ye Fevre Burden, or Lazie Fevre.

Among al ye fevres I had almost forgot ye Fevre Burden, wyth wich many yonge men, yonge wemen, maydns and other yonge persons be sore infected now-a-days.

The cause of the infirmitie:

This fevre dothe cum naturally, or els by evyll and slothful bryngynge upp. If it doe cum by nature, then is this fevre not to be cured—for itt can never out of ye fleshe that is bred in ye bone. If itt bee by evyll bryngynge upp, itt may bee holpen by diligent labor.

Ye Remedie:

There is nothing for the Fevre Burden, as is *Unguentum Baculinum;* that is to sai—take a sticke or wand, of a yard of length and more, and lett itt bee so grate as a man's fynger; and with itt annoynt ye back and shoulders well, mornings and evenings, and thys doe twenty-one days. If thys evyll fevre wyll not bee holpen in that tyme, let them beware of waggynge on the gallowes.

Nota Bene.—And whyles they doe take thys medicine, see you putt no lubberwort in thyr pottage."

CURCULIO REMEDIES.

BY O. T. HOBBS.

Your correspondent "D. W. B.," (why not give name and address in full,) wishes to know the result of Dr. Uhler's experiment with aloes as a remedy against the depredations of the Curculio.

REPLY:—Several years ago, Hon. James Mathews, of Coshocton, Ohio, now of Knoxville, Marion Co., Iowa, discovered the nature and habits of the Curculio, which discovery he placed in the hands of a committee, who were to report in due time the result of their observations regarding its efficacy. Meantime, having been made acquainted with Mr. Mathew's discovery, I beg leave, (in absence of any report by the proper committee,) to say to the public that the "remedies," "antidotes" and "applications" usually recommended, are not, neither can be of any value as an antidote against the depredations of the little "Turk," simply because they do not, in anywise, conflict with the nature of the insect, nor his "domestic institutions;" and that aside from this knowledge, it is next to vanity to attempt an interference.

The "applications" of nauseous substances—smoke, perfumes, and coatings of lime, sulphur, etc., he utterly disregards, and as he sits, rather privately, making his punctures, he bids defiance to skill, in this direction, and feels perfectly secure in the honorable discharge of natural functions; and unless by mere accident, (which is doubtful,) will ever maintain his grounds until his *peculiar* methods of "transacting his own business" are understood, and counter appliances instituted against him.

I am not at liberty to make public Mr. Mathew's discoveries, neither my own without his consent, inasmuch as they are but a result which I esteem due to Mr. Mathew's consideration at present.

More anon.

[We must say that we have no faith in Mr. Mathews' discovery so far as it may be considered a remedy against the Curculio. The "secret" seems to have been pretty well extended confidentially, and yet, while if successful, a fortune might easily be raised by Plum raising, those "let into the secret" have no more plums than their neighbors. It may be part of the condition of the possession of the "secret" that "nothing shall be made of it;" but surely some arrangement could be made to let Mr. Mathews have a fair share of the profits. Really, gentlemen, it is hardly worth while discussing a secret that has been so long before the country without doing the country any good.

Mr. H. makes a suggestion about Correspondent's names being put in full to their communications. Were the public composed of individuals who were *all* conversant with the rules of good breeding, there could be no possible objection; but unfortunately it is not. As an instance—Some time since we noticed a novelty as being successfully raised by an amateur friend, referring to him by name; nearly *two hundred* persons took the liberty of begging for it, a great portion of whom did not even think it worth while to enclose a solitary stamp for the postage. So great an annoyance has this practice become, as we know, that we are entirely satisfied to withhold the writer's names at their request. Any other course would deprive us of some of our most valued contributions.—ED.]

GRAFTING WAX.

BY A. W. COMSTOCK.

BURLINGTON, IOWA, February 9th, 1860.

Mr. Editor:—In the February number of the *Monthly*, I notice an article by A. Mattison, on "Waxing Grafts," in which he calls "bandages" an "old fogy affair." Now we out West here call his method the same thing. If he will take six pounds of rosin, one pound of beeswax, and one pint of Linseed oil, and mix, he will have a first-rate wax for either in or out door work. Then, to put it on, have a furnace made to receive a cup similar to a glue pot, to hold, say two quarts, with sufficient depth below for fire, eight or ten inches will do, then bring the wax to a

liquid state, and with a brush the size of a sash brush apply it to the graft, and he will find that the wax will go two or three times as far, and the work will be done in one third of the time, also with as much certainty, as every part is covered.

I have used the wax in this way for six or seven years, with the most perfect success. There are various methods of grafting; the one principally in use here I think the best for two or three reasons. First, if the work is done thoroughly, there will not be a failure of one per-cent. Second, it is expeditious—I am at work now averaging one thousand in ten hours to the hand; a real smart man will do one hundred and fifty per hour, and in such a manner that ninty-nine out of every hundred will grow.

[Bandages often injure the tree. Mr. Mattison's wax was to do away with the necessity for them. We do not understand that the composition Mr. Comstock uses, can be successfully used without tying.—Ed.]

VINE BORDERS.

BY MR. T. HARRIS, WELLESLEY, MASS.

I have been much pleased in perusing Mr. Bright's New Method of Constructing Vineries, in your February number, because I am conscious with him that in all artificial culture we require full command over the roots, as well as the foliage.

Had Mr. Bright erected Dr. Houghton's vinery with the ultimate design of forcing grapes, (and probably he has done so,) it certainly would have been an advance in the right direction. These detached borders suspended in the air, are all important to ripen grapes in perfection in the months of March, April and May.

It is true, Mr. Bright's system for a cold vinery offers some advantages, and yet probably the ordinary borders made would be amply sufficient to mature a good annual crop, if proper means were at command to keep excessive wet off the borders during the autumnal months, so that the wood may become thoroughly ripened, for I am fully convinced no frost under glass in this climate will injure vines when such is the case, especially when protected in the ordinary way. A cold vinery I look upon as a permanent affair; and if the border is properly made and protected as above described, it is seldom any necessity ever arises to remove any of the vines, for such sorts only are planted as are known to be of a hardy constitution, and that will ripen without artificial heat. Not so with a vinery excessively forced. Often circumstances occur (now that so many excellent sorts are being introduced) to remove the most worthless and replace others. A vine may have been over-cropped, and its constitution become weakened. Another may be attacked by disease, baffling the skill of all of us. And to remove such, when planted in the ordinary way, would be an impossibility; but when planted as Mr. Bright suggests, becomes an easy matter.

But, Mr. Editor, I fear I am intruding on your valuable space. I should not have made the above remarks had not my attention been recently called to examine Mr. H. Simpson's grapery, Saxonville, Mass. You are, of course, fully aware of Mr. Simpson's method of growing three crops off the same vines every two years. Although I am no convert to his system, yet I must here acknowledge that the highest credit is due to Mr. Burns, who has made such an achievement in the art of grape-growing.

The vinery at the present moment is all that the most sanguine grape-grower could desire. Imagine some thirty or forty vines covered with strong, vigorous foliage, and each with twenty and twenty-five pounds of grapes, some of the bunches weighing full two pounds, and these all arranged so methodically, that the beholder cannot but be enchanted with the sight. The fruit is now changing color, and will be ripe in April.

The secret of this success is in having the roots under proper control. You naturally inquire, how in a climate so rigorous, an outside border can be controlled? It is done in this way: two feet in depth of meadow hay is placed over the entire border; then shutters are placed on top, to prevent rain penetrating; and over all two feet in depth of wool waste is spread. This powerful heating material affords warmth to the border below, penetrating through boards and hay, so that at one foot beneath the border indicates 80°.—This heating the border and drying it off as soon as the crop is ripe, is the secret of Mr. Simpson's success.

The expense attending this system is of no small moment, and I earnestly hope all vineries hereafter erected for forcing will be so made that the roots shall be all inside the house, so that this unnecessary expense may be obviated.

[Mr. Harris does not "intrude on our valuable space," for it is precisely such practical pens as his that have made our space valuable, and enabled our magazine to achieve the proud position it occupies.—Ed.]

REMARKS ON THE IRIS XIPHIOIDES.

(Continued.)

BY DANIEL BARKER, WEST MERIDEN, CONN.

Of all the pleasures presented to the votaries of floriculture, the ability to produce new varieties by the beautiful process of hybridizing is certainly one of the greatest. The florist takes some humble plant from its native wilds, and transfers it to his garden,

where, in process of time, its progeny is transformed into new and beautiful varieties. So much have many of our choicest plants been improved, that any person unacquainted with botany would scarcely recognize them as varieties of the same flower.

We may instance the rose, azalea and rhododendron, amongst shrubs; the pansy, dahlia, hollyhock, gladiolus and chrysanthemum, amongst half-hardy plants; the pelargonium, calceolaria, cineraria, &c., amongst greenhouse plants.

For upwards of a quarter of a century we have cultivated all of these, and are surprised at the rapid and wonderful transformations which have taken place in our own time. Improvements can be equally successful here, but only by directing our attention to any favorite plant. The "Iris Xiphioides" would be an excellent subject; and whoever may direct their attention to its improvement, after a few years of pleasant labor, may give an almost imperishable name to it.

As Isaac Anderson observes, to go fully into the theory and practice of hybridizing, a volume might be devoted to the subject, and still leave it unexhausted.

To start with the beginning would be to start with Creation itself. It was conjectured by the immortal Linnæus, that nature was occupied by but few original types of the innumerable vegetable forms which have been transmitted to us. How these few first types (if that great authority was right in the belief,) have become varied and multiplied—from classes to tribes, from tribes to genera, and from genera to species and endless varieties; belongs to those mysteries of Divine agency which have hitherto set all inquiry at nought. But, be that as it may, having determined on the kinds we desire to operate upon, we place them in pots in a cold frame, where they remain until within a few days of the opening of the first blooms, when they are placed under glass, so as to prevent any accidents from a change of temperature, wind or rain, but more particularly from insects. A greenhouse covered with muslin curtains is best adapted for this purpose. The plants from which the pollen is to be taken, and the plants which are intended to bear the seed, should, if possible, be grown in *the same house*. Where this cannot be done, a flower just commencing to unfold its petals may be gathered and placed in a glass of water, where it will have sufficient sun to mature the pollen. In order to prevent self-fertilization, divest the blooms of all their anthers previous to the ripening of the pollen, as the slightest application of native pollen upon the stigma of the parent plant is *sure to supersede all foreign agency*.

From the opening of the flower until the stigma is in a fit condition to receive the pollen, should the weather be fair and bright, will be from four to six days more or less, according to the state of the atmosphere. This may be known by a viscous exudation covering the entire summit of the stigma; at which time the pollen should be applied. In conveying the pollen to the stigma, we invariably use a small camel-hair pencil.

As to the most proper season for hybridizing, the time of day, etc., a treatise might be written, to which another might be added; but the above will suffice for the beginner. There is, as we have repeatedly said, a wide and vast field open for the hybridist; and his pleasant labor, if directed with that care necessary in the art, will most assuredly be crowned with success.

The preserving and sowing the seed must form the subject of another communication, if such is desirable.

[It certainly will be.—Ed.]

By way of encouragement *to the American hybridist*, would it not be well if the committees of our various Horticultural Societies were to offer some inducements for the raising of *improved* and well-marked *native* hybrids of popular hardy and greenhouse plants, &c.?

[They could not do a wiser thing.—Ed.]

ALOES AGAINST INSECTS.

BY DR. W. M. UHLER, FALLS OF SCHUYLKILL, PA.

Thomas Meehan. Dear Sir: In reply to a correspondent in the February number of the *Gardener's Monthly*, permit me to say that I made trial of Aloes on my Plum trees as a preventive of the Curculio. I now give you in few words the result. Whether a success or failure, you and your readers must determine. For myself I am sufficiently encouraged to try it again, and if necessary, perhaps a third or fourth time. Considerable experience as a practical working chemist having proved to me that no *idea* should be rejected because it failed in a first trial. A thousand little side matters, perhaps unnoticed at the time, may have prevented a success and caused a disappointment, when, had we been able to foresee and avoid them, a very different result might have been obtained.

At the time when my plum trees were in full bloom, I applied to each tree, immediately at the base, say one pint of a strong solution made by adding one pound of Aloes to two gallons of warm water. The trees perfected their blossoms, but when the fruit became apparent, say of the size of a small pea, I found every one bitten by the Curculio, except the fruit of one tree, of which I shall speak. As a consequence, from all of my trees, except the one alluded to, I did not get a perfect plum, while the excepted individual

yielded me a full crop of splendid fruit, without a single defective one. In order to test the experiment, I permitted three times as many to remain upon the tree as I would have done under ordinary circumstances. This tree was planted in the same plot with five others of a similar variety ("Washington,") say at the distance of 18 feet; it was exceedingly delicate and only permitted to remain as a fair subject of experiment; it bloomed considerably later than the others. Now my theory is, I left the application of the aloes until it was too late for all the healthy trees, but just in time for the sick one. Absorption in the healthy ones took place too late to prevent the attack of the Curculio, and hence the failure. The practical lesson I draw from the experiment is to apply the solution of Aloes as soon as the fruit buds begin to swell—this I will do the present season, and will give you the result. I may add that if no good resulted from the application, no harm has followed. My trees are remarkably sound and thrifty in appearance, without the sign of a knot or blemish.—A neighbor at the Falls, discouraged by the continued failure of his plums, is now trying some *radical* experiments upon his trees on the "kill or cure" system, which I shall closely watch through the season, and report upon if desirable.

[We shall be much obliged by the report, even of failure. To know that a probable remedy is a failure in fact, is so much gained.—Ed.]

CLIMATE OF OHIO.

BY L. S. MOTE,

(Near) West Milton, O., 2d mo., 25, '60.

Respected Friend. Thomas Meehan.—We have had a *long* and rather severe winter, making (with short intermissions,) about three months of continued cold. As far as I can learn, our peaches are *all* killed in this part of Ohio, and maybe none are left in this State or Indiana.

Our cherries have fared the same way. Black Tartarian, Knight's Early Black, Yellow Spanish, Gov. Wood, Bleeding Heart, American Amber, May Duke, and all the heart cherries and part of our Mays (Early Richmond,) that I have examined, are among the things that were. But we have escaped with much less damage here than some other sections in the West and Southwest of us.

The sudden change from warm and very wet, to very cold in the fore part of 12th mo., (December, '59,) was what did the work, or the greatest damage, and subsequent "cold snaps" completed it. 2d mo. was ushered in with thunder showers like Spring, the earth was thoroughly soaked; it then chopped round to Northwest, snowed several inches deep, and by the morning of the 8th the mercury was down to 10° below zero; on the 30th and 31st it stood at 6° below 0. On this New Year's day it was the same, and next morning, the 2d of last month it stood at the old mark—10° below 0.

Now, what is to be done when we are liable to be caught in such "snaps?" Shall we ejaculate, "Oh for a more congenial clime," and hie us away to the Pacific Coast? or try to accommodate ourselves and fruit trees, etc., to "surrounding circumstances" by "getting up" hardier kinds from seed? thereby producing such that will be "acclimated" to our changing seasons. The reproduction of new varieties of fruits has occupied my attention for several years, and some of the little leisure I have is spent in this way, more especially with the minor fruits. These make "quick returns," and show what they will be in a few years; but the majors are not so fast; they *will* have their time; but if we chance to get one "lion," it is worth many "foxes."

[We are surprised at so much injury from so moderate a temperature. Our own glass ruled as low, but even such trees as the Deodar, Yews, Morindas, and other rather tender evergreens, are very little browned, and fruit trees not at all injured.

Raising seedlings adapted to the peculiarities of climate, is the one thing needful after all.—Ed.]

RUSTIC ADORNMENTS FOR GARDENS AND WAYSIDES.

BY SAMUEL L. BOARDMAN.

I can use the pen better than the pencil, and so give the readers of the *Monthly* a few simple directions for constructing two or three inexpensive decorative objects for gardens, highways, &c.

One of the prettiest objects for the garden is a "moveable trellis." There is nothing new in it, for it has been mentioned in our horticultural periodicals before. The main part is a strong box about three feet long, placed upon substantial wooden trucks or rollers; and the trellis upon it may be eight feet high, or less, according to the kind of flowers grown in it,—which are usually the finer sorts of exotic climbers, such as Passion Flowers, Everblooming Roses, Maurandias, &c. The advantages of this structure are, that it may be moved in any direction and placed in any part of the grounds wherever fancy dictates. If you choose, a new situation can be selected each morning, and the effect is certainly charming.

Rustic seats for arbors and summer-houses have been previously described and illustrated. These can be made of any desirable form, the materials of which will cost but little. They can be selected from the wood-pile when the crooked limbs are being cut for fuel, or a day or two spent in the forest will furnish an abundance. The aim should be to obtain durable kinds of wood, such as the red cedar, white

oak, &c. A plank is used for a bottom to an arbor seat, and this is covered with the small and straight shoots, split into two parts so as to fit closely to the plank. In constructing this part of the seat, there is an opportunity for the display of much taste and ingenuity, and, if possible, there should be *no two pieces of wood alike.* Considerable study should be given to placing these pieces into as many different forms as may be, and a plan of the intended appearance should first be marked out upon the plank before the work is commenced. I give here my recipe for making a varnish for garden seats of this description. First wash the wood-work with soap and water, and when perfectly dry, go over it on a hot sunny day with common boiled linseed oil; leave this to dry a day or two, nnd then varnish it once or twice with what is commonly called "hard varnish." If well done, it will last for years, and prevent any annoyance from insects. June is the best month for making this application.

Very often, when travelling, we come to a bright, sparkling spring, the water of which gushes out with wild delight. Sometimes these springs are near a hill by the roadside, and not far from the houses of country residents. For the convenience of travellers, and for the sake of embellishing our public highways, these beautiful places should be improved in general appearance; and, if possible, be made more lovely and attractive. A half day's work will accomplish this. Let four upright posts be placed at the corners of the box, forming the spring, running up about six feet, upon the top of which should be placed an ornamental and picturesque roof, made either of boards, bark or thatch. If furnished with a dipper for the use of the passer-by in summer, and perhaps an inscription placed upon the side of this frame where all could see it, how much it would add to the beauty of the scenery of the road and the comfort of travellers!

Brookdale Farm, Maine.

NEW METHOD OF TRAINING LIMA BEANS.

BY B., BALTIMORE, MD.

Dear Sir:—The following is but a small hint; but by it Lima beans may be gathered full two weeks before the usual time, and so, perhaps, may be useful. Instead of having long and stout poles only as is usual, I tie on lateral slender rods with a willow band, horizontally, and so train the vines,—much, in fact, as you would do a grape vine. It takes but a few minutes to give my small plot of plants a tendency to run on the lateral poles, and I am well rewarded by their extra earliness. I cannot explain why they should be earlier than when they run on upright poles; but such is the fact, and you may have it for what it is worth.

[There is much reason in our correspondent's excellent hint, by analogy with other things. For instance, the Evergreen Ivy will never flower till it reaches the top of the tree or building on which it climbs. As soon as it reaches the top,—whether that be ten feet or one hundred,—it flowers immediately. As our correspondent remarks, "such is the fact;" but the reason is not very clear to any one.—Ed.]

PREVENTIVE OF THE PEACH BORER.

BY J. B. J., LAUREL, IND.

Last year I mulched a quantity of Peach trees with weeds cut from other parts of the ground, and around many of them the rag weed was mostly employed. In the Fall, none of these with the rag weed mulch had the borer. I do not know what peculiar virtue there may be in the pollen of the rag weed, that should give it this protective power.

APPLES IDENTICAL.

BY T. CARTER, RALEIGH, N. C.

The Equinitely, Buckingham, and Fall Queen.

The Berry, Wall, Sumerour, and Nickajack are the same.

Haywood's June and Pear.

Golden Pearmain and Clark's Winter Pearmain.

Mississippi and Gloria Mundi.

Such is the opinion of the North Carolina nurserymen who have grown the trees side by side in their nurseries, and who have fruited them.

PLANTING VERBENAS.

BY W. S. WARD, PORTLAND, MAINE.

In reading of the cultivation of the verbena, it has often struck me that more might be said of the way to plant out in the Spring. In my practice I have found that it will add greatly to their beauty, and they will cover the ground quicker, by breaking their ball in turning them out of their pots, and by keeping the flowers pinched off till they get well established in the ground. The nurseryman grows his bedding plants in very small pots, and very often when they sell them they are pot-bound and stunted. The check they get in planting throws them into bloom prematurely; and the hot weather sets in before they have a chance to get hold of the ground. The consequence is, the nurseryman is blamed for the plants doing badly, when a little care in the planting would have shown different results. The above hint may not be new to gardeners, but amateurs are not supposed to know the little things that help to make a gardener.

[If the ball is dry, it should also be soaked in water before setting out,—and if the plant has been packed for a short time, it may be shaded for a few days by an inverted pot being placed over it.—Ed.]

The Gardener's Monthly.

PHILADELPHIA, APRIL 1, 1860.

☞ All Communications for the Editor should be addressed, "Thomas Meehan, Germantown, Philadelphia," and Business Letters directed to "The Publisher of the Gardener's Monthly Box 406 Philadelphia."

NOTICE TO CORRESPONDENTS.

In consequence of the heavy increase in the circulation of the *Monthly*, and the consequent necessity of going to press earlier in order to issue the Magazine punctually to all our subscribers by the 1st of each month, it is desirable that communications requiring immediate attention, should reach the Editor before the 10th of each month.

SUMMER PRUNING.

A lady friend writes to us, to inquire how gardeners manage to get bushy plants,—what they call "specimens." With all her care and attention, the plants are "spindly," or as a gardener would term it, long-legged.

At first we thought to reply through our usual column of Inquiries; but when we considered how little is actually known of the principle,—not merely in its relation to the growth of specimen plants, but further, in its connection with the successful management of fruits and trees of every description,—we concluded to devote a chapter to its elucidation.

Every one knows that if a grape vine be left to itself,—free to climb over a tree or any other object,—it soon learns to despise its terrestial associations. It adopts for its motto, "onwards and upwards," and in a few years you find it claims no attachment with the earth that bore it, beyond a long and bare stem. Every vestige of vegetation is at the topmost degree of altitude,—not a twig or leaf remains below to tell you even that it is a grape vine.

And so it is with a geranium, fuchsia, or any other pot plant. Suffered to go "straight ahead," its stem soon becomes bereft of foliage; and it stands amongst its plump and happy looking congeners that have enjoyed the blessings of good gardening, a picture of misery and wretchedness.

Now, the usual plan is to cut down such specimens, and let them grow up again; but every one knows that to cut in or prune a tree, only makes it strive with renewed vigor to regain what it has lost. For instance, if we cut down a leggy geranium to within two inches of the ground, it will push forth several shoots, that will all become as vigorous as the one cut away, and matters are not much mended. The plant will not be bushy, but will only get several straight stems instead of one. In fact, the more you cut a tree or plant, after the wood has once become ripened,—that is, after the leaves at the place of cutting off have fallen,—the stronger will it grow; and hence the maxim, that winter pruning increases the vigorous upward tendency of vegetation, and considerably strengthens it.

To make a bushy specimen, then, we must weaken this upward tendency; and this is accomplished by pinching off the points of the growing shoots. And it must be further remembered, that only that shoot is weakened which is so pinched off; so that to make a plant bushy,—so uniformly regular that the side shoots are fully as vigorous as those at the top of the plant,—the top and strong shoots only must be pinched back. The side shoots must be suffered to grow unchecked until they get ripe, when they, in turn, may be cut back a little to make them branch.

The great beauty of this theory is, that it is so easy of application by the lady with her few window flowers,—or the monarch of the gardening tribe who may carry off from the exhibition battle-field the gold medals of victory for his specimen plants; and the man who has but a few strawberries to grow, finds it as much to his interest to understand its bearings, as he who forces the most successful grapes. And we may say here, that it is, in fact, one of our friend Bright's great secrets in his successful management of the pot vine. By its application he gets his canes thickest near the base of the vine, where it is usually the slenderest,—and the bunches as large and as heavy when hanging but just above the soil, as those which are borne on the top of the cane five feet from the surface of the pot.

By this theory, also, it is rendered unnecessary to have a dozen vines in one spot, so that some may be retained to fill the lower part of a trellis, and some the upper, as the branches can be so equalized as to be of equal strength at the ground and twenty feet above; and so, also, by it the dwarf pear can be made the beautiful objects Barry is so famed for producing.

But there is yet another point wherein the theory becomes of great service to the practical gardener, which is, the influence that pinching off the young growth has on inducing a flowering or fruiting condition.

Plants have two objects of growth: the nourishment of the individual plant, and the reproduction of its species; and in this respect they are identical with the animal creation. Flowering and fruiting is, of course, the beginning of the process of reproducing the kind in the seed; and this never commences until rapid growth has ceased. Weakening this rapid growth, then, hastens the fruit-bearing season; and as pinching the growing shoots has this effect, shy-blooming plants are made to flower; and fruit trees that would grow too freely for years to bear well, soon come into a fruitful condition. Of course, the fruit or flowers are not so fine as they would be if no check to growth had been offered, but when it becomes a question of fruit or no fruit, we have no choice.

It is singular that though this principle has been long known, it is so ill understood in practice. There are yet to be found very many excellent gardeners who will argue that it is injurious, under any circumstances, to mow off the leaves of strawberries, and look down on those who advocate the practice as a set of old fogies, with whom they would hardly like to associate in a horticultural assemblage of the most latitudinarian character. Yet when we find men who have carefully experimented, assert that they have found the process tend to a greater productiveness in their strawberry crop, we are bound to examine their statements in all fairness; and when we know that some strawberries are so foliaceous as to seriously interfere with their fruiting character, and we also know that by cutting off foliage while the plant is growing, we tend to increase its fruitfulness, we are necessitated to admit, that under some circumstances, and in some situations, the practice has its advantages.

Altogether, it is a subject well worthy of increased attention. It is one of the main springs of the great eminence modern gardening possesses over the past,—and half has not yet been made from it that it is capable of affording.

THE NEW HOLLAND PITCHER PLANT

(Cephalotus follicularis.)

Most of the Pitcher Plants are natives of the tropical latitudes in the Eastern Archipelago, and are beyond the reach of those cultivators who have not the conveniences of a very warm hothouse. The present plant is a native of a more temperate climate,

Fig. 1. *Fig.* 2.

and well adapted to greenhouse culture, provided a glass case is kept over it so as to maintain a regular degree of humidity about it, which, coming as it does from marshes and bogs in King George's Sound, in New Holland, it requires in order to be successfully grown.

It is not far removed botanically from our own Sarracenias, but is more pretty and delicate, and is yet scarce in cultivation. We are indebted to Mr. Dundas' unique collection for the subject of our illustration. Fig. 1 gives the general appearance of the plant, and Fig. 2 that of one of the pitchers of the natural size.

HORTICULTURE IN BOSTON.

EXTRACT FROM A PRIVATE LETTER.

Our Society has recently sold its hall in Boston, and we have again located on Washington Street, having obtained a fine large hall and an excellent library room adjoining, at a low rent. It is now proposed, that in addition to a considerable increase of the library, all the agricultural and horticultural periodicals of any merit in this and foreign countries shall be kept on file and accessible to members. With our snug little sum of $60,000 from our building, and a regular yearly income of from $6000 to $8000 in addition, there is no excuse if we do not soon have a most valuable library and reading-room. We are also pressing our petition before our Legislature for a grant of an entire square of the new "West End" of our city. In the future we may not be able to boast of a Central Park, but provided a range of squares stretching from near the foot of our noble old-fashioned common, out towards the open country, is wisely reserved for collocated Museums of Natural History, Botany, Horticulture, and kindred sciences, certainly an important step will have been taken in perpetuating the reputation of our Athens.

THE PENNSYLVANIA BOTANIC GARDEN.

Numerous difficulties seem to beset the realization of this idea by the Pennsylvania Horticultural Society; but its friends are determined to see it accomplished. The latest plan is to incorporate it with the "Model Farm Association," the application for the charter of which is now before the Legislature. We hope and trust the application will be successful.

Since writing the above, we learn that the Act of Incorporation has passed both branches of the Legislature.

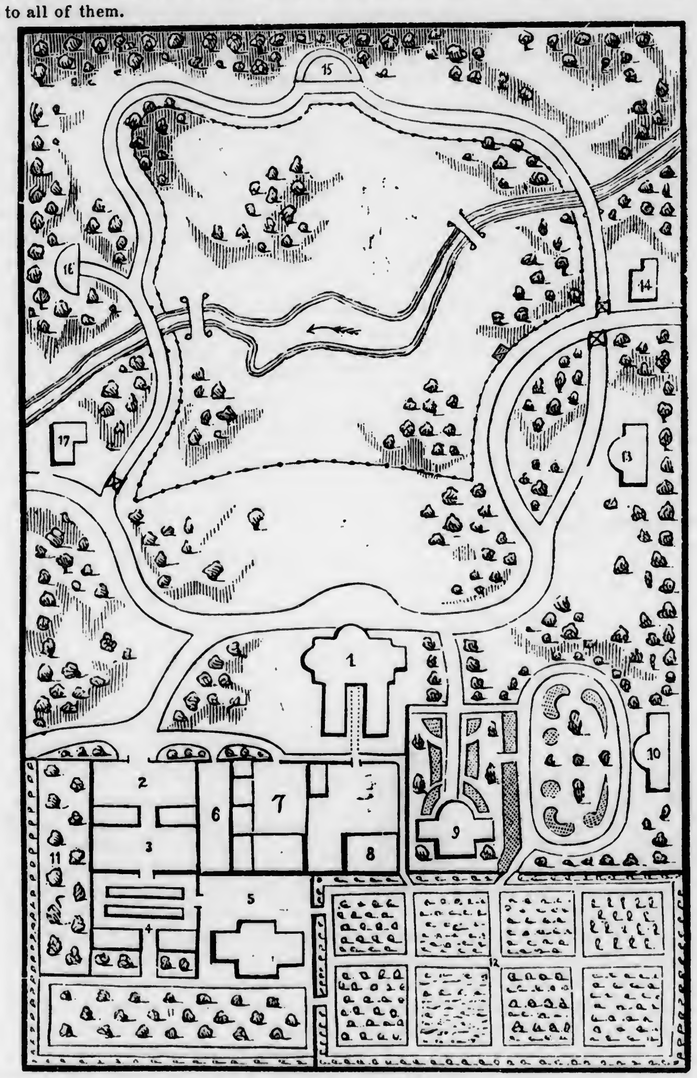
DESIGN FOR A PLACE OF TWENTY ACRES.

The following design is intended for a rolling piece of ground, with water flowing through it. It is laid out with good taste, and, unlike many English plans, is so adapted in its main features to our climate, that we have transferred it to our pages from the English *Floral Cabinet*.

Though it is, in a great measure, true that the principles of landscape gardening are the same all the world over, they require modification to suit the wants of different countries, or the circumstances of peculiar localities.

The great feature of our Summer climate is its oppressive sun; and to make an American garden a luxury, such as a really fine garden should be, the foundation of all that is attempted should be *shade*. The cleverest applications of the principles of landscape gardening will be defective, unless this be kept in view. In almost all English plans this is but a very secondary object, and fine views and beautiful groups, flowing lines, and all that constitutes beauty in a landscape, may be enjoyed without one's being continually recalled to the fact that "it is an extremely hot day."

With the exception of this deficiency, the plan will be very useful to many of our readers, and afford useful hints to all of them.



No. 1, house. 2, stable-yard, stables, and coach-house. 3, dung-yard. 4, frame-ground and sheds. 5, forcing-house and shed. 6, piggery. 7, poultry-court and shed. 8, laundry-yard, laundry, and brew-house. 9, conservatory, and shed, and flower-garden. 10, summer-house, or tea-room, and flower-garden. 11, fruit-garden. 12, kitchen-garden. 13, summer-house. 14, lodge. 15, alcove. 16, reading-room. 17, lodge where the gardener may reside.

The object of the plan is to show how an approach to the house may be made in hilly ground, without deep cuttings, and to afford some hints as to planting the eminences. Not to have too much to keep in good order, a part is enclosed by an iron fence, for the purpose of grazing cattle therein.

Questions and Answers.

Dwarf Pears in Grass.—We notice that we have been supposed to recommend seeding-down about *Dwarf Pears*. When we recommended seeding-down young orchards, we *especially excepted the Dwarf Pear*, because "they required rather higher cultivation than orchard trees." (See page 162, vol. I.) The Dwarf Pear cannot extend its roots to a great distance, and has an immense number, in a small space, to be fed, while it has a large top to support; and thus there is little danger from over-growing it. On the contrary, the great danger is that it will overbear, and stunt the tree's growth.

We should think ourselves crazy to recommend seeding down about Dwarf Pears. While we say this, however, we would insist on the importance of seeding-down orchards of *standard* trees—not leaving them afterwards to carelessness and neglect, but giving them annually a surface dressing of carbonaceous and mineral manures.

Satisfied that time will make a great change in the common opinion respecting the advantages of broadcast cultivation, we do not wish just now to say anything that may appear controversial, and only allude to it again here to correct the misapprehension of our views as to the Dwarf Pear.

Vegetable Parasite — *C. B. Swazey, Yayoo, Miss.*, writes of a parasite that attacks his Apples, Pears and Roses. By the description, we take it to be the love vine (*Cuscuta Americana*). A plant allied to it is the "Dodder," of Europe, that is spoken of as being so destructive to the clover fields there. A small specimen would enable us to speak of it more positively. Cutting off and burning as it grows is a certain remedy, as it can only propagate itself from seeds.

May Pink—*Figo, Quincy, Illinois*, in latitude 40°, says the box edging suffers very much in winter. He has tried the May Pink, and find it a good substitute, growing easily, and besides, blooming handsomely. By throwing a little straw over it keeps very green. We do not know it by this name; should be obliged by a small specimen in order to be able to recognize it.

Origin of the Delaware Grape—*Mr. Garber*, writes—"Will you not, friend Meehan, direct our steps to that locality where 'you infer types of a grape similar to the Delaware may be found growing wild.' We have a committee appointed to visit these places at the proper time."

If the committee will please refer to page 165 of our last volume, they will discover all we feel disposed to say about the matter just now. From *professed* quotations, and unjust comments on what we have said, that have appeared in other journals, probably with the full knowledge of the "committee," we must say candidly that we don't feel safe in its hands, and prefer to give our own facts to our readers in our own way, and in our own time.

Fungus among Cuttings—"*A Subscriber*," *Newport, R. I.*, alluding to communications on this subject, thinks it is caused by similar laws that produces "fever and ague," and the best cure would be to move out of the locality. Those who are troubled with this pest in "high and dry" places, as we know scores who are, will not be willing to subscribe to this doctrine.

Yellows in the Peach Tree.—We have on hand two very interesting articles detailing some new observations on the cause of this disease; one by Mr. Dana, of Roxbury, Mass., and the other by Miss M. Morris, the distinguished Entomologist, which will appear in our next.

Mr. Bright's Vine Borders.—A Correspondent, dating from Philadelphia, writes that there is no novelty in Mr. Bright's ideas as given in our February number, as "it has been practised for many years by some of the best gardeners in Britain." Whether this be so or not is not so material, as the fact that Mr. Bright has the credit of being the *first to publish it*. We shall be much obliged by our correspondent's promised favor as to the places and details where the mode has been put in practice, and are well assured that no one will be more ready than Mr. Bright to render honor where honor is due, when that has been sufficiently demonstrated.

Cottagers' Kale—*J. C. B., West Philadelphia*, says, "Last Spring, I obtained from England, a package of Cottagers' Kale, which, you know, has a great name there for hardiness. I left them out without any protection. Three-fourths have been killed, or "severely wounded" by the winter. If I let those

which have stood uninjured bear seed, will these on the average produce a hardier race than the originals? It appears to me, after all, not to differ much from the Brussels Sprouts, except in the one fact of hardiness."

[The seedlings will partake of the superior hardiness of the parent.]

Cumberland Heart Cherry.—A correspondent from Dover, Delaware, inquires whether a kind known in his neighborhood as "Cumberland Heart," is the same as Triumph of Cumberland.

[We never heard the latter so called. It has been called Cumberland Seedling and Cumberland Biggareau, and is quite likely to be the same in the present instance.]

Safety in Railroad Travelling—*A. L. Barker, Quincy, Ill.*, sends us an account of a new invention, which prevents cars and locomotives from being thrown from the tracks in case of meeting with obstructions. As Horticulturists are amongst the greatest travellers in the community, it is to be hoped that for their sakes at least, the invention will be speedily applied, and prove as successful as our correspondent anticipates.

Quote Accurately.—At page 165, vol. I., *paragraph* 1, article Delaware Grape, we said a grape like the Delaware might be found on "the upper portion of the Delaware." In *paragraph* 7, same article, we said varieties of Isabella abound "in Delaware."

Mr. Hovey quoted us as saying "the Delaware grape is abundant in Delaware," and now says "our readers must judge whether we were correct or not," and refers then to the *first paragraph* to prove it. Does it prove it? We also are willing to let them judge.

Mr. H. innocently adds that there is nothing about Isabella grape in paragraph 1, and we add that we did not intend there should be, nor about "in Delaware" either; but there is both in paragraph 7, in their proper place for a fair quotation. We again repeat, "will our friends please be more accurate?"

Propagating Cuttings—*W. W. W., Oberlin, O.*—A temperature of 75° or 80°, and a close, moist atmosphere is the most necessary condition of success in striking cuttings. The common notions about draining and crocking cutting pots so particularly are "remnants of the olden time." Modern practice has shown that anything from a soft verbena to a hard oleander or ivy can be struck in water itself. Cuttings made with a clean cut, set in where the temperature and humidity are regular, will, for the most part grow. An atmosphere that demands continual watering and shading to keep the cuttings from wilting is fatal.

Preserving Flowers in their Natural State. *G. F. Brown, East Newark, N.J.*, says, "I notice in your issue of last month an account of the way to preserve flowers in their natural state. I have since tried the thing and have succeeded admirably. The flower which I took was a very delicate salmon-colored rose, and it still retains its natural color and form."

Apple Pie Melon in Maine—*Dr. P. T. P., Rockland.*—Whether this would succeed or not in your latitude is worth the experiment. It will do well wherever the water melon will ripen.

Peach Crop in Salem, O.—*Mr. Lipsey* writes that in his region there is good hope for a crop.

A Correspondent whose name we have lost, but the envelope seems to be marked "Mercer, Pa.," sends us a plant for name, which is *Lycopodium dendroides.*

McDougall's Disinfectant—*U. C. V. Cleveland, O.*—We know nothing of this. Disinfectants of various kinds can he had at any large drug store, but we do not know that any of them are of much value for other horticultural purposes.

H. B. Lum, Sandusky, O.—Your plant is *Mimulus cardinalis*, from California.

True Black Hamburg Grape—*Figo, Quincy, Ill.*—This can be had of most of the principal nurserymen near you. If there are none nearer, try L. Ellsworth & Co., Naperville, Ill., and you will get them true.

Cutting Grafts—*C. D.*—It does not injure to cut grafts when frozen, but it is bad to leave them to freeze after being cut.

Profits of Rhubarb.—A writer in the *Working Farmer* says, from three-fourths of an acre he sold $500 worth.

Grape Experiments.—In February number you make me say that one of my seedlings of Franklin grape was *identical* with its parent. I said but one of them *resembled* the Franklin, none were identical. The one which resembles the Franklin is a size smaller, but a better grape. Vine more hardy.

Truly thine, *O. T. Hobbs.*

Japan Plum.—If you have any information in regard to the fruit mentioned in the enclosed extract from a country newspaper, you would doubtless confer a favor on your readers by laying it before them in your valuable *Monthly:*

"The New Orleans *Picayune* notices the large increase of the Japan Plum tree in that city. The tree is very handsome in itself, and the fruit, ripening when no other fruit is in season, the plums appearing in market as early as February, a most valuable addition to the products of the garden. One orchard in the neighborhood of that city, of about 300 trees, brought, last Spring, nearly $4000." J. W.

[Probably the Loquat-*mespilus japonica.* Can any of our readers say positively?]

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1. Is water from a bath-tub as good for watering plants as clear water?

2. Is the following, from a Boston paper, correct?

"*Hot Water for Plants.*—A writer in the *Boston Cultivator* recommends watering plants with water quite hot to the touch. The writer says he has fuchsias now in bloom, mere cuttings about six inches in height, not one failing out of seven, or even more cuttings, planted in a single pot and watered with hot water."

3. Will the Helianthus, advertised in your *Monthly* of January by J. W. Jones & Son, grow well and flower as far North as this? If so, will you please give some directions for its cultivation for the benefit of your numerous readers, and oblige

Yours, &c., J. H. H.

West Amesbury, Massachusetts.

[1. Yes.

2. Water at 90° is better for cuttings than a lower temperature.

3. It will probably do well with you. Sow it like Indian Corn.—Ed.]

Getting Worms out of Flower Pots.—J. B. G.—Water with lime-water.

Applying Sulphur to Grape Houses.—J. B. G.—If you have a flue in it, mix the sulphur with clay, make a paint, and wash the flues with it. If no flue, then place on slate, and set in the sun about the vinery. It may be put in water, and with a *coarse syringe* scattered over the vines.

Bullitt Grape.—Mr J. B. Garber writes that he hopes the name "Taylor" for this grape will prevail. He thinks the Bullitt will lead to confusion with the Bullet or Fox grape of the South, more likely than with the Cuyahoga of Dr. Taylor. He thinks it has not been distributed under the name of Bullitt prior to the Spring of 1859, and the change to Taylor could easily be made. Mr. Bullitt took no care of the grape, and does not deserve to have his name connected with so valuable a fruit. Judge Taylor has distributed hundreds of boxes free of charge, from a love of pomology and his fellow man, and is more deserving than Mr. Bullitt of the honor.

Rather than retain Mr. Garber's letter for another month, we give the above abstract of his views. Our own views of this subject require but little explanation. There must be fixed rules in pomology, as in other sciences, which all ought to abide by, or the subject falls into inextricable confusion. The rule is, that he who first *raises* or *distributes* a fruit, or points out its *distinction* from other fruits, names it. As we understand the case, Judge Taylor named it and distributed it as the "Bullitt." He had the *right* to do so, and it is our right to acquiesce. All difficulty might be obviated by calling it "Taylor's Bullitt."

Some excellent scraps are on file from our friend "Chemist," for future use. In the meantime we are greedy enough to cry for "more."

Our notice of last month that matter for the Editorial Department should reach us before the 10th, has not generally been followed; a few articles that we should have been glad to have inserted this month, we regret to have to lay over.

Books, Catalogues, &c.

CATALOGUES.

Asher Hance & Son, near Red Bank, Monmouth Co., N. J. Retail Catalogue of Fruits and Ornamentals, amongst which we notice the hop tree, about which some of our correspondents have recently inquired.

John A. Bruce, Hamilton, Canada West. Flower and Farm Seeds; one of the best and most complete catalogues we have received from the extreme north.

Uri Manly, Marshall, Illinois. A comparatively new nursery; but we are pleased to see the spirit of enterprize which its catalogue manifests.

W. C. Strong, Brighton, Mass. Trees and Plants; filled with new and desirable things.

R. Buist, Philadelphia. Greenhouse Plants; though considerably shorn of older and worthless plants, the kinds noted desirable still make a voluminous show.

E. Y. Teas, Richmond, Ind. Quite a select list, especially in fruits, and "Cherries on the Mahaleb" offered in quantity.

Joseph Caldwell, Mount Ida, Troy, N. Y. A select list of fruits.

Edgar Sanders, Chicago, Ill. A select list of the choicer bedding plants and fruits.

We have also received the following; most of them excellent lists:

Ellwanger & Barry, Rochester, N. Y; *Dexter Snow*, Chicopee, Mass., (Verbenas.) *Ramsdell & Loud*, Egypt, N. Y. *Van Pelt & Heyer*, Dubuque, Iowa; *C. F. Erhard*, Ravenswood, N. Y.; *George S. Gaines*, Peachwood, Miss.; *W. H. Starr*, New London, Conn.; *C. B. Murray*, Foster's Crossing, O.; *H. E. Hooker & Co.*, Rochester, N. Y.; *Fuller & Bartlett*, Brooklyn, N. Y.; *S. Feast & Sons*, Baltimore, Md., excellent list of greenhouse and stove plants; *Husmann & Manwaring*, Herman, Mo.; *M. B. Bateham & Co.*, Columbus, O.; *T. G. Yeomans*, Walworth, N. Y.; *D. C. Brewer*, Springfield, Mass.; *H. A. Dreer's* catalogue of flower seeds, Philadelphia; *E. B. Quiver*, Madison, Wis.; *Cary, Peter & Cary*, Louisville, Ky.

The Illustrated Pear Culturist—By an amateur. Published By C. M. Saxton & Co., New York.

This is a very handsomely gotten-up work. It enters into the Pear subject from its earliest history, and is a complete manual of most that has been said and done in relation to it. It is beautifully illustrated with Colored Plates of most of the popular kinds of pears, and, altogether, will be a valuable hand-book of reference to the pear culturist.

In a list of publications that the publisher thinks has given some "valuable and interesting information in regard to the culture of the Pear," he names the periodicals of Mr. Tucker, Mr. Hovey, and the *Horticulturist*. We were vain enough to think the *Monthly* had done a "little" that way also; but we are perhaps not up to the "standard" of value. We will try to improve in our friend's estimation.

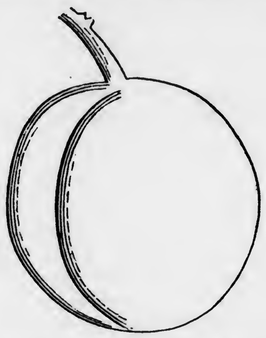
The Genesse Farmer, comes regularly on our exchange list. Few papers have done more during the past, to circulate and foster a taste for horticulture amongst a large class of the community who would not otherwise be reached; and we are glad to see it so well supported in its usefulness.

The Nebraska Farmer. We are pleased to receive so gratifying an evidence of progress from the Far West. The Horticultural department is under the management of Mr. E H Burches; which fact, will of itself render it a very welcome exchange. The *Farmer* hails from Brownsville, Nebraska.

An Old Nursery.—One of the oldest in Pennsylvania is that of the Embree's, at Marshallton, commenced in 1791 by James Embree, grandfather of the present proprietors. It is perhaps the oldest existing one.

New and Rare Fruits.

Plum, *Oberley's Greenwood.*— This is a popular plum in Bucks County, Pa., the origin of which we are unacquainted with. It appears, however, to be a very distinct kind, and we have made the annexed cut from a specimen sent us by a friend last Fall.



Fruit medium, nearly round, slightly flattened, with a distinctly marked suture; stalk ½ an inch long, in a shallow cavity; skin amber, but nearly covered with rosy red, with a thin, pale violet bloom; flesh juicy, rather above second quality, and adhereing firmly to the stone.

The fruit altogether is handsome and showy.

The Emperor Apple is highly spoken of by the best Western pomologists. Mr. Aldrich thus describes it in the *Prairie Farmer:*

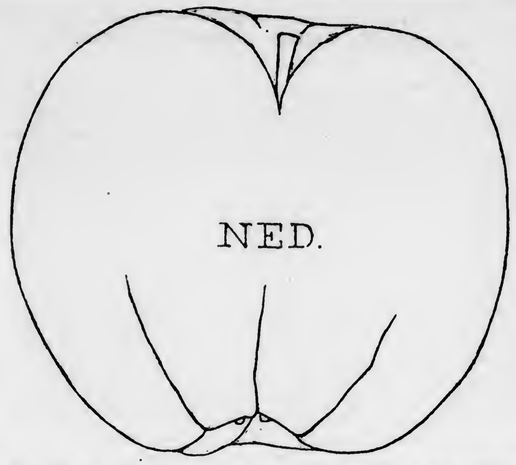
"Size medium, roundish, one-sided; color orange, striped and shaded with red on the sunside, covered with white specks; stem short and slender, deeply set in basin; calyx shallow, regular; basin deep and regular; core and seeds medium; flesh white, fine grained, crisp, tender, juicy; flavor pleasant, almost sweet."

We always thought it to be the same as the Emperor Alexander, but the description shows it to be altogether another thing.

Description of a new Seedling Apple, *by Jno. J. Libhart, Marietta, Pa.*

Read before the Fruit Growers' Association of Eastern Pennsylvania, February 1st, 1860.

Ned, (*Libhart*)—Size medium, 2½ inches in length by 3 inches in breadth; form round, oblate, inclined to conical, obscurely and sometimes conspicuously ribbed; skin yellow, nearly the whole surface washed with deep red and thickly striped with broken stripes of still denser red, and dotted with numerous rough yellow dots; stem very short, does not protrude above the cavity, which is deep, narrow and often



irregular; calyx medium and partially closed, set in a moderately deep and rather wide, slightly plaited basin; flesh yellowish white, texture fine and tender, juicy, agreeable sub-acid flavor and some aroma; in season from October to Spring, always fair, a good keeper and remarkably productive.

History—This Apple, which we consider truly valuable on account of its many excellent qualities, originated in Marietta, Pa. The tree, when only a few feet high, was found growing very near a fence post, where it had sprung up. It was removed to its present locality by the then aged mother of the present proprietor, Mr. Edward Saylor, who is here known by everybody by the sobriquet of Ned, and in whose honor it is now named by the describer.

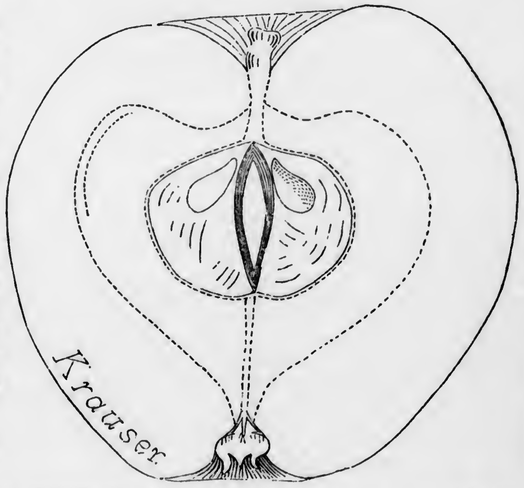
The tree, now about twenty years old, has not attained a very large size, but is vigorous and healthy. In habit it is inclined to be straggling; shoots slender and a deep red color; the fruit is evenly distributed over the tree and is not liable to be blown off. Although much neglected, and having been partially blown over, and never pruned, it bears annually heavy crops of fair fruit; and whilst the Smokehouse and other varieties growing near it are seriously injured by the apple worm (*Carpocapsa pomonana,*) it escapes uninjured. This immunity from the attacks of the worm is probably owing to some peculiarity of the character or early form of the calyx, which renders it unsuitable for the maturation of the ova of this formidable insect. Considered by the committee in quality worthy of propagation.

Krauser, (*Krowser of Downing.*)—Specimens of this fine apple were exhibited at the Lancaster Fruit Growers' Meeting, and excited much attention for its many good qualities.

It is said to belong to Berks Co., Pa. It is very peculiarly formed and is readily distinguished by its marked characters from other varieties.

Fruit above medium, conical; flesh white, juicy, crisp, with a pleasant sub-acid flavor; skin thick and leathery, yellowish, nearly covered with vermilion dots and stripes; stalk short and thick, in a shallow cavity; calyx partially closed and recurving in a small plaited basin.

It is said to be a native of Berks County, Pa., and a regular and abundant bearer.



The Cornwell Pear is described in the *Homestead* as being one of the best known in that neighborhood. Col. Wilder and other pomologists cannot identify it with any known variety, though it is not known to be a seedling, and it is proposed to give it the above name. It is thus described:

Description—Medium, roundish, smaller ones slightly obovate, greenish yellow, with many dark and purple specks, and much russetted; stem longish, and moderately stout, in a very narrow cavity; calyx slight in a very shallow basin; flesh yellowish white, tender, melting, juicy, with a spicy flavor, slightly astringent; ripe about September the first; origin unknown here.

STRAWBERRY, *Wizard of the North.*—This is the latest new English Strawberry, and is believed to be the largest yet raised. We have recently seen a colored plate taken from a *photograph* of one on exhibition in Scotland, and counted fifty berries on the one plant.

New or Rare Plants.

CAMELLIA SASANQUA.—Variety *anemoniflora;* introduced by Mr. Fortune from China. It has white flowers about three inches across, with an anemone-like crown of yellow petals in the centre.—*Bot. Mag* We look on this as the foundation of a new race among Camellias as the pompones were among Chrysanthemums.

STATICE BOURGIÆI.—Nat. ord. Plumbaginaceæ. From the Lancerotte Islands. It is allied to *S. puberula;* handsome, but not more so than most of the other well known kinds. It is a greenhouse plant of easy culture; figured in *Botanical Magazine.*

CALCEOLARIA FLEXUOSA.—An annual from Peru, with large tresses of orange yellow flowers. We think it likely to prove equal, as a bedding plant, to *C. pinnata,* described in a former number, and hope our seedsmen will import it for us. The figure is in *Bot. Mag.*

GUTIERREZIA GYMNOSPERMOIDES.—A weedy looking perennial herbaceous plant, with orange yellow aster-like flowers, from New Mexico.—*Bot. Mag.*

DIPTERACANTHUS HERBSTII.—An acanthaceous plant, figured in *Botanical Magazine,* and appears to be desirable. The leaves are like Cyrtanthera magnifica, and the flowers are produced in large heads, are each possessed of very long tubes of a rich purple, with a paler mouth to the corolla. It is a stove plant from Brazil.

CEREUS TRINITALENSIS.—Allied to *C.extenseas,* but is larger in all its parts. The flowers are very large, flowering in the night, of a yellowish white, stained with purple at the base of the throat. It has a fine fragrance. Introduced from Trinidad.—*Revue Hort.*

CEREUS OLIVACEUS.—This is from San Domingo, and is allied to *C. eburneus.* It is a strong branching kind, green, with a red, olive hue on the growing points of the shoots. It has not flowered yet in France.—*Revue Hort.*

AMARYLLIS SYMONII is a new variety, obtained from a cross between *A. vittata* and *A. psittacina,* by M. Symon Brunelle. It is yellowish white, striped with green and pink, and is, says *Horticulteur Praticien,* "a marvel of its kind."

COCHLIASTEMA ODORATISSIMUM.—A *leaf plant,* sometimes called *Tradescantia odoratissima.* It has some resemblance to *Tradescantia discolor.*

MAHERNIA ODORATA is described and praised in the *Horticulteur Belgique* for its sweet yellow flowers. The plant has for some long time been grown in American Nurseries, but is not as common as it deserves to be.

ORIGANUM SIPYLEUM.—A species of basil or marjoram; is recommended by the editor of the *Garten Flora,* as a beautiful plant for rooms and cabinets, for its small rosy flowers and so sweet a fragrance.

CALATHEA FASCIATA; also called *Maranthafasciata.* It has the leaves striped with white and green in a beautifully variegated manner, and is described in *L'Horticulteur Praticien,* as one of the prettiest of leaf plants; the flowers are white.

FARFUGIUM GRANDE, as it was called by Lindley, and which is now becoming common in our greenhouses for its singularly spotted leaves, has now been removed by Prof. Schultze to *Senecio.* S. FARFUGIUM.—The flower is yellow and not at all striking for beauty.

DATURA WRIGHTII is a native of California, and is the same, *L'Horticulteur Praticien* says, as the *D. meteloides,* sent out by Vilmorin. We saw it in flower the past season, and find it to very much resemble our Jamestown weed.

ECHINOCACTUS BUCKII.—It is a small growing globular kind, with rose colored flowers, 1½ inches across, opening during sun shine. Introduced from Mexico to the German Gardens.—*Hort. Prat.*

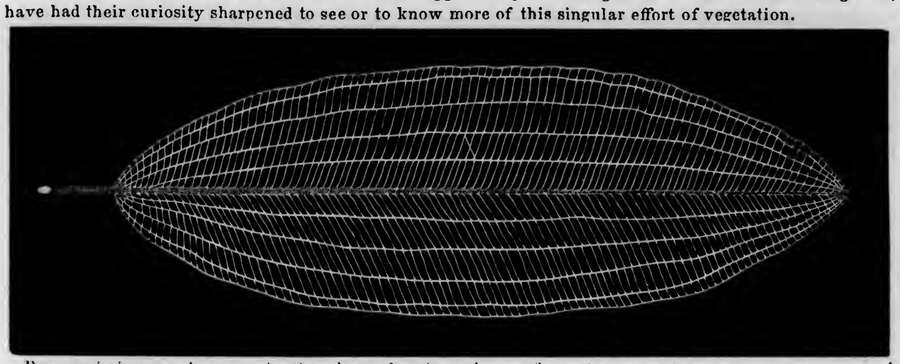
SAXIFRAGA PYRAMIDALIS.—An Alpine species, growing on mountains, and producing numerous flowers on a large panicle about three feet high. It is an old plant, but scarce in European gardens. Recently figured in the *Revue Horticole.*

LYCHNIS HAAGENA.—A hardy perennial obtained by crossing L. Fulgens with L. Sieboldii. Flowers of a rich, orange scarlet, two inches or more in diameter, the petals having a singular spur-like lateral lobe about half way down on each side. This variety was raised at Erfurt, by M. Benary.

OLEA ILICIFOLIA.—Another exceedingly handsome hardy evergreen from Japan, with leaves like the holly, and serrated. Flowers white and sweet scented.

SYRINGA OBLETA.—A fine, hardy, deciduous shrub, about the size of the common Lilac, but more tree-like in habit; leaves large, fleshy, oblately cordate, as broad as long; flowers freely produced and very ornamental, about half as large as in the common sort, arranged in a thin, loose panicle. There are purple flowered and white flowered varieties, both introduced by Mr. Fortune, from China.

OUVIRANDRA FENESTRALIS, *lace leaf or lattice plant.*—In the tank of the magnificent Victoria house of James Dundas, Esq., of this city, is growing the only specimen, perhaps, of this wonderful plant, on this continent. Most of our friends who have had the opportunity of reading Ellis' recent work on Madagascar, have had their curiosity sharpened to see or to know more of this singular effort of vegetation.



By permission, we have made the above drawing of one of the leaves, and also append below, Ellis' account of it. In the drawing the white lines represent the leaf. Mr. Pollock deserves great credit for his success in growing it.

"The Ouvirandra is not only a rare and curious, but a singularly beautiful plant, both in structure and color. From the several crowns of the branching root, growing often a foot or more deep in the water, a number of graceful leaves, nine or ten inches long, and two or three inches wide, spread out horizontally just beneth the surface of the water. The flower-stalks rise from the centre of the leaves, and the branching or forked flower is curious; but the structure of the leaf is peculiarly so, and seems like a living fibrous skeleton rather than an entire leaf. The longitudinal fibres extend in curved lines along its entire length, and are united by thread-like fibres or veins crossing them at right angles from side to side, at a short distance from each other. The whole leaf looks as if composed of fine tendrils, wrought after a most regular pattern, so as to resemble a piece of bright green lace or open needlework. Each leaf rises from the crown on the root like a short delicate-looking pale green or yellow fibre, gradually unfolding its fea looking sides, and increasing its size as it spreads beneath the water. The leaves in their several stages of growth pass through almost every gradation of color, from a pale yellow to a dark olive green, becoming brown or even black before they finally decay; air-bubbles of considerable size frequently appearing under the full formed and healthy leaves.

It is scarcely possible to imagine any object of the kind more attractive and beautiful than a full grown specimen of this plant, with its dark green leaves forming the limit of a circle two or three feet in diameter, and in the transparent water within that circle presenting leaves in every stage of development, both as to color and size. Nor is it the least curious to notice that these slender and fragile structures, apparently not more substantial than the gossamer, and flexible as a feather, still possesses a tenacity and wiriness which allow the delicate leaf to be raised by the hand to the surface of the water without injury."

PRUNUS TRITONA.—This is a beautiful dwarf, hardy, Spring flowering shrub. The long slender branches are in Spring loaded with compactly semi-double flowers of a delicate pale rose color. The leaves are later than the flowers. It is a Chinese plant.

CHAMÆTIA FOLIOLOSA is another acquisition from California, of the tribe Rosaceæ. It is a pretty hardy evergreen shrub, with foliage like a mimosa. The plant grows two or three feet high, branched, compact and erect; leaves broadly ovate in outline, fernlike, tripinnately dissected, leaflets numerous, small, oval and hispidulous, flowers white, Rubus like. The foliage is exceedingly elegant, and has when rubbed, a strong resinous, cistus-like odor. It is considered likely to prove a favorite dwarf, hardy evergreen.

DATURA CHLORANTHA.—A very handsome double flowered variety. Flowers yellow, double, showy, tubular and sweet scented; of a low spreading habit, and producing flowers seven to eight mohths during the year. It is a native of India.

CLEMATIS VITICELLA V. VENOSA, is a hardy, climbing, flowering shrub of great beauty. The flowers are nearly four inches in diameter, of a rich purple color, each petal being veined with crimson, and having a red crimson tipped ray running from the base to the apex; the white styles are tipped with it. It continues in bloom all the Summer and late into Autumn.

GRAMMATOPHYLLUM SPECIOSUM (*Showy Grammatophyllum*).—This gigantic orchid has for the first time been bloomed in full splendor by Mr. Carson, gardener to W. G. Farmer, Esq., of Nonsuch Park, Ewell. It bloomed last October. Its pseudo-bulbs are nine feet long, its flower-scape six feet!—flowers in panicles, each flower six inches across, yellow and richly blotched with deep red purple. It is "queen of orchideous plants." Native of Java, and other islands of the Indian Ocean.—(*Bot. Mag., t.* 5157.)

DENDROMECON RIGIDUM.—A poppy with a woody stem and branches, quite hardy and a really handsome plant for Summer flowering.

Begonia Marshallii.—Hybrid, between B. Rex and B. splendida argentea. Leaves nine inches long and six broad; a broad silvery metallic lustre covers the greater part of the leaf; there is an edging of bright crimson on the young leaves which is pretty.

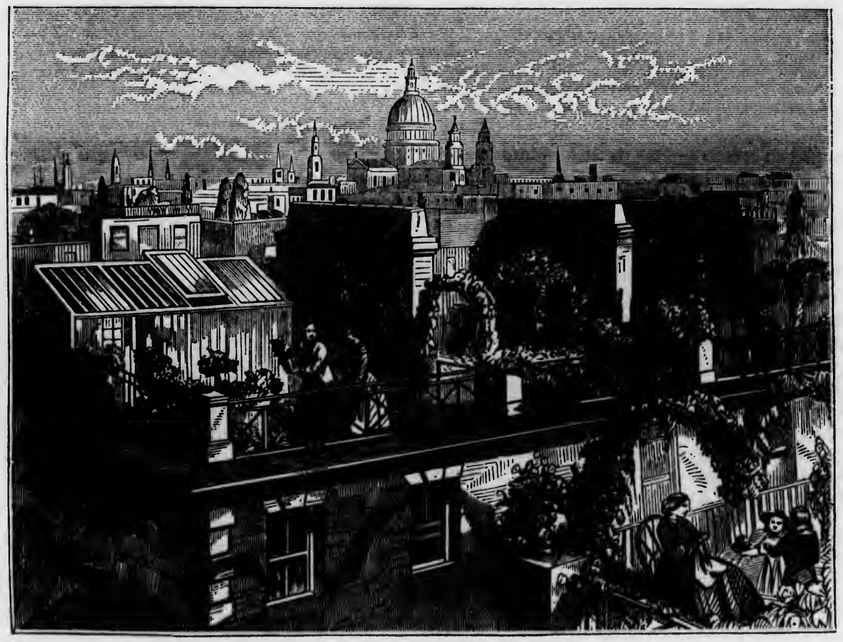
Statice Bonduelli (*Bonduelle's Statice.*) Found by M. Bonduelle in North Africa, and sent to Kew by Mr. Thompson, of Ipswich. Flowers yellow. "One of the prettier of a very pretty genus." Flowers during the summer months in a greenhouse. —*Bot. Mag., t.* 5158.

Llavea cordifolia,(*Heart-leaved Llavea.*)—One of the most beautiful and most rarely cultivated of Ferns. Native of Mexico. Requires a warm greenhouse.—*Ibid. t.* 5159.

Begonia frigida, (*Frigid begonia.*)—A very dwarf species. Leaves coppery-green above, and deep rosy red beneath. Flowers white and insignificant—*Ibid. t.* 5160.

Didymocarpus primulæfolia, (*Primrose-leaved Didymocarpus.*)—Native of Ceylon; flowered at Kew in November, 1859. Leaves very hoary; flowers pale lilac, in small cymes.—*Ibid. t.* 5161.

Roof Gardening.—Several of the English periodicals, literary as well as horticultural, have been discussing of late the subject of urban gardening, and more particularly the practicability of growing plants and flowers on the roofs of city houses. We have copied from "*Once a Week*," a fancy sketch of what a roof garden *might* be made to represent in order to induce, if possible, some of our many city readers to introduce the practice into some of our large cities.



The American Pomological Society. The President, Hon. Marshall P. Wilder, has appointed the 11th of September next as the day of commencement for the session.

To Poison Mice and Moles.—Bore inch and a half holes in a block of wood, mix arsenic with a hundred times its bulk of flour, meal or other substance which they like to eat; fill the holes partly, and place them on their sides in the burrowings.—*C. Gent.*

The Pampas Grass has stood out the past two winters, near Philadelphia, by having dry leaves thrown over it in the Fall, and a little brush to keep them from blowing away. It is a noble object on a lawn when in flower.

Foreign Intelligence.

New Branching Brocoli. A variety has been produced in England that bears several dozen heads on the one plant. From a cut in the *Gardener's Chronicle*, it appears to be a desirable novelty.

New Forcing Cucumber.—At a recent meeting of the British Pomological Society, Messrs. Milne, Arnott & Co., of Vauxhall, produced a basket of six fruit of a new seedling winter Cucumber, which was named the Winter Prolific Cucumber, from its property of bearing an abundance of handsome fruit during the winter. The fruit is white spined, of a dark green color, averages about fourteen inches long, is very straight, and of a uniform thickness of about an inch and a quarter throughout. The flesh is very solid and of excellent flavor. It was considered a very valuable and fine variety.

Death of Dr. Vogel the Botanical Traveller in Africa.—Mr. Herman, Consul at Tripoli, has just informed the family of Dr. Vogel, that this unfortunate traveller was assassinated immediately after his entrance into the Wady. He had his information from the Sultan of Bornou.

Foreign Correspondence.

From our English Correspondent,

Chester, Eng., March, 1860.

The Orchard House question has engrossed a great deal of attention of late years; but, amongst the many statements publicly given, for and against, I am sorry to find such diversity of opinions. In a climate so uncertain and changeable as this; and where good fruits are so highly valued and glass and building material so very cheap, I cannot but wonder that they have not, ere this, become an indispensable adjunct to every gentleman's well-kept establishment, when real comforts and pleasures are sought after. The late Spring frosts and ungenial weather of last season will, I trust, go far to prove their real utility. I may here state that I am an advocate in their favor, when carried out to the full extent of their title; but I object very much to the childish playhouse structures one so frequently stumbles against in some out of the way corner, and stocked with a miscellaneous collection of poor scrubby-looking trees—with their roots hard-bound and distorted, in pots that require no ordinary skill to maintain their existence, much more to fruit them satisfactorily. The owners of such are, doubtless, the non-advocates.

I feel fully convinced, from personal experience and careful observation, that Orchard Houses are not only a pleasant possession, but a very profitable one when rightly constructed and skilfully managed. As a commercial speculation, I have proved them to be a successful investment. I had an occasion to call upon a very shrewd tradesman in Hampshire, in the month of October, of 1857, who shewed me a vinery he had erected and planted three years previous. It was a lean-to of the simplest construction. I have enclosed a rough sketch, Fig. 7, 200 feet long, which

Fig 8.

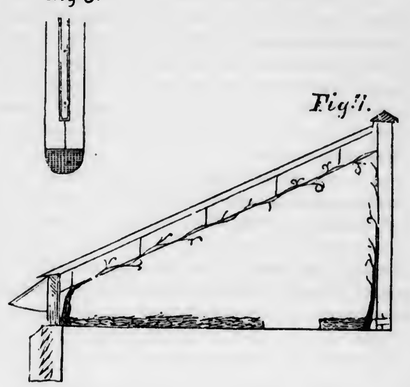


Fig 7.

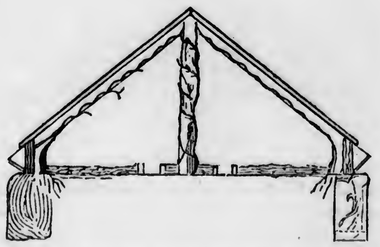
[*Fig.* 8 is section of bar, showing the mode of glazing, by nailing thin strips of wood over the sides of the glass.]

cost ten shillings per lineal foot. A few bunches was cut from each vine the second year, besides an excellent crop of well-ripened Peaches and Nectarines, from the back wall, which had been planted previous to erecting the house. A finer crop, or better flavored grapes I never witnessed. I was then informed the fruit were sold to a fruiterer for £40—good interest, I consider, upon £100. The Peaches, etc., from the back wall, paid for manual labor and incidental expenses.

The same gentleman had erected a house upon a like scale, but loftier, for Peaches, Nectarines and Apricots, which had proved equally satisfactory.

The same season I visited several Graperies in Guernsey or Jersey, all constructed in a similar manner to figure 6.

Fig 6



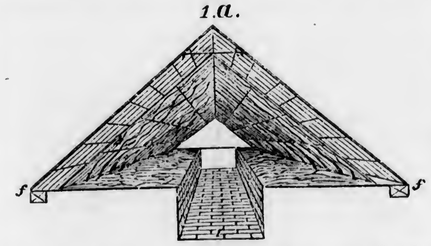
The fruit is grown chiefly for the English market

A more beautiful or luscious sight can scarcely be imagined than these glass sheds presented. They do not merit the title of houses.

I also visited the garden at Basing Park, Hampshire, where is an Orchard House 300 feet long and 25 feet wide, constructed of wrought iron; (I hope to be able to send you a sketch of this in my next letter). This house had a very imposing effect, and was entirely devoted to Peaches, Nectarines, Pears, Plums, etc., with the exception of a few potted fruit trees placed above, more for curiosity than real utility. All the trees, in this as well as the former, were planted in borders, and each class of fruits had a house or partition devoted to themselves. On these two points success mainly depends, so that each may receive the peculiar treatment they require. All nostrums are carefully avoided. The borders are first well-drained, then composed of rich turfy loam and a little well-decayed manure for Vines, Peaches, &c. When the soil is good manure should be entirely excluded, and frequent copious applications of weak manure-water applied while the fruit is swelling. In pruning, I consider it best to be done, in the case of Bush plants, in the summer season, with the finger and thumb, which will cause them to form fruit-spurs. If these become too thick, then thin in early spring; and should they become barren or over luxuriant, lift them annually in autumn, and replant. *Give abundance of air at all times*, when the weather is favorable; this I believe to be one great cause of failure in the management in this country, by excluding fresh air, and treating them as tender exotics. Water freely when growing, and withhold more or less to promote flavor and ripen the wood in autumn.

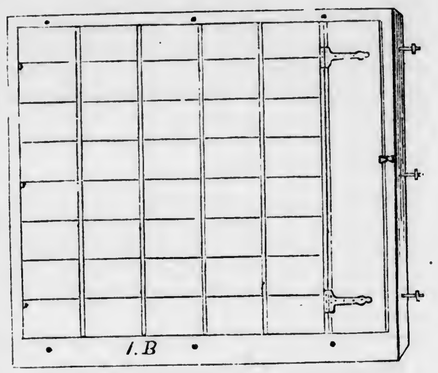
With the accompanying sketch, I offer a few remarks upon the construction, adaptability and various merits. Nos. 1, 2, and 3, are plans of own inventon, which I have had erected in various parts, and very successfully. Figure 1 *a*, is a section and interior

1.a.



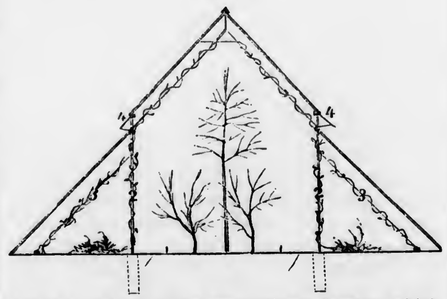
[1 Path. 2 Wire for training trees upon. A very cheap and convenient house.]

view, adapted for either Vines or Peaches, can be be erected either permanently or temporary, The roof is in separate divisions, and bolted together, as shown in figure 1B, and screwed upon the wall plate,



with a wooden shelter or lap for ventilation, same width as glass. The path is sunk below the surface to economise space. This is a very convenient portable house, requiring but a few minutes labor to erect; and when not required in the winter season, can be stored away: care being taken to have the screws well oiled at all times. The trees are benefitted by such exposure, as it tends to ripen the wood still better.

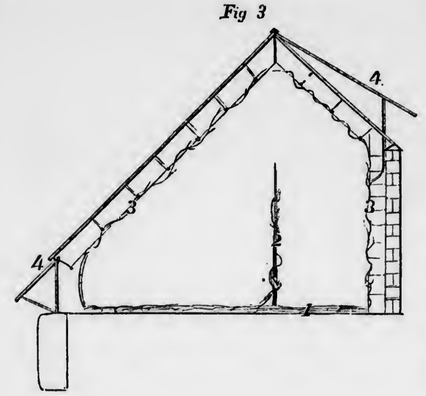
Fig 2



[1 Paths. 2 Iron pillars supporting rafters on which vines are trained. 3 Trellis for training Peaches, &c. 4 Narrow sashes for ventitation. The whole length of the centre is planted with standard and dwarf trees, such as Peaches, Figs, &c.]

Figure 2 comprehends a span and two lean-to houses, by means of which much space is gained. In all cases the rafters and bars are fixed, and ventilation admitted by means of side lights or flaps. Narnow lights are by far the neatest and best. A door opens in the centre of each end.

Fig 3



[1 Path. 2 Upright trellis for training trees to. 3 Wires for training vines upon. 4 Moveable sash with back for ventilation, by means of an iron rod; the front is wooden flaps.]

Figure 3 is a span roofed house, erected against a wall; the ventilation is given by means of front flaps, and every alternate three feet of the back lights being made to move up on hinges.

Fig 4

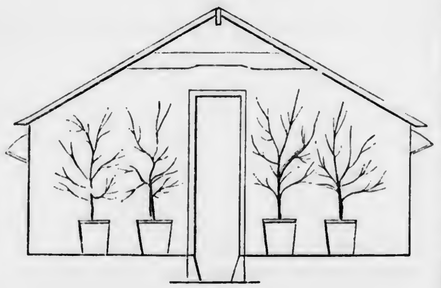
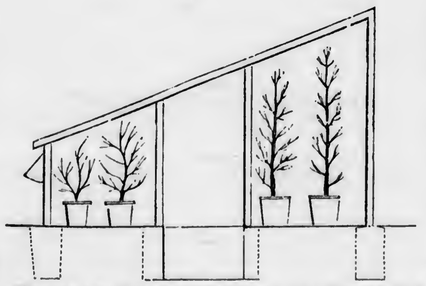


Fig 5



Figures 4 and 5 are copied from Mr. River's little work on Orchard Houses. The sides are boarded, the roof affixed rafters, air admitted by means of back and front flaps or sliders. Now remove the plants from the pots into the border, then these will be very serviceable, cheap and durable structures.

A very interesting collection of plants has been lately received into Kew, from the Arctic region, through Captain McClintock, of the search expedition for Franklin. It consists of Cedrus, Saxifragas, Vacciniums, Ranunculaceæ, &c.

I am sorry to have to report the death of Barter, of the Niger Expedition, under Dr. Baker. After many hardships endured, he fell under repeated attacks of dysentery. Some rare and good plants have been received from him. His loss is sadly felt. He was known to be a good practical Botanist and cultivator, and an ardent lover of plants, for which he accompanied this important expedition.

Horticultural Societies.

LIST OF OFFICERS OF HORTICULTURAL AND POMOLOGICAL SOCIETIES.

For the information of those who wish to correspond with the different societies, we furnish a list of the Officers of as many of them as we have been able to procure, and hope to be furnished with any that are omitted. We insert only those societies of a strictly horticultural or pomological, and not of an agricultural character.

HORTICULTURAL SOCIETIES.

Name of Society.	*President.*	*Cor. Secretary.*
Massachusetts, Bos'n,	M. W. Baldwin,	William Saunders.
Pennsylvania, Phila.	John Groshon,	Thomas Hogg.
New York, (City)	William Orange,	E. P. Crauch,
Cincinnati, Ohio,	William Lunn,	William Brown,
Montreal, Canada,	William Glasgow, Jr.	Carow Sanders.
St. Louis, Mo.	Dr. Edward Taylor.	
Cleveland, Ohio,	Joseph Harris,	C. W. Seelye.
Genessee Valley, Rochester, N.Y.,	Jno. W. Degrauw,	Edwin Scott.
Brooklyn, N. Y.,	T. C. Hersey,	John W. Dana.
Portland, Maine,	Thos. S. Kennedy,	Ormsby Hite.
Kentucky. Louisville,	James Taylor,	Thomas Shaw.
St. Catharines, C. W.,	John H. Hutton,	W. R. Smith.
Richmond, Indiana,	A. Bridgeman,	J. L Tewksbury.
Keokuk, Iowa,	J. D. G. Nelson,	H. C. Grey.
Fort Wayne, Indiana.	Jacob Tuckerman,	D. B. Pierson.
College Hill, Ohio,		Thomas Hargreaves.
Workingmen's, Frankford, Philadelphia,		R. Robinson Scott,
Progressive Gardener's Society, Philada,	Dr. A. W. McPherson,	Edward Vaughan.
Meramac, Mo.,	Alexander Buchanan,	George Scattan,
St. Paul's, Minnesota,	J. Knox, Pittsburg,	Thomas L. Shields.
Pittsburg, Penna.,		

FRUIT GROWERS' SOCIETIES.

Name of Society,	*President.*	*Cor. Secretary.*
Western New York,	B. Hodge, Buffalo,	C. P. Bissell, Roch'r.
East'n Pennsylvania,	Dr. J. K. Eshleman, Downing'n, Pa.,	Thomas N Harvey, Jennersville, Pa.
Missouri,	Norman J. Coleman,	Dr. L. D. Morse, Allentown, Missouri.
Ohio Pomological,	A. H. Ernst, Cincinnati, Ohio.	M. B. Bateman, Columbus, Ohio.
Am. Pomological,	Marshall P. Wilder, Dorchester, Mass.	Meets in Philad'a, September 11th.
Conn. Grape Grow's',	Col. D. S. Dewey, Hartford, Conn.	M. C. Weld, Hartford, Conn.
Welmington, Del.,	Hon. John Wales,	Dr. G. Pepper Norris.

PENNSYLVANIA HORTICULTURAL SOCIETY.

The monthly exhibitions which have been suspended during the winter months are again resumed. The March meeting was held in Concert Hall, Philadelphia, on Tuesday evening, March 20th.

The spacious hall presented a beautiful appearance, the tables being filled with fine specimen plants, fruits and vegetables; the Azaleas particularly, with their gorgeous colors, and the Camellias with their chastened beauty added much to the interest of the scene. The hall was crowded with the beauty and fashion of the city. As we are just going to press we have only room for the

OFFICIAL REPORT.

AWARDS:

Camellias, 6 plants, 4 varieties, best to Peter Mackenzie & Sons.
do 15 Cut Flowers, do do do do
do 15 Cut Flowers, second best to James Eadie, gardener to Dr. Rush.

[The names of the winning Camellias shall appear in our next.]

Azalea specimen, best to John Pollock, gardener to Jas. Dundas.
Acacia do do do do do do
Cinerarias, 6 plants, best to Jas. Thomas gard'r to A. J. Buckman.
Collection of 10 plants, best to William Joyce, gardener to M. W. Baldwin; viz:—Azalea Hadstonetia, A. vivienus, A. alba pleno, Indica alba, A. Williamsii, A. perfecta, A. exquisite, Gesneria cinnabarina, Begonia splendida argentea, Ixora coccinea.

Second best to Jno. Pollock—Centradina rosea, Maherna odorata, Amaryllis Braziliensis, Begonia nittida, Begonia laperonscia, Euphorbia splendens, Francisca eximia, Zeria Smithii, Dielytra spectabilis, Rynchospernum jasminoides.

Collection of 6 plants, best to James Eadie; viz:—Azalea coccinea, A. lateritia, Bietia Tankervillia, Raphiolepis Indica, Francisca eximia.

Specimen plant, best to the same, for Bletia Tankervillia.

Second best to Jno. Pollock for Lantana alba grandiflora.

Specimen plants, pair best to the same for Begonia Sandersii, Francisca eximia.

New Plants, first time shown, Pothos argyrea, to C. H. Miller, gardener to D. R. King.

New plants, first time, to John Pollock, for Begonia Madam Alwart, Richiifolia maculata.

Baskets, best to Thomas Meghran, gardener to Joseph Ripka.

The Committee call attention to a collection of Auriculas exhibited by John Randall, gardener to S. D. Whetham. Special premiums were awarded to Thomas Meehan for Hyacinths, to William Grassie for Orchids, etc., to John Pollock for the finest display of Lantanas ever exhibited.

The Committee on Fruits awarded as follows:

Apples, best to William Joyce, gardener to M. W. Baldwin, for Smith's Cider apple.

Grapes, to John Cook, gardener to Rev. J. M. Richards, for four bunches Black Hamburg, fully ripe and well colored, a special premium.

Wine, to L. Montgomery Bond, for a good sample of Isabella Wine, of beautiful color, made of the pure juice, flavor between a hock and fine claret wine; a special premium.

The Committee on Vegetables made the following report:

Mushrooms, best to Thos. Meghran, gard'r to Joseph Ripka, Esq.

Lettuce, best to William Grassie; second, to Thomas Meghran.

Cucumbers,—a brace of very fine ones of the variety named Lancashire Witch, from Charles Miller, gardener to D. Rodney King; a special premium of one dollar. They also notice a very fine collection, embracing several varieties, from Thos. Meghran.

Radishes—very well grown, from Thomas Meghran.

Resolutions of condolence on the death of Elhanan W, Keyser, were offered by Mr. Cope and seconded by Mr. Buist, who, each made some feeling remarks on the worth of our late fellow member.

CINCINNATI HORTICULTURAL SOCIETY.

MEETING OF FEBRUARY 25TH.

SUBJECT:—*Profit of Pear Culture around Cincinnati.*

Mr. Heaver thought Pear growing paid better than any other fruit, and brought figures to aid his opinion.

Mr. Orange spoke to the same effect; knew pear trees that had always borne good and regular crops for the past twenty years.

Mr. Pfeifer had seen pear trees flourish excellently well for nine years, near the Brighton House, and yet they had been very badly used. Pears do quite as well here as in Europe. It was a good, substantial, and delicious fruit.

Mr. Pierson also advocated the Pear, but advised caution as to kinds. Thought there were but half a dozen kinds that were decidedly profitable.

Mr. Cary also advocated the Pear. He found it had a wider range of success than he one time believed. He was much in favor of the Butter pear, or White Doyenne, which had flourished here for forty years. He did not give the Bartlett the entire ascendency except for profit. The White Doyenne comes in after the Bartlett, and keeps in good condition until January. In a tenaceous clay it is apt to crack. Last Fall he saw it doing very well in sandy soil, near Hamilton. It is called the Vergalieu in New York. The Belle Lucrative, Swan's Orange, Flemish Beauty and Oswego Beurre bear general cultivation.

Mr. Catt spoke in favor of the Pear, but the White Doyenne did no good with him. Mr. Reeder had also found the Pear profitable.

Mr. McWilliams said he had sixty varieties of pears on his place, and he scarcely knew which of them to dispense with. He liked all. The Stone pear was one of the most profitable. In seventeen years cultivation had only lost one tree. He ranked the Flemish Beauty next to the Bartlett. The early Amire Joannet very early and better far than the Petit Muscat. The Early Catherine he thought not worth much. Dearborn's Seedling was one of the best. Vicar of Winkfield one of the best winter. The Butter Pear, Old St. Michaels, good. Beurre Giffard, early, No. 1. Does not consider the Bartlett so much better than a few others. Bloodgood, Golden Beurre of Bilboa, Dearborn's Seedling, best pears; he obtains $4 per bushel.

Mr. Mottier said he valued the Golden Beurre of Bilboa as highly as the Bartlett. He had had crops for fifteen years from one tree. It was excellent to please in market. It was always as smooth as oranges, and will outsell the Bartlett. He had five bushels per tree for fourteen years. For winter pears, he liked Winter Nells, althongh small. Easter Beurre and Glout Morceau, the latter good on the quince, and most vigorous; also, the Clion, or Vicar of Winkfield, Bonne de Jersey. The Golden Beurre he could not recommend on the quince.

Mr. Heaver though the Bartlett does do well on the quince. The only objection, people allow it to bear too soon. Give it time to bear, and it will do well.

Mr. Hazeltine repeated his conviction that Pears would pay, but only the best kinds.

The following report from Dr. Joseph Taylor on S. G. Menkler's Grafting Machine, was received and ordered to be published, viz:

WM. ORANGE, President Cincinnati Horticultural Society—Dear Sir: I would beg leave to submit the following report on the Grafting machine made by S. G. Menckler: I find that by a proper selecti n of scions and roots, it makes a cut or slope well suited to the purpose. But when we have to use scions differing in size from the roots, the cuts or slopes will not cover each other as well as those made with a knife. In making the cuts, the chisel must follow the bevel of the instrument, consequently the length of the cut varies according to the size of the scion or root. In a trial of thirty minutes with the instrument, I cut ninety grafts, and I suppose that a person accustomed to making the tie, could have tied them in the same time. One of my hands tongue-grafted one hundred with a knife in the same time, leaving a balance of ten in his favor, and as it takes much less time to wax than to tie them, I can not think that the use of the machine facilitates the work.

THE AMERICAN WINE GROWERS' ASS'N

Has been revived at Cincinnati, under auspices most favorable to a long career of usefulness. At a recent meeting, various samples were exhibited of the best wines. The *Times* says:

"The first sample was made from Norton's Virginia Seedling, by Messrs. Husmann and Manwaring, Herman, Missouri. The Norton's Virginia is a small grape—the Prince—a native of Richmond, Virginia, said to be a cross between the Bland and Miller's Burgundy; it was raised by Dr. N. Norton. This sample of a red wine from Missouri was tasted with a specimen of Mottier's choice Cape wine—both of the vintage of 1859. All agreed as to the choice flavor and bouquet of our townsman's wine, but, as a body, all agreed that the Norton wine, from Missouri, only lacked age to prove as rich a table wine as the best Burgundy.

Mr. Bogen, of this city, has become so enamored of this seedling as a red wine, that he has invested $1200 in securing best cuttings for giving it a fair trial here.

TORONTO HORTICULTURAL SOCIETY.

We have received the last Annual Report from Mr. J. Small, the Secretary. Those who may imagine that the United States "do all the gardening," would find themselves at the other end of the plank on reading this excellent report. In connection with the Society, they are not *projecting*, but carrying out a botanical garden. Plans by Mr. Edward Taylor have been adopted, and are being energetically put into execution. We notice that many friends have already donated trees of rare and choice kinds for the garden.

OHIO POMOLOGICAL SOCIETY.

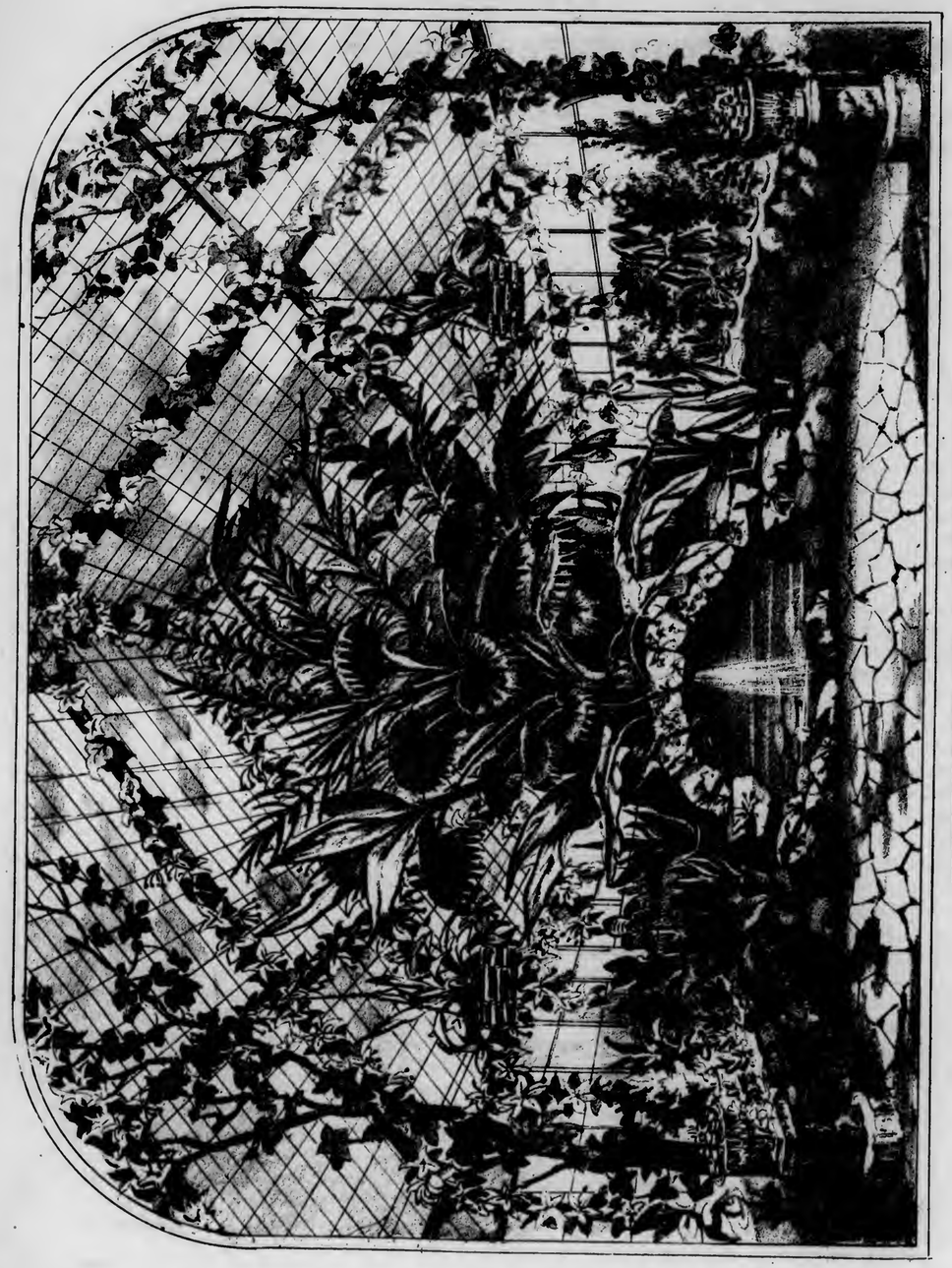
Report of the Ninth Session, held at Columbus, December 7th, 8th and 9th, is one of the most interesting documents a fruit grower can possess.

GARD.' PROGRESSIVE SOCIETY, PHILAD.

An Association for the discussion of topics connected with horticulture, by the gardeners of Philadelphia, has been recently started, and deserves to be well supported. If they will send us abstracts of their proceedings, we will willingly publish them.

WILMINGTON FRUIT GROWERS' ASS'N.

We have received the report of the last meeting of this vigorous young society, and are pleased to find that it is now fully organized and progressing.



INTERIOR OF A HOT HOUSE.

L. N. Rosenthal, Lith. Phila.

THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, Editor. MAY, 1860. VOL. II.---NO. 5.

Hints for May.

FLOWER GARDEN.

The month of May having come, there will no longer be any dread of Spring frosts, and their disastrous consequences to tender plants; and greenhouses, cellars, frames, and every little nook and corner, where plants have been preserved through the winter, will speedily be emptied of their contents.—Many of the flower beds have been filled with Hyacinths, Tulips and other Spring-blooming bulbs.—Unless very thickly planted, the Summer-blooming border plants may be set out of their pots in between these,—that is, if they are done flowering. Tulips will probably scarcely have had their bloom over, and must remain longer. If any pressing necessity exists to remove such bulbs, with care they may be transplanted, watering the soil before and after transplanting. They can then be put in any spare spot where they will not be in the way for a time. Transplanted bulbs, however, seldom bloom so well the next season. It is very important, where this is an object, to retain the foliage fresh to the latest possible period.

As the plants in the borders grow, those in masses may be much improved by being pegged down over the surface. We can then train shoots where we wish, and thus cover the beds much sooner. Pegs for this purpose are best made by getting any straight shoots of trees, about one-fourth of an inch thick and cut into four-inch lengths, then splitting them down the middle into two. These pieces are then bent in the middle like hair-pins. Pieces so split seldom break in doubling.

The first week in May is usually the time to set out Dahlias. They do best in a trenched soil, say eighteen inches deep at least, and prefer cow-manure to any other when it can be obtained. If planted on thin or dry soils, they will not bloom till near the approach of frost, when the chief enjoyment of the Dahlia is lost. It is best, where possible, to plant a duplicate of each kind.

Tuberoses should also be planted this month, but they like a warm rich sandy soil; though, like the Dahlia, they do not like dry soil. As a rule, Tuberoses that flowered last Fall will not do so this, but the offsets will do so the year after.

Amaryllis formosissima, or the Jacobea lily, flowers usually very beautifully in the open border in August, and should now be planted. Many kinds of annuals that have been raised in pots or boxes, in windows or frames, should be transplanted into the open ground whenever the weather is favorable, that is showery or dull. The pots containing them should be well watered before the plants are lifted, and the soil into which the seedlings are planted is best dampened, or what is perhaps better, well watered the day before, so as not to require a heavy watering immediately after the seedlings are planted. Too heavy waterings render the ground hard; and this, when dry, becomes unsuitable to the growth of plants.

In transplanting any thing that has roots large enough to admit of the practice, it is best to dip the roots, immediately before planting, into water. This will obviate the necessity of after-watering, and its consequent injurious effect. If the plants appear to flag, shade or put an inverted flower-pot over the plant for a few days; if this does not bring the plant to, it must have water.

Trellises and stakes for climbing plants and vines should be put in at or before setting out the plants. These plants always seem to grow with more freedom and vigor when they can find something at once to cling to. Climbing vines add greatly to the interest of a garden. They can be trained into all sorts of forms and shapes; and many of them, for gracefulness of form, or beauty of their flowers, cannot be excelled by any other tribe of plants.

In planting extensive flower-gardens, it is best to retain a few plants in pots, in case a frost or other accident should, by chance, destroy some of those set out earlier.

Pansies and Daisies should be set out in rather a shady and moist place,—not under the shade of trees, as the roots of these dry the soil too much.

The Hollyhock is become one of the most popular and useful of Summer bedding plants. They like a rich, warm and rather dry soil.

VEGETABLE GARDEN.

Melons, Cucumbers, Corn, Okras, Squash, Beans, Sweet Potatoes, Lima Beans, Peppers, Egg-plants, Tomatoes, and other tender vegetables that do not do well till the sun gets high, and the ground warm, should go into the soil without delay.

Bean poles should be set before the beans are planted, and near cities where they are comparatively high priced, their ends should be charred. This will make them last some years.

Drumhead Cabbage, Savoy, Red Cabbage, Autumn Cauliflower, and other kinds of fall greens, should be put out at once. The soil can scarcely be too rich for them.

Keep weeds of all kinds down from the time they first show their seed leaves. It not only saves labor "in the end," but the frequent stirring of the soil vastly serves the crop. Sow a succession of vegetables every few weeks,—sometimes insects, sometimes frost, or occasionally other accidents will cut off a crop, and then there is some chance for its successor not wholly to disappoint.

HOT AND GREENHOUSE.

The plants here will soon be pretty much thinned by the demands of the flower garden, and pleasure-ground—the cellars and window-frames will give up their proteges, and a grand renovation of all things will have taken place. Nothing gives a more happy appearance to a pleasure-ground than to have the walks and particular spots about it lined and studded with Aloes, Oranges, Pomegranates, Lemons, and similar tropical plants, set out in tubs or large pots for the summer.

The scale insects often prove great pests. These are easily destroyed by syringing the plants with soap-suds heated to 130°. This was discovered many years ago by some cultivator of Pine-apples in England, but seems to have been lost to the knowledge of our modern cultivators. It has been tested on all kinds of insects by ourselves and friends during the past year, and found so simple and effectual, that if the *Monthly* had done nothing since its existence but bring the idea prominently forward, we should feel well rewarded.

Azaleas, Heaths, Rhododendrons, Camellias, and other tender-rooted plants, are often irrecoverably injured by being too long exposed to the hot suns under glass. If they are liable to such exposure, it is better to whitewash the glass, which will admit light without heat, and in some measure protect them. A very good plan is to prepare a piece of ground in the open air, in such a way as most nearly to approach the kind of soil the different plants most delight in, and then, about the second week in May, turn them out of their pots into this prepared border. They will, of course, have to be lifted carefully into pots again early in the fall.

A shaded place should be selected for those which inhabit the more temperate climes, and for the citizens of the tropics the full sun will be much more desirable. For this open ground cultivation of choice plants, a shady spot does not mean under a tree, as the roots, and the drip, and the confined air, and the want of light, existing under such circumstances, are injurious.

Communications.

NOTES ON THE PEACH.

BY MISS M. H. MORRIS, GERMANTOWN, PA.

I have read with much interest the letter from Mr. Dana, enclosed in your note of March 1st, describing the effects of the Red Spider on the Peach trees in Massachusetts, and also examined with great care the eggs on the peach bark sent with the letter. This species is new to me.

I have no doubt of the truth of Mr. Dana's statement, that trees so infested will, and must be victims to such a pest, and that those trees do die of the yellows; but that the Red Spider is the only cause of yellows, I must beg leave to doubt. After years of careful investigation, I have arrived at the conclusion that whatever impedes the healthy circulation of the sap of that delicate tree will produce the yellows; and then, generally speaking, death is inevitable, and the sooner the tree is cut down and burned, the better it will be for the fruit grower, as it saves time and trouble.

That the Red Spider is not the only cause of the yellows in the Peach tree can be proved beyond doubt, as all intelligent observers will agree, that whatever cause obstructs the natural flow of the sap, either in the Spring or Autumn, will produce disease in that delicately organized tree.

The Peach tree, like the Grape vine, is supplied with a redundance of sap, which pours into the large and tender sap vessels as soon as the first warm rays of the sun thaws the earth and quickens the sap in the roots; every bud swells, and the rushing sap struggles to expand itself in leaves and flowers. If this takes place prematurely, a severe frost follows, the sap freezing bursts the sap vessels, blights the leaf and flower buds, and a general disorganization of the functions of the tree follows. The sap obstructed in its course forms a thousand new channels, shoots out in numerous sickly yellow twigs, and oozes out in gum from every wound or split in the bark, then the tree must die.

The well known *Ægeria exitosa*, or Peach Borer is a fruitful source of the yellows in all the Middle and Southern States. This insect deposits her eggs in the bark near the roots of the Peach tree; the Grubs soon hatch and penetrate into the sap vessels, on which they feed ferociously, gnawing their tortuous paths in and around the roots, cutting off the passage of the ascending sap. For a time the tree shows no signs of the concealed foe; but as the Grubs grow large, and their paths widen, they girdle the tree, the branches then wither, and the sickly shoots in August show that death is inevitable. The Grubs should have been taken out in July; it is too late when the yellow, sickly shoots appear; then cut the tree down, burn it and kill the grubs, or you raise a family of enemies for the next year.

The *Tomicus liminaris*, a minute bark beetle proves, when numerous, a deadly foe to the Peach tree; this little insect sometimes makes its presence felt rather than acknowledged, as, both in the grub and beetle form it inhabits the bark, and seldom appears in the day-time; its flight is in the night, and it generally spreads from tree to tree, alighting on and infecting those branches and trees nearest the one first attacked: this, it is believed, is the infectious yellows.

A few years since, eighteen trees in my garden were destroyed in one summer by the *Tomicus liminaris;* the eggs were deposited in the sap vessels of the bark, all over the trees, and in one case not an inch of the bark escaped, from the top branch to the root; the irritation was extreme, somewhat analagous to the itch in the human skin. The obstructed, yet stimulated sap threw itself out at every bud in sickly yellow twigs, and the tree died of exhaustion. The disease spread rapidly, and eighteen trees were destroyed before the cause was discovered; they had been carefully protected from the borer, (*Ægeria*) and the dark green of the leaves in the Spring showed that there was nothing in the soil that disagreed with the roots; the trees were then cut down and burned, and the infectious yellows disappeared from the garden.

When Peach trees have been cultivated for years in the same garden, the soil becomes exhausted of the nourishment that is essential to them; care should then be taken to remove the old soil and replace it with such as is well known to agree with Peach trees. Sickly trees may then become healthy and bear good fruit, but seedlings raised from unhealthy trees will generally prove sickly and die of the yellows.

In the neighborhood of Baltimore, the Peach is cultivated in great perfection and with little care; the soil of that region is rich in mineral salts, such as alum and saltpetre. Does not this lead to the supposition that a judicious mingling of these would be essential in a soil where these minerals are not found? And Peach growers frequently mingle both these salts with common salt, and sprinkle it around their trees, and if the trees are free from insects the result is always good.

If these observations, drawn from a life of experience in the culture of the Peach, can be of service to you, it will give great pleasure to your friend,

M. H. MORRIS.

[We insert this communication with great pleasure, as probably no one in the world has devoted more time and careful study to the subject than the distinguished authoress, and in acknowledgment of whose services in the cause of Science, the Academy of Natural Sciences has recently conferred on her the degree of honorary membership—the first lady, we believe, who has been so honored by it. We have known Miss Morris' Peach trees to be heavily laden with fruit, when all have failed in the vicinity, attesting the value of her views by their success; and our own experience confirms her suggestions on the importance of mineral manures.—ED.]

WAXING GRAFTS.

BY W. PICKETT, DEMING, HAMILTON CO., IND.

I concur with Mr. Mattison, in respect to the disuse of bandages. I make a composition of about five parts rosin, one part beeswax and enough tallow to make it of the right temper, a little harder than shoemaker's wax. I cleft-graft all. I keep the composition melted in a stone skillet. Two boys, eight years old, can wax about 2000 root grafts per day by pouring the wax on the grafted place with a spoon, holding it over the skillet to let the waste run back into the skillet, and then dropping the graft into a bucket of water. This holds the graft sufficiently without any bandage. In the nursery I put the wax on with a stick made flat at the end. I have my wax barely melted, and can wax twice as fast as with the fingers, and with this advantage also, the work can be done in the morning or late in the evening, and in cool days when wax can not be so worked.

RUSTIC ADORNMENTS.

BY JOHN M. SMITH, GREENVILLE, ILL.

Friend Meehan: I have often thought that many persons, living in the country, and with limited means yet with a taste which only needs encouragement to display it, might beautify their homes, and make them loved by their children, if they would only exercise their ingenuity during seasons when active, necessary labor on their farms could not be performed. During the winter months most farmers, particularly those who are not the best supplied with *pecuniary* means, have little actual labor to perform; and that is *the*

time to "fix up" their homes, and make them loved by their children.

I sent you some sketches some time ago, which you thought worthy of engraving and perpetuating in the *Monthly*, (September number, '59). This has encouraged me to "try again."

Rustic adornments, to be valued, should be constructed by the owner of the home he desires to beautify. A person with abundant means may pay an ingenious person to ornament his surroundings with articles of rural taste; but, in nine cases out of ten, they are never appreciated, and as seldom used. But when a man constructs a tasteful arbor or garden-seat, or rustic portico, etc., if it did not cost any money, he thinks none the less of it when he can look proudly upon his children enjoying the comforts of the same; and can even enjoy it himself when worn down by the toils of the day, calmly reflecting upon how much ease he has obtained at so little cost.

We must not suppose that none but the wealthy have a taste for the beautiful. I will admit that they are possessed with the power of displaying their tastes, far superior to the poorer classes; but give the latter an idea, and observe how much quicker they will act upon the hint—and improve it too—when they have the work to do themselves. For just such persons (and any others who may profit by the same) I pen the present article.

During the winter collect the materials for constructing all rustic work, as the bark then adheres to the wood. Then is also a good time to construct the same. Timber which is durable in its nature, or which is not liable to be eaten by worms, is the proper kind to select, thereby preventing the disagreeable sensation of having spent a considerable amount of time and ingenuity for nothing. Cedar, Oak, Walnut and Willow are all good for rustic work; the latter for the smaller details; and all kinds of wood should be oiled once a year. In preparing the materials never cut the branches off too close, nor remove any knots or rough bark; and if mossy, so much the better. Always be sure and have enough material at hand for any article, so as to save the necessity of running to the woods for a piece to match or fit some place, when you have the article, perhaps, almost completed. Have straight, smooth-barked pieces of timber (or poles) for seats; these must be split and nailed on, the round side up. All pieces which are placed next to a square surface, as the side of a house, should be hewn flat on that side. Situation and purpose will suggest the size and shape of the material; but always "work in" as many crotches or "forks" as possible, not only because they look the best, but because they serve as braces, much better than if those braces are nailed on.

I send some sketches of work put up by myself, while residing in Northern Iowa, slightly changed from the original design, which I hope will be of some benefit to others in constructing Rustic Adornments. These will suggest to the ingenious a variety of other articles upon which to exercise rural taste.

Fig. 1.

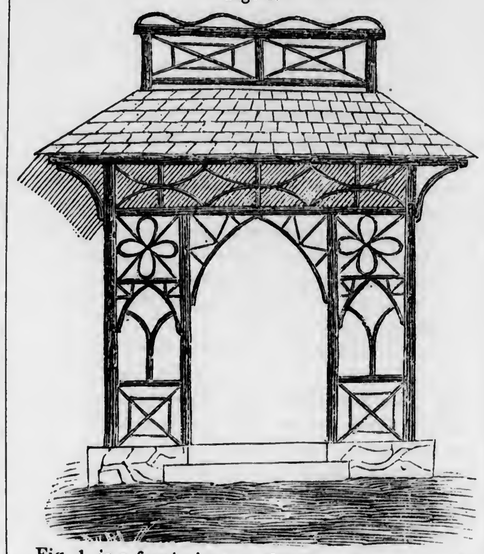


Fig. 1. is a front view, or *elevation*, of a portico, in Rustic style.

Fig. 2.

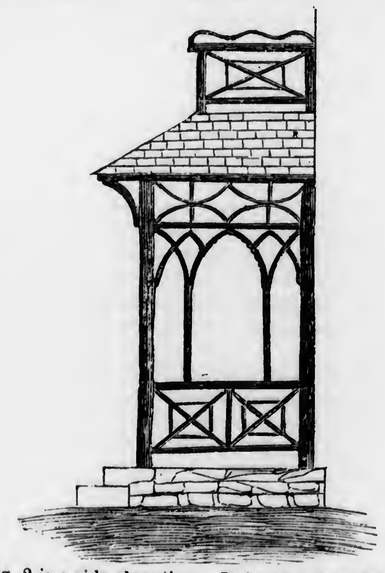


Fig. 2 is a side elevation. It is "hip" roofed and shingled, and has a balcony on the roof.

Fig. 3.

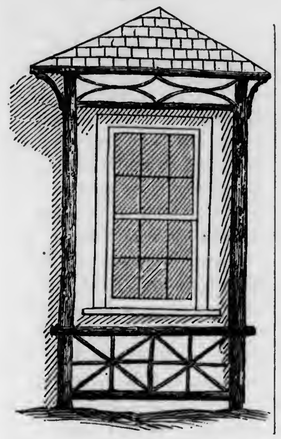


Fig. 4.

Fig. 3 is a front view of a window "hooded" in the same style; and fig. 4 a side view of the same. The window has a balcony extending to the ground, which may be used as a bed, in which to plant summer-running vines, to be trained over the window.

Fig. 5.

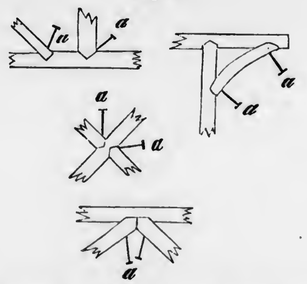


Fig. 5 contains several details of the proper manner of joining the pieces together; the letter *a* indicates the nailing of same.

PLANT FRUIT SEED.

BY DR. R. P. R., QUINCY, ILL.

Let me advise all those who are moving West, or going on to a new farm, if you have no money to buy fruit trees with, sow the seed and sow it the first year. It will not take over three hours of time. Do not think so much of the mighty bushel of wheat or corn; neither think that you will have plenty of money next year to buy with, for if you do you will be disappointed, take my word for it. You will have uses enough for every dollar that you will have even if your crops turn out well. Even if you should have money the next year there is nothing lost. Your little trees or Apple sprouts will sell for more than they cost you. But if you are disappointed in money you have gained one year. You have really an orchard of fruit started. Do not say that you will not get any good fruit from the seed, for you can graft them just as well as any one if you will only think so. I know two young men who moved into Ohio; they paid out all their money for land. One sowed fruit seed the first year; the other waited to get money from his crops to buy the trees. The result is, the one that sowed the seed sold over $1200 worth of fruit this last season, while the other has not fruit enough for the use of his family. He waited to raise his fruit by money instead of seed; he thought too much of the bushel of wheat. The other told me he would not give his fruit trees for all the land his brother owns—220 acres; and further, he says that "they have not cost me a single dollar in money, and while my brother is toiling and sweating in the harvest field I can sit under the shade of my fruit trees and gather my fruit when the weather is cool and pleasant."

Certainly a man that refuses to plant fruit, if he has but one acre of land, refuses one of the greatest blessings that the Creator has bestowed upon man.

NATIVE PLANTS FOR HEDGES.

BY S. L. B., BROOKDALE FARM, ME.

Fagus ferruginea—Some years ago, my attention was directed to the American Beech, (*F. ferruginea,*) as a suitable plant for hedges, from the fact that in the open pastures on the borders of forests, the shrub had been trimmed up by cattle and I noticed it succeeded well under this rough treatment, thickening up and forming a shrubby and compact appearance. This led me to study it more fully, and I found it to possess qualities admirably fitting it as a hedge plant for Northern localities. These qualities are: it is a native of our soil, it is hardy and long lived, it is comparatively free from the attacks of insects, it will bear cutting, and if pruned properly will become thick and bushy, and will be impenetrable to man and beast; and it sprouts less luxuriantly than most other trees.

The method of making a hedge of the *Fagus ferruginea* is as follows:—Obtain the young sprouts from the woodlands, place them seven or eight inches apart, then bend them in opposite directions so as to cross each other and form a trellis, with apertures five or six inches in diameter. During the first year they should be bound with osier at the places where the sprouts cross, and in a short time they become grafted, and finally grow together at the points of intersection.

It is also reared without difficulty from the seed, and if the soil is good it will grow rapidly, forming a handsome and sufficient hedge in the course of five

or six years. The seeds should be planted thick, and the plants kept well pruned.

Betula alba—The White Birch, (*B. alba*,) has before been recommended for hedges. I do not consider it so good for that purpose, nor to possess so many requisites as the Beech. It has, however, one advantage—that of growing upon the poorest soils. It is also more liable to sprout than the Beech, but will bear any amount of trimming. The seed can be obtained very easily by laying down a sheet and bending the tree over, stripping it off at the same time. Turn one furrow where the hedge is wanted and sow the seed, covering lightly.

MANETTI ROSE STOCK.

BY JOHN SAUL, WASHINGTON, D. C.

Mr. Editor:—At page 39 of your volume for 1859, I made a few remarks upon the Manetti Stock from a lengthened experience with this and other rose stocks; another year of extensive culture confirms all then stated as well as developes other valuable qualities. Among the first of these is the ease and facility with which roses on this stock may be transplanted without risk of failure. Bearing upon this, I will give one fact—the Spring of '59, a patch of these stocks, about 15,000, from various causes were not planted out till quite late, (about the middle of May,) by which time they had put out shoots, six to nine inches in length. Previous to planting they were puddled but no further care given, though the weather at the time was dry and warm. As may be expected, all the young growth wilted. It was at the time remarked by a good nurseryman that I would lose a considerable proportion; such, however, was my faith in the Manetti that though I supposed I should lose some, I felt confident my loss would not be great; for three weeks after planting, the weather continued dry and warm. My favorite stock, however, did not disappoint me—not one in a thousand failed, and through the Summer and Fall it was as pretty a patch of stocks as my eye ever rested on. It may not be prudent to transplant Roses when budded on this stock quite so late, but such abundance of fibres has this stock, and so tenacious of life is it, that failures from transplanting at the regular seasons, with ordinary care, will be rare.

Cultivators of roses know well that plants grown in the open air are far preferable, if intended for the garden, than plants grown in pots in houses; the check which these last receive when transferred to the open garden is so great that it requires the first summer to recover, whilst many of the more delicate varieties linger and ultimately die. Cultivated in the open air, on their own roots, from the fewness of the latter and the paucity of fibres, they are difficult to transplant, and losses from this last cause are at all times heavy; hence, most persons who desire roses on their own roots prefer them from pots to the heavy risks they have to run when had from the open air.

Additional experience confirms what I have previously written, that many of our finest Roses require to be budded on a vigorous stock to enable them fully to develope their beauty; among these may be mentioned Cardinal Patrizzi, Dr. Henon, Eveque de Nimes, General Castellane, Gloria de France, Madame Masson, Prince Leon, Triomphe de Paris, Arthur de Sansal, Emperor Napoleon, Lord Palmerston, Ornament des Jardins, Prince de la Moskowa, and many other exquisite roses which cannot be cultivated to any degree of vigor or beauty on their own roots; all grow more vigorously and flower more profusely on this stock than on their own roots however vigorous may be the class or variety; but in an especial manner are the beautiful Perpetual Moss, Hybrid Perpetual, Bourbon Perpetual, Bourbons, etc. Midsummer, '59, with us was hot and very dry—during a long drought and fiery heat, when many things suffered severely, our roses on the Manetti appeared only to enjoy it; they grew apparently with more vigor and flowered the more profusely, whilst the exquisite delicacy of some, the brilliancy of others, and the beauty of all was enchanting. Revilers of budded roses should see our stocks under this fiery ordeal bearing unscathed and untouched, through heat and drought, those delicate and peerless beauties.

In the frigid soil of Canada, as well as in the "sunny South," in the deep, rich land of the Western prairies, or in the sandy gravel of the East, it bears alike the cold of winter and the heat and drought of summer; in all it is perfectly at home; or as an eminent horticulturist has said, "looks happy."

This stock, so admirably adapted for the various classes, I would in an especial manner recommend for one for which, so far, it has been but little used, I mean the fragrant but delicate Tea. This group is generally grown on its own roots, and in Northern latitudes is difficult to preserve out-doors during winter; lifting, potting and housing entails considerable trouble. A collection budded on this stock may be lifted on the approach of winter with as much ease as a collection of Dahlias heeled in a cellar, or any place free from frost, and planted out on the return of mild weather in Spring. These removals are productive of more good than otherwise, as, before planting out, the roots can be conveniently examined, trimmed, any rudiments of suckers removed, a little well rotted manure put in each hole where planted. Under this treatment, a collection of this sweet and lovely class may be kept in the highest vigor and beauty.

[Some of our correspondents wrote to us that they considered Mr. Saul's article alone, last year, worth to them the whole price of the volume. For ourselves, we like Manetti stocks for weak growers, and in their absence should speedily look about for some substitute.—ED.]

GARDENING FOR LADIES.

BY PRIMROSE, NEW BEDFORD, MASS.

We told you in our last, of some anticipated disappointment in the culture of *Primula sinensis*, but fortunately it was only in anticipation, and we have a large number now in very full and fine bloom, nearly all fringed, and a due proportion of white and pink. Our little greenhouse now contains about nine hundred plants, and every nook and cranny is packed to a degree inconvenient to the worker and visitor. But what is one to do? Such seeds to vegetate as those we have planted, such thrifty little things to grow! And who, after sowing and pricking out, after potting and repotting, can throw a plant away?

We have gone bravely through the severe frosts so far; with the Mercury outside 6° below zero, and only that thin glass to shield our luxuriant foliage and delicate blossoms!

Not a plant was touched, not a bud checked, and at least an hour a day of that inclement weather was passed at work in this cheerful refuge from the parched and scorched air of dining and drawing rooms, and the intense cold of out-of-doors. And this reminds one of the sad mistake we make in refusing to the inmates of our dwelling houses the advantages our plants receive from the soft and balmy atmosphere of *water heat*.

Two months of close attention and pleasant interest confirms our belief that it is woman's work to tend flowers; and, Mr. Editor, the great questions of this century are, what is woman's true and proper work? where will she find it? and will you allow her to do it when she does find it? We will not go further into the subject at present than horticulture may lead us, and propose, with your leave, to have a little chat with your lady readers, on practical matters, and to begin with *potting*.

The seed we have sown has sprung up and our plants are evidently large and strong enough to be allowed a separate home of their own. We have used some hundreds of three-inch pots, and putting in the bottom of each one, say $\frac{3}{4}$ of an inch of charcoal, broken to the size of a large pea, or half a nutmeg, and partly filling with potting earth which we gently press to make compact. We transfer with a delicate trowel or knife the entire and undisturbed roots of our young plant. Perhaps we cannot describe the process better than by saying we make just such a nest for it in the pot as will bring it with its surrounding earth only enough below the upper edge to admit of watering without overflowing. With proper shading and care the plant in a few weeks will require more root room. Now prepare another; not too large a pot, say four or five inches across the top, with a good inch and a half of charcoal of nutmeg size for drainage, partially fill with earth, place your left hand over the top of the pot containing the plant to be shifted, separating the fingers to allow the stem to pass between, quickly but gently turn over, tap the bottom with your right hand and lift off the pot. The ball of earth, with its embedded roots, is under your eye for inspection; see that all is right. A little experience and the exercise of the same judgment you employ in deciding the "enough" baked of your loaf of bread or custard, and a little of the same dexterity you employ in turning a pancake, will suffice for this operation. But we beg pardon, we were thinking of your grandmothers who prided themselves on these useful matters.

For you these mental and physical qualities are now demanded to choose your worsted for crotchet or embroidery, and to finger the keys of your piano forte. The same long bony fingers which now sprawl claw-like over the ivory keys in vain efforts to create a concord of sweet sounds; or the same fair plump hands that delicately work the glowing Berlin into more or less creditable imitations of roses, camellias, and so forth; may *almost create* the living, fragrant realities by your gentle manipulation and watchful ministry, and this to the great advantage of your health and spirits.

See that the space between the sides of the pot and the ball of earth is compactly filled with earth, and use your fingers as far as practicable to do it; where too deep, with a blunt stick of fitting size and length settle the fresh earth firmly around the ball. You may protect your hands with India rubber gloves if you will but *use* them, and the frail roots will thank you that they are not rudely crushed and prevented from fulfilling their all-important offices. You will soon learn to reverence a flower; and as you realize in the unsightly bulb or the tiny seed the germ of the wonderously beautiful and various blossom to be unfolded by the influences of light and air, water and heat, you will adore the creative power which provided its capacities and favorable conditions, and turn to the human plant with deepened interest to furnish for its far nobler development such culture and surroundings as its worth and duration demands.

ONIONS PER ACRE.—In Connecticut, 700 bushels is considered an average crop.

SUBSOILING.

BY JOSIAH HOOPES, WEST CHESTER, PA.

In the Report of the proceedings of the "Fruit Growers' Society of Eastern Pennsylvania," published in the March number of the *Gardener's Monthly*, I am represented as having said "that I had found it best to bring the substratum to the surface."

Now, this theory is entirely antagonistic to my views on the preparation of grape borders, as I firmly believe that nature never intended the delicate spongioles of the small roots to be forced to penetrate to a great depth in search of the proper nutriment which is essential for the growth of the vine; but that the natural position is close along the surface, where they can have full benefit of the air and sun, as well as a constant supply of nutritious, fertilizing materials.

The true purpose of trenching for the grape is to so loosen and mellow the subsoil that all abundant moisture may be quickly taken from the roots, and at the same time preserve a cool dry soil, thereby greatly increasing the health and vigor of the vine. Water, if permitted to stand near the surface of the ground for even a short time, will *inevitably stagnate*, and cause an unhealthy growth of wood.

In speaking of a dry soil I would not wish to create the impression that it should be perfectly so, for no plant is more benefitted by a certain amount of moisture than the grape. But by having a porous substratum, the over-abundant water that falls during a long protracted rain, will be immediately carried off from the vicinity of the roots, which at the same time will contain more moisture during a severe drought, than any soil not so treated.

And for the same reasons above expressed, I sincerely believe that the placing of rich and exciting fertilizers at a great depth during the process of preparing the border to be a very erroneous idea.

In observing the beautiful and systematic operations of nature, in preparing the proper nutriment for aiding the growth of our native vines, we find that the annual deposits of decaying leaves, wood, and plants, is applied to the surface, and while they constitute a light mulching material, the small fibrous roots are supplied with nourishment from the same.

"POT CULTURE OF FRUIT TREES."

BY DR. GEO. PEPPER NORRIS, WILMINGTON, DEL.

The culture of fruit trees in pots is destined to become, at no distant day, we think, a prominent and pleasing feature in gardening. It opens a new field to the horticulturist; for at present, the growing of the Apricot, Nectarine and Plum have been comparatively abandoned on account of the ravages of the Curculio. Who is there so rash as to hope, if he resides in the vicinity of Philadelphia, to obtain a crop of either of the above named fruits from trees grown in open air? This mode of growing fruit we think is destined to become popular with many whose grounds are limited in size. The cheapness with which glass-roofed sheds can now-a-days be constructed, will stimulate orchard house culture.

Formerly, the erection of a greenhouse, with its attendant sash and heating apparatus was too costly a matter to be thought of by any but the wealthy, but when it is now understood that fruit can be as well grown and ripened in a shed made of unplaned, rough boards, with a glass roof of fourth quality, 10 by 12 glass, as in the most elaborately built houses, many will be tempted to embark in this branch of horticulture who would otherwise have been deterred.

A cheap, rough, unpainted house of this description, 30 feet long, by 13 wide can be built for $100. No border preparation is necessary, all that is required is that the trees should have the advantages of an unclouded roof—(no vines to be grown,) and plenty of ventilation.

Trees for pot culture can be procured any time during the Winter or early Spring, and potted in 11 or 14 inch pots, taking care to enlarge the aperture at the bottom of the pot, from 1 to 5 inches. The compost should be prepared some time previously, and may consist of a mixture of soil taken from an old pasture, together with leaf mould, well rotted manure and wood ashes, a sprinkling of bone dust will do no harm; the hole at the bottom of the pot to be covered with broken crocks and the most lumpy part of the compost placed thereon; the tree not to be placed too deep; the soil well rammed.

Severe pruning will be required, not only to give the tree a pyramidal form, but to recompense it for the mutilation of roots, which will take place in its transfer to the pot. No fear of too much pruning. Keep the tree bushy. After potting and pruning, set away in a cool dry cellar or outhouse until Spring when remove them to some well sheltered border, there to remain until the following winter, with an occasional moving during Summer months, to twist off the roots that may be coming through the bottom of the pot.

On the appearance of winter, the trees are to be again housed until the Spring of the second year; by this time they will have become accustomed to their new mode of existence and will be ready for a crop of fruit. Care must be taken not to let them over fruit. Not more than five fruit should be had from an 11 inch pot, and 18 should be the maximum from a 14 inch. A few fine are better than many ordinary. Syringing and manure-water are indispensable for those requiring fine fruits.

A few trees in pots might be started in a cold grapery, and when all danger from late frosts and the Curculio are over, might be plunged in the open garden to ripen. This we do not recommend, but only suggest to those who are anxious to experiment with half a dozen trees

We believe that this mode of culture will become not only pleasing but profitable when Nectarines readily command one dollar per doz., and glass-roofed houses can be constructed at such low rates, we cannot see how it can be otherwise. To be sure, the trees will need constant attention, but then, no one should undertake it unless he has a gardener, unless this constant attention becomes a constant source of pleasure. To me it is.

To recapitulate, low roofed glass sheds with ample ventilation, large pots, dwarf bushes, pruned and pinched into suitable shapes, good compost, with plenty of well rotted and liquid manure, plenty of water, light and air.

YELLOWS IN THE PEACH.

BY F. DANA, ROXBURY, MASS.

I have ascertained fully in my own mind, that the Yellows on Peach trees is the effect of a species of the Red Spider, which deposits its eggs in the months of September and October on the under part and around the branches and nearly every little knot or twig close into the main stalk, filling every crevice, and in immense numbers, beyond calculation. They are of a deep red color, and when rubbed, the fingers will be stained quite red. A good glass will magnify their size and appearance to that of a small red currant.

Now is the time to examine the trees, and observe those affected by them and apply the remedy to destroy the eggs. I think, to syringe the parts of the trees affected with strong whale oil soap liquor may prove effectual, providing nature has not coated them over sufficiently to protect them; if so, it can be done effectually after the trees have leaved out, but will take more liquor; the eggs are deposited mostly along the centre of the trees; very seldom any are found near or on the ends of the limbs. They hatch out the first and second weeks in May, and so small are not discernible with the naked eye until nearly full grown; then they commence laying and hatching on the leaves to the last of September, the leaves being literally covered with eggs, and the spiders in immense numbers, sufficient to poison and create the Yellows in any tree. They were very numerous on Pear, Plum and some other trees in our section the last season, causing the leaves to become scared and brown, and stopping the growth and vigor of the trees.

I hope some of our friends, Peach producers, will give their attention to the subject, and after getting rid of these pests, and keeping their trees clear of borers, they will not be troubled with their trees having the yellows. I will defy them to show any other true cause. I have cured a number of Peach trees after they were thought to be past saving, and brought them back to a good healthy bearing condition. I inclose some of the bark containing the eggs; please examine them with a good glass, one that has a glass to set over them is best. More at some future time if you should wish.

[Not recognizing the species of Spider sent, we handed the specimens to Miss Morris, the well known Entomologist, whose notice of them will be found in another column.—ED.]

DR. UHLER'S PLAN OF RESTORING HEAT IN HOTBEDS.

BY W. JOHNSON, EASTON, PENNA.

Dr. Uhler's plan of making hotbeds struck me as being very economical, so about the first of March, 1859, I obtained some spent tan and formed a bed sufficiently large for four ordinary sized sash, and about two feet deep. After it stood a few days, I had seven pounds of glue dissolved in about three-fourths of a barrel of water, and poured it on the tan at a temperature of about 180°. I put on the sash and waited, in vain, patiently for the expected heat, for none was perceptible, only what was occasioned by the sun through the glass. Not willing to give it up, about a week after, I got about three barrels of swill from a distillery, and pouring it on the tan, covered with the sash as before. But no fermentation seemed to take place. About a week after I concluded to put on some soil and sow some cabbage, lettuce, etc., thinking that they would grow at that time, (15th of March,) without much bottom heat. Some of the plants came up very weak and sickly, and what did not die off afterwards retained their sickly and stunted appearance. So you may judge of my disappointment, not to say loss, when I tell you that I did not get one dozen of good cabbage plants fit to set out from the whole bed; while cabbage, tomatoes, peppers and egg-plants all grew fine in a bed of stable manure just by the side of the tan.

I hope that you or some of your contributors will throw some light on this subject.

PEACH BORER.

BY JOHN, PETERSBURG, VA.

I have found reason to believe that tobacco-stems, laid at the roots of Peach trees, will prevent the attacks of the Peach borer as well as destroy them. Let some experiments be made during the coming season; it certainly is not hurtful.

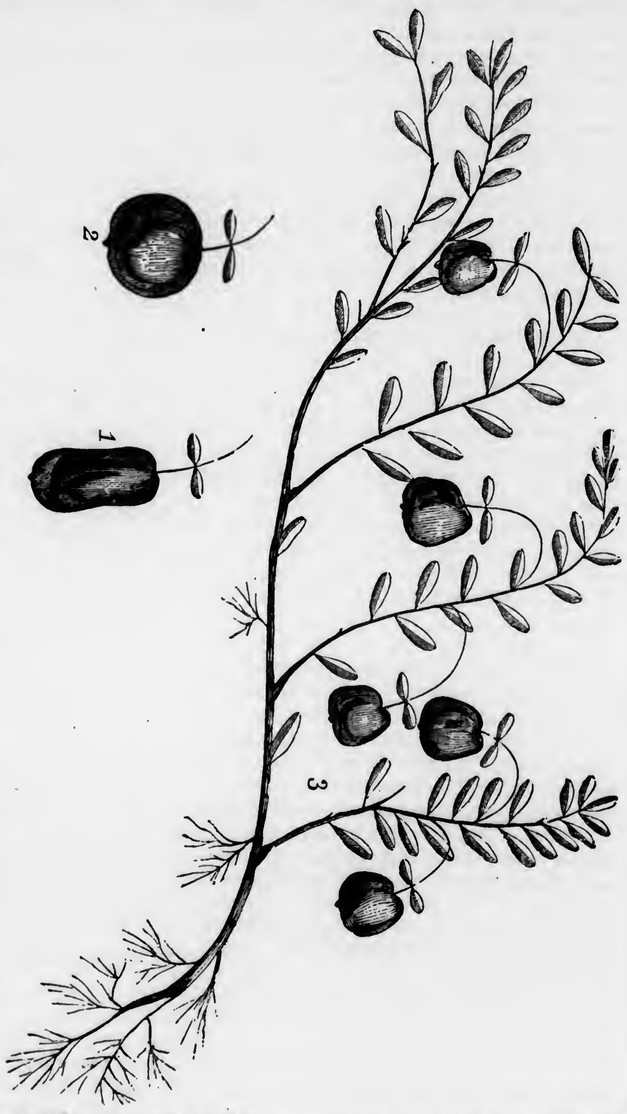
THE CRANBERRY.

No. II.

BY CRANBERRY, HANOVER FURNACE, NEW JERSEY.

The two varieties of this berry best known to consumers and consequently most interesting to cultivators are the English Cranberry, (*Oxycoccus palustris*,) which is found growing along the margins of streams, and in the *fenny* districts of England, and of which little need be said, save that it is a small acrid berry, of a pale red color, about the size of a marrow-fat pea, and though used in sauces, &c., is seldom or never cultivated for the market.

The other is the American Cranberry, (*Oxycoccus macrocarpus*,) which is indigenous to our continent, and is found in its wild state in both North and South America, on the sea coast and the margins of the great lakes.



It grows upon a running vine of a shrubby nature, consisting of a prostrate runner with ascending branches, somewhat similar in habit to the Strawberry. This runner roots itself at irregular intervals, and grows to a length of some four or five feet, throwing out a succession of branches or uprights as they are termed by cultivators, to a height of from six to ten inches, upon which the berries are produced. The leaf is oblong, rounded at the ends, green in April, reddish-green in August, and brownish-red in December; remaining upon the stalk for an uncertain period.

The flowers are flesh-colored, growing upon *pedicels*, and are very susceptible to changes of the weather.

As far as my observation extends, the Cranberry seems to require nothing more than *air*, *light* and *water* to produce its fruit, and may be found in its wild state growing equally well upon a damp sand-bank, as upon a bed of rich muck. Moisture it must have, either from springs, or from a running stream; stagnant water it will not live in.

Some attempts have been made at *upland* cultivation, but with very indifferent success; and I have yet to learn that it is being practised to any considerable extent by those who raise for the market. The *wild* berry, although superior in firmness, and by some preferred in flavor, is by no means so prolific as the improved berry; neither is it by any means so certain of producing an average crop.

The Bell, the Cherry and the Bugle—so named from a slight resemblance in form, are the varieties most known to cultivators; all of which are fine varieties, the two former being the favorites. All of these and many other forms are found growing indiscriminately in the wild bogs.

Any one having a piece of moist, porous land, with the water not more than six inches from the surface, may raise cranberries to a certain extent, but one who desires to make a business of raising them should select a piece of low-lying land with sufficient fall to drain it dry enough to work the soil economically, and when occasion requires, to be able to flood the whole to a depth of from six to ten inches. With such a piece of ground, let him prepare the soil by completely and thoroughly eradicating everything which grows upon it. Some, indeed, take the pains of covering the ground to a depth of four inches with pure sand; but this, on a large scale, would be too expensive.

The soil being prepared, procure from some reliable dealer a supply of vines, which may be set out in this latitude from the middle of March to the 20th of May, inclusive, in rows from three and a half to four feet apart, in order to give space for cultivation, and about eighteen inches apart in the rows; this latter may be regulated, however, by the amount of capital you wish to invest on each acre, for the closer you plant them the sooner the vines will *mat*, or form a covering to the soil, and keep down the weeds and grasses. This I think the best manner of planting, and is practised by those who have been most successful.

Sod planting is simply removing from the wild bogs portions of sod in which the vines are growing, to your ground; but even with the most care you bring with them a host of roots and seeds, which will take years to extirpate, and which the writer has found to be no economy.

The vine grows well from slips, cut from six to eight inches long and planted with a dibble, or what is even better is to plant the middle of the slip, leaving the two ends projecting, thus giving you two vines. It is well to call attention to the fact that some vines are barren; how to distinguish them from their fruitful sisters it is difficult to say, but as a general thing, their leaves are greener, their stems stronger and their whole appearance more thrifty than those of the bearing vines.

The late frosts of spring are very disastrous to this crop, as the vine blossoms in the latter part of May and early in June. It is also subject to the attacks of a *fly*, which about the middle of July deposits its eggs in the berry, the larvæ of which prove very destructive.

Flooding the vines has many advantages; it protects the ground from the severe action of the frost during the winter, and also in the late spring; it checks the growth of weeds and wild grasses; and in July it prevents the attack of the fly, while at the same time it has but a slight retarding effect on the cranberry.

The yield of the first season after planting is of course next to nothing; the second season runners and uprights are formed which bear on the third; after which the crop steadily increases until the ground is entirely covered by the vines, yielding on some favored spots as high as four hundred bushels to the acre; but this, as far as my experience goes, is very far above the average, which I should place at less than half that amount.

The cost of bringing in an acre of cranberries varies so much with the locality, that it would be folly to give an estimate for general application; but would not, I think, vary much from two hundred and fifty dollars.

VINE BORDERS---GRAPES UNDER GLASS.

BY V. V., YONKERS, N. Y.

Mr. Editor: I promised on a former occasion to have something more to say on the formation of Vine Borders and the cultivation of Grapes under glass. But I would more willingly commence to prepare my compost, lay my drainage, fill in, and get all things in working order, than commence to write about it. It is strange that we, practicals, are so generally modest about writing, even on subjects which we feel ourselves competent to speak on and practise. It is so, Mr. Editor, and I think you should encourage the over modest to put aside, partially, their modesty, and let us hear them. A trite saying, "When there is will, there is a way." Now I have the will, and I am determined to find the way. This determination, with the conviction that I have derived much useful information from the pages of the *Monthly*, and, perhaps a little presumption, has forced this long promised article.

It would seem that we have not as yet generally arrived at the perfection of Grape growing. The many different diseases, (if diseases they may be termed,) in the form of mildew, thrip, red spider, etc., which we see and hear so very often complaint of, tell us that there is much yet to be accomplished. Those diseases are all brought on the vine for want of proper attention. Amongst the many "shanking" seems the most prominent. As it is not always within our reach to apply an immediate remedy, it effects are more distinctly marked. As it is generally conceded that "shanking" is produced by destruction of, or disease of the roots, it behooves us then to use all

means within our reach to keep the roots in a perfect state of health; and in order to do so we must commence by laying a proper foundation, in the formation of a perfect border, as far as lay in our power. The first thing necessary is a perfect drainage; the amount of drainage will greatly depend on the situation. If in a dry situation, with a strong sandy or low gravelly bottom, from 6 to 10 inches of stone drainage will do. If on a wet, low or swampy bottom, from 2 to 3 times that amount would be required. I always like to have the space for my border partially excavated, with the border when finished elevated about one foot above the surface, and having a descent from the house. The way I form my drainage is this, I fill the space allotted to the border with rubble stone or brick rubbish, from 6 to 2 feet, according to the situation, as before mentioned; over this I put about 3 or 4 inches of oyster or clam shells, and in immediate connection with the stone. I do not put sod over, as the shells lay close enough to prevent the soil passing through and clodding up the drainage. I then fill in my compost, to the depth of 2 or 3 feet; my compost I prepare the following way, and of the following ingredients: I take from some old rich pasture-field the surface sod, to the depth of 6 or 8 inches; this I lay up in a heap to rot for 3 or 4 months, or longer if possible. After it has laid this length of time, I turn it over, adding one-fourth well-rotted stable or street manure; the latter I prefer. To this I add about 10 bushels of coarse bone-dust to every square rod of border, and about $1\frac{1}{2}$ as much refuse charcoal as bone-dust. These are not exact proportions, slight deviation one way or the other will be of no consequence. All those ingredients, now laying in a pile, are turned over 2 or 3 times, mixing well each turning, (I do not add any of the old soil, nor would I recommend so doing, as it has a tendency to sour the border under different circumstances). The soil thus prepared I fill in, taking care not to tramp on it while filling it in. The soil all in, is now forked over and neatly levelled, but not raked, as the opener you leave the surface of your border the greater influence will the sun and air have on it.

When the season for planting arrives—which may be Spring or Fall—I plant my vines on the inside of the house, about six inches from the front wall, spreading out the roots in such a position that when they commence to grow they will push through the arches to the outside border. Many persons, having their houses and border all ready in the Fall, defer planting till Spring. In my humble opinion, this is a mistaken notion. When planted from September to November, although the wood is then ripe, they make a nice root growth, and having established their roots in the border, they strengthen themselves and are ready to push forth vigorously as fine weather approaches.

A house for growing grapes may be of any desirable form, though there are structures which warrant a preference. I prefer the old sash and rafter principle, whether single or double pitch, with front sash about 2 feet high, the top sash at an angle of 40°, with a southern aspect for forcing,—a double house I would prefer running North and South, with an angle of 45°. In the old houses the projection of too much wood in the rafter, was rather unsightly; but by the new mode of forming rafters with O. G. facing, a very neat appearance is created. There is a greater command of top ventilation in the old principle, which is a great thing in its favor. Injudicious ventilation is the chief cause of all the attacks of mildew; and any person who carefully ventilates his house, will seldom or never be attacked by this troublesome visitor. At my early stage of gardening I had charge of vineries for seven years, and during that time I never saw a spot of mildew on the vines. I then really thought that mildew would not attack the vine; more experience has shown me the reason why: the great attention I paid to ventilation. I have been little troubled with mildew, spider—red, black or blue—or any other, excepting very slight shanking.

I never give bottom air by the sashes until the vine is ripening its wood, and the grapes have fairly changed color; I then give bottom air cautiously, little at first, gradually increasing as the grapes are ripening, and the wood is perfecting its growth. On very fine and even weather, when at that stage, I give an abundance of top and bottom air. By the paying due attention to ventilation, mildew will never make its appearance.

If mildew should make its appearance, I expel it at once, by taking sulphur, finely powdered, and sowing it broadcast through the border, throwing it half the height of the roof, and in proximity to the vines—the sulphur being light and airy, and thrown at a considerable elevation, is distributed among the leaves, settling on them with great uniformity, if put on by an expert hand, and is not easily detected.

Greater care should now be taken about airing, as it would be of little use to apply a remedy if we fall into the same excess. One application is sufficient, if the airing is only attended to, there ought not to be a second attack. It is a most necessary thing to keep the leaves in a healthy state, and the surest way to do it is by keeping them free from thrip, mildew, spider, and all and every thing that might cause decay; thus preserved they will faithfully perform the duties allotted them; and when "mother nature," in her own good time, comes to require their homage, they bow in humble submission, grateful for the care bestowed on them, in the abundance of well-colored and ripened fruit, which they helped to bring to maturity.

In forcing-houses, when the crop of grapes are all ripe and cut, before midsummer, we very frequently see little attention paid them afterwards—thrip, red spider, etc., being allowed full scope. This ought not to be at any stage of the vine's growth, they ought to be considered intruders, and should be expelled. A strong application of tobacco smoke, repeated, will expel the thrip at any time; and a good dose of sulphur, dissolved in water, applied with the syringe, and repeated, is a sure medicine for the red spider.

There is a mode of applying sulphur for mildew, which I have now and then seen mentioned in the *Monthly*, that is pouring water on quick-lime, and strewing sulphur over the lime. This I think is tempting evil too much. Sulphur we know to be a substance easily ignited; quick-lime, a substance possessing a great amount of latent heat, which is set fire by the application of water, ignites the sulphur, and forms sulphurous acid gas, which is sure to destroy every leaf it comes in contact with, and often the plant entire. The amount of water put in the lime may counteract or increase the evil tendency; hence the cause and effect. Some gardeners have gone so far as to unfortunately set the sulphur on fire. The result was most obvious, in one case the destruction of 40 pounds of grapes, estimated; in the other, the loss of a crop the coming year, by the destruction of the vines.

In a former part of this article I objected to giving bottom air by the sashes, at certain periods of the vines growth; this does not imply that bottom air cannot be given without danger. There is a mode of ventilation which I call underground ventilation, which, if adopted, bottom air can be admitted at all stages of the vines growth and in any weather, no matter how inclement. This system I have fully put in practice during the last four years, and has proved most satisfactory. Although not new in itself, still we seldom or never see it adopted in this country. It is as follows:—A chamber built of brick, 6 inches wide and 12 inches deep, is passed along 6 inches from the back wall the entire length of the house; one end of this chamber is up built tight, the other end left open. Branch chambers, 6 or 7 feet apart, and 6 inches deep by 5 inches wide, are built in connection with it, and at right angles to it; these branch chambers pass to within 6 inches of the front wall, and are allowed to raise, to the end of the border, in the form of a twelve inch hollow pier, which admits of 6 inch square opening. These piers answer for the hotwater pipes to rest on. The air entering by the main chamber at the back wall, is distributed into the branch chambers, and has to rise through these hollow piers, and comes in contact with the hotwater pipe, and is made warm before entering the house—never causing a cold draught, and regulating the temperature of your house with the greatest nicety. A wooden slide attached to the open end of this chamber—which chamber passes to the outside of the house—admits the air, which is opened or shut, as needs be. By this arrangement air can be given even at night, should your house become too warm, without any injury to the vines at the most tender stage of growth.

There is one word I wish to revert back to. *Charcoal*—I am a strenuous advocate of this ingredient in a vine border, and in the cultivation of all plants. This ingredient not being generally recommended, might be questioned by some of the readers of the *Monthly*, who might wish to know its utility, which is obvious:—It keeps the border loose, accelerating the superfluous moisture in passing through, being a powerful nonconductor, it materially assists in regulating the temperature of the border at all seasons; being a great absorber of ammonia, it has always a store of that precious stimulant in reserve, giving it forth as the border becomes warmed and the roots push forth, eager and willing to receive it. These few good qualities I think is sufficient to recommend it; but many others might be brought forward in its favor.

But I have already trespassed too far on your patience and space, Mr. Editor. I shall say nothing at present on pinching (generally called stopping,) or pruning of the vine. I hope that you will prune this article severely.

WEATHERED & CHEREVOY'S BOILER.*

BY THOS. CARTER, RALEIGH, N. C.

Last Fall I purchased one of these boilers for my greenhouse, which is 88 feet long. At first I experienced some difficulty on account of the greenhouse chimney being too low. I soon remedied this by adding 10 feet more to the chimney, since which time I have had no trouble whatever. The boiler is of the smallest capacity: it heats the greenhouse and propagating-house, one or both, at the same time. The flow is through 260 feet of 4 inch pipe, and would heat a much larger quantity, if necessary. I have given this boiler a fair trial during the past winter, the result is quite satisfactory—for no frost got in the house though the temperature was 5° below zero outside. I fill the grate with coal about 9 P. M., and retire to rest, certain of finding a good fire under the boiler, and every plant safe in the greenhouse in the morning.

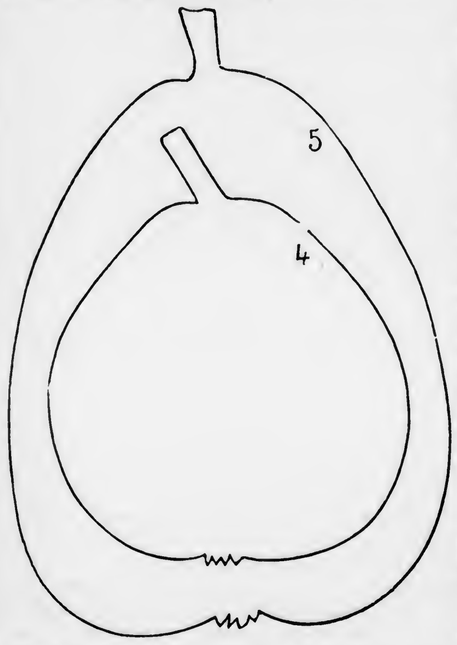
* See page 142 and 107, vol. I.

KNIGHT'S MONARCH PEAR.

BY JOHN SAUL, WASHINGTON, D. C.

Mr. Editor: On looking over my portfolio lately, I found some outlines of what I believe to be the true "Knight's Monarch Pear," made by me in 1850, from specimens grown at Durdham Down Nursery, Bristol, England. I herewith enclose the same, hoping it may tend to clear up the confusion which has so long existed, and still continues, respecting this particular variety. No. 1, 2, 3 and 4, are outlines of specimens, showing one of the smallest, two medium, and one largest. It will be perceived that the general form of the fruit is the same, and below medium size, it is an abundant and regular bearer, the flavor all that has been claimed for it by its raiser, Mr. T. A. Knight, juicy (not buttery) and delicious; in season from January to March.

[We have engraved No. 4, as being about the average of the varying forms.—Ed.]



No. 5 is Downing's figure, which I hold to be the spurious variety; he describes it as buttery, which the genuine variety is not,—it is in fact a bag of juice. His outline is so dissimilar to the others that they cannot for a moment be confounded. The question now arises, is the tree from which my specimens were taken the genuine variety? I will give its history, and the reader may arrive at what conclusion he pleases:—

At the time Mr. Knight was engaged in raising and disseminating his fruits, Durdham Down Nursery was in the possession of Messrs. Miller & Sweet, and as now, one of the most extensive and respectable in Britain; Mr. Knight was very intimate with the proprietors, a constant visitor, and from it he received his annual supply of trees, plants, seeds, &c. Plants of the various fruits he raised were sent to this establishment as soon as let out; and here, as elsewhere, the first tree sent of the Monarch, proved to be the spurious variety. Subsequently he sent the tree from which this fruit was gathered, as the genuine variety, and of which there can be little doubt.

A short time prior to the date at which these fruits were gathered, that eminent horticulturist, Thomas Rivers, of Sawbridgeworth, wrote to this firm for grafts of the Monarch, expressing his belief that two varieties were cultivated, and in a confused state. Grafts were sent to him from this tree, which, when he fruits, with others, (indeed I have been long expecting his report upon them,) he who has already done so much for Pomology, will set the matter right.

ON THE PROGRESS OF FRUIT CULTURE IN CANADA.

BY GEO. LESLIE, TORONTO, CANADA WEST.

From the first settlement of Upper Canada, and until about 1850, the culture of fruit seemed to be attended with perfect success. It sometimes happened, in consequence of the absence of native nurseries, that trees were sent us, which, with long exposure and the neglect of dealers, had no vitality left; and in many cases too, farmers paid no notice to the trees after they were set out. But when good, thrifty trees were received, and obtained a moderate share of attention, the results were entirely satisfactory. The smaller fruits, so far as cultivated, produced abundant crops with trifling care.

The English Gooseberry was less liable to mildew than it now is, and a moderate crop could usually be relied on. Raspberries have always been prolific, but here, as elsewhere, require to be planted on soil naturally dry, or that has been drained.

Until quite recently, Strawberries were grown on a very limited scale; now we have most of the varieties usually cultivated, and the demand is respectable. Hovey's Seedling has hitherto been the favorite. Triomphe de Gand, and it is feared Wilson's Albany will not be perfectly hardy in all sections. Peaches have usually produced a fair crop, especially along the shores of the lakes. They are now much less wanted than formerly. Apple trees seemed to thrive in all localities and yielded abundant crops. Pears, as far as introduced, bear handsome fruit of superior flavor.

Since 1850, a change for the worse has gradually developed itself; success where formerly certain, is now very doubtful. All the causes that have brought about this alteration are beyond our knowledge, and some causes that we do know surpass our remedial means. Winter-killing, or frozen sap, has, within the last ten years destroyed thousands of our apple trees; not young trees in the nursery alone, but whole orchards of young and vigorous bearing trees. This has been especially the case in heavy clay soils. The Bark Louse has now spread itself so universally through our orchards, and is increasing with such rapidity that its extermination seems almost hopeless.

The Apple Borer, a grub, larger than the Peach Borer, and white in color, is doing a vast amount of mischief; its operations are carried on between the bark and the wood. To insure its destruction requires more patient labor than many are willing to bestow. The consequence of these drawbacks are that many trees have been killed off, and the fruit produced on others is often wormy at the core and lacks that fair and handsome exterior which is so desirable.

It will readily be supposed that Pears must suffer from Winter-killing; for, in addition, they have to contend against a Summer enemy—the fire blight.

Cherries have suffered much from late Spring frosts; they have also been partially injured by the severity of the Winter. The Duke class prove the most hardy.

Plums are hardy and have only to contend against their ubiquitous foe, the Curculio. The excrescence known as the Black Wart has annihilated the old fashioned Blue Plum. The yellow and light-colored plums are seldom, if ever, affected with this malady.

These remarks apply mainly to that section lying North and West of Lake Ontario. Between the head of that lake and the foot of Lake Erie is the District of Niagara, which has always produced as fine fruit of all kinds as the famous Genesee Valley, New York, of which Rochester is the capitol. In this place was the Residence of the late Hon. Judge Campbell, whose loss Canada may well deplore. He was a skillful and enthusiastic horticulturist, personally setting the example; he exerted unwearying efforts to promote the introduction and culture of fruit of standard excellence.

Grape Vines are being planted to some extent: Isabella, Catawba, Diana and Clinton, in the order named, are the best; what we want in a grape vine is hardiness, earliness, and fruit of good flavor. I am experimenting on some of the most promising of your numerous native sorts, and hope soon to meet with something that will prove a valuable acquisition.

Some of your correspondent's have referred to the frosts of last June. Truly, on the morning of the 4th, the country presented a melancholy spectacle. Subsequent warm weather and genial showers, restored the field crops. Much fruit was destroyed, and what remained proved very inferior in quality. I noticed a singular fact in Strawberries. The fruit of the earlier sorts was nearly half grown, and the others were in full bloom. If at all, the frost affected them in a very slight degree; we had the satisfaction of gathering a full average crop.

With these drawbacks to Pomological progress, it is not wonderful that our people are somewhat discouraged; but by careful observation on our own parts, and attending to the detailed experience of others, let us hope that better times await us. Diligence and perseverance may enable us ultimately to triumph over the difficulties with which we are beset. At the present time, R. I. Greenings, Spitzenbergs, Baldwins, &c., sell freely at $4 per barrel.

[We should be very glad if friends in other sections of the country would also communicate their experience. By the collection of as many such facts as possible, a remedy for the troubles of fruit growers may result.—Ed.]

CRYSTAL PALACE AT SYDENHAM.

BY CHAS. H. MILLER.

The Crystal Palace at Sydenham, one of the greatest achievements of modern times, is situated on the summit of a hill, about nine miles from London. In point of beauty and magnificent proportions the present building far excéeds the original in Hyde Park, which had not sufficient elevation compared with its great length, consequently exhibiting a long flat appearance, anything but imposing. In the present Palace the nave is forty feet higher than the old one; three transepts are also introduced, whereas the building in Hyde Park had but one, the extreme height of which was 104 feet; the middle transept, in the present instance, being 168 feet, or 64 feet higher. The whole length of the building is 2756 feet, exclusive of 720 feet, the length of the colonnade leading from the railway to the main building; in size, the present structure exceeds the original in Hyde Park, by nearly one half.

Arrived at this magnificent palace of iron and glass, by the Company's Railway from London Bridge, we ascend a large flight of steps on to the corridor or colonnade, so called, which is planted on each side with choice exotic plants:—Lantanas, Bignonias, Fuchsias, Passion Flowers; and which assist in forming a delightful avenue. Proceeding along the colonnade, we come to the south end of the main building, up two more flights of steps on to the main floor. I will not attempt to give an accurate description of the interior of the Palace itself; my object at present being merely to note some of its leading features.

The south end and south transept contain a well selected collection of plants, such as Rhododendrons, Camellias and Azaleas; splendid large specimens, some of them having been purchased from the collection of Mrs. Lawrence, of Ealing Park, a well known patron of Horticulture, who for many years successfully competed at the Chiswick exhibitions.

Along the entire length of the main avenue are arranged hanging baskets filled with various flowering plants; these have a very pretty effect. Splendid Orange trees, (in large tubs) some of them of magnificent proportions and loaded with fruit and flowers, are arranged on each side, forming a delightful promenade, and emitting a fragrance throughout the whole building quite refreshing, added to which are birds of handsome plumage, hopping about from tree to tree, altogether forming a most enchanting scene.

Starting from the south end of the nave or main avenue, one is enabled to place himself, to some extent, geographically in respect to the objects before him, in relation as he would be to a map of the world. Here the North lies in front, the East to the right, and the West to the left; the Old World on one side, the New on the other.

The trees, plants, animals and human occupants of the earth are grouped together, illustrating Botany, Zoology, and Ethnology; consequently the arrangements are geographically instructive.

Taking the left hand path we come to a group of trees and animals from Central and South America; a large specimen of American aloe is a prominent object; Brugmansias, Magnolias, and Fuchsias, some of them are magnificent plants, also fine plant of Auracaria imbricata and Braziliensis; associated with this botanical collection is a group of South American Indians—and a savage looking set they really are—forming a striking contrast to a fine collection of beautiful birds from the same quarter.

Advancing north, we come to a collection of North American plants, fine specimens of Azaleas, Rhododendrons, Andromedas, &c.; conspicuous in this division is a group of North American red Indians engaged in a war dance; alongside is a splendid large glass case containing fresh water or river animals, such as the Snapping Turtle and Bull Frog, at which many a Frenchman casts a longing eye.

Turning to the right, you come to a magnificent crystal fountain of beautiful design, in the water which surrounds it float the gigantic Victoria Regia, Nymphaeas, Nelumbiums, Caladiums and other tropical plants, forming a scenery perfectly unique.

Passing along the nave and turning to the right towards the garden front, we come to a fine piece of artificial rock work, covered with tropical plants, associated with it is a fountain of toilet vinegar, at which you have only to present your handkerchief, and it will be copiously besprinkled by the fair attendant. Some young gentleman who chanced to have a headache, bent the knee and underwent a baptismal performance that even an American minister would delight in. A little distance to the right is a fine collection of Camellias arranged in beds of various shapes; crouching and squatting among the various groups of plants are adult specimens of Javanese or Opium eaters; their mean, emaciated appearance give one an adequate idea of the extent of such pernicious habits.

Advancing north along the centre nave, we come to the Egyptian Courts containing many curious and interesting objects:—Winged Bulls, Sphynx, and other heathen monstrosities brought from the ruins of Nineveh by Mr. Layard; mixed with those are fine specimens of Date and Wax Palms, Cocoas, Plumosa nearly forty feet high; also two curious plants much like blocks of wood, called Elephant's foot, these two specimens are the largest in Europe, and said to be three thousand years old. Continuing onwards, we come to the north transept, situated at the west end are the Egyptian colossal figures from the temple of Rameses the Great, in Nubia; notwithstanding their enormous size, they exhibit a fulness and rotundity of appearance quite juvenile, forcibly reminding one of Pickwick's fat boy. Although seated, their height is 64 feet—pretty tall boys them.

We are now at the north end of the main avenue, and before us is a fine collection of orchidæous plants —Ferns, Palms and other tropicals; another basin for aquatics corresponding with the one at the south end.

The heating apparatus of this vast establishment is on a scale of great magnitude, a tunnel connecting with the railway runs along the entire length of the building; this tunnel is twenty-four feet wide; on one side are the boilers and coal houses. This railway is also used for the transit of machinery, implements, &c., the machine department being situated underneath the main floor. Twenty-six boilers and fifty miles of 9 and 5 inch pipes are required to heat this mammoth building; the water circulating through this vast quantity of piping travels the distance of nearly two miles.

Orchard Houses.—To obviate one of the objections to planting out fruit trees permanently in orchard houses, namely, want of fresh soil and inconvenience of root pruning, W. S. recommends in the *Horticulturist*, that brick walls with pigeon holes, should be partially built round each tree. The soil outside of each could then be removed and replenished at pleasure.

CLIVIA NOBILIS.

BY A. F., PITTSBURG, PA.

[Translated for the Gardener's Monthly.]

The Cape of Good Hope is the home of a very large number of charming bulbous growths, especially of the species amaryllidaceæ; and one of the most prominent of them is the Clivia nobilis, which abounds in the neighborhood of Fish River. This plant was called Imatophyllum Aitonii by Hooker, and received the name Clivia nobilis from Lindley. It is closely allied to Cyrtanthus, from which it differs only in its fleshy (seed) capsule and seeds. In reality it is not a bulb, but the stem-clasping leaves form below the surface a firm mass, which closely resembles one. The leaves are, in their whole length, of equal breadth, up to the size of an inch, according to the vigor of the specimen, obtuse, smooth, of a decided dark green color, and arranged on two sides. The flower-stem attains a height from a foot to one and a half, and bears a very beautiful umbel with pendant flowers. Each flower is an inch and a half long, of a red color approaching scarlet, with yellowish green border, and bell shaped, with expanded sides from which the stamina project. The roots are firm and appear in sphœrical rings at the base of the plant, whose fleshy bodies extend into the mass as the thickness is increased by decaying external leaves. Every year the new roots, in a circular form, appear in the place of the decayed leaves, and sometimes they break through the base of the still existing leaves, where they have at first the appearance of air plant roots, which soon draw downwards and form true roots. The young plants appear in the same spots and in the same manner, either alongside, externally, or between the outermost leaves, and can be removed for propagation when they have become independent roots.

The natural locality of the plants at the Cape of Good Hope has the peculiarity, that the soil during the dry season becomes glowing hot, and the vegetation is arrested by the heat and consequent dryness. This is the period of rest for the native plants, which is actually only externally a resting time—for in the internal portion of the bulbs the life is more concentrated: the substance is refreshed and condensed, and thereby the foundation is laid for the production of the flower. When the rainy season comes, the bulbs obtain new fluid nutriment, the soluble portions of accumulated material of the former vegetation become dissolved, the flowers unfold themselves followed by partial fructification, fresh leaves appear, the old die off, and so the growth continues till the arrival of the dry season again.

This is the ordinary process of that region, which we cannot completely imitate by skilful culture in this country, and from perfectly natural causes; for our climatic conditions are exactly the reverse: during our summer is the time for vegetable activity, whilst it is the time of rest for such plants at the Cape; and in winter our time of rest is the period there for rain and luxuriant growth. Carelessly considered, it might be supposed it would not be difficult for us also to expose such plants in summer to a high and dry heat, thus to imitate the antarctic time of rest, and that of the winter, aided by appropriate heating and moisture to bring the plants to bloom; but in truth, the affair is more difficult than it appears: for while we in winter, by the best devised arrangements, produce a temperature of air and moisture of soil precisely that of the climate at the Cape, it is impossible for us to create the most needed agent for growth of plants, namely, *light*. Without the requisite light all plants do not attain the necessary perfection, and it is especially the case with those which are accustomed to a more intense light than our latitude affords. Every one, who has in any manner tried during winter to force into bloom plants which are hardy or indigenous, knows very well how useless are all his precautions if the sun does not shine. Even when flower buds are produced in abundance, no roses or syringas will open without the sun. Owing to this, we let plants like Clivia grow in summer and rest in winter.

[TO BE CONTINUED.]

Extreme Cold at Washington.—The thermometer at Grafton Cottage this morning, 3d of February, 1860, was 10° below zero, Fahrenheit, the lowest temperature I have ever noticed in this climate, in the same position of the thermometer. In the winter of 1855-'6 the thermometer at Pierce's nursery was 14° below zero at his house on the hill, and 22° below zero in the valley below, and not quite 10° below at Grafton Cottage. This winter will prove very destructive to vegetation here, not so much from extreme severity as from the severity of its extremes.

The flower buds of Pawlonia imperialis are entirely destroyed, and whenever this happens here, great injury is done to fruit trees and shrubbery generally —*C. G. Page, in Washington National Intelligencer.*

[This is very good for lat. 39°. The "Laplanders" of the South must take to the middle climate of 40° or 41° in winter.—Ed.]

Willow hedges are becoming very popular at the West on the prairies. They are planted in two rows, the plants in each row alternate with each opposite, and one foot from one another in the row; as they grow up they make an impenetrable fence by their trunks alone.

The Gardener's Monthly.

PHILADELPHIA, MAY 1, 1860.

☞ All Communications for the Editor should be addressed, "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

NOTICE TO CORRESPONDENTS.

In consequence of the heavy increase in the circulation of the *Monthly*, and the consequent necessity of going to press earlier in order to issue the Magazine punctually to all our subscribers by the 1st of each month, it is desirable that communications requiring immediate attention, should reach the Editor before the 10th of each month.

SHADING THE BARK OF TREES.

We love to reflect on horticultural progress. It is one of our best hobbies, and affords us many a delightful ride. To think we know so much more than our fathers, is perhaps but vanity; and after all, the record shows that they knew more than we are apt to give them credit for. But it is not what a few of them knew, it is what was generally known. Probably not a notion that now excites our admiration, but what was well known to one or another of them. Cunningham, of Edinburgh, knew, perhaps, more of the secrets of propagation than anyone before him; but what signified all this to us? Locked in between four brick walls where no one could see his operations, and with the secrets locked in the brain where they originated, he died, and his knowledge died with him.

We often think that our progress does not so much relate to facts as to scientific admissions concerning them. It is the new relations of the facts introduced by science that seems so novel to us.

Years ago, we knew an old fellow who used to make upright incissions in the bark of his Cherry trees, all about their trunks. It was a great source of merriment to us young chips of the horticultural block. Such a practice was not laid down in the books, and, of course, it was ridiculous. However, some few of us, under the foolish impression that editors knew everything, wrote to a leading journal for its opinion, and anxiously devoured the inquiry column for our answer; and certes, there it was, plain as we said, "until you see nature slit up the bark of trees, believe the practice of your friend all nonsense."

Alas, poor "Nature!" how often are you set up as a scarecrow to frighten us poor birds who will go pilfering the grain of pooh-pooh'd ideas. It is reason that we should rather follow; and if experience teach us that any course is beneficial, what boots it to us whether nature gave us the first pattern or had it suggested to us by common sense? If we have a pattern given us to go by, and that pattern should be cracked, are all our productions to be cracked in order to be perfect? And yet we are perpetually told to follow nature as implicitly as a rule of faith.

Cowper says that "God made the country, and man made the town;" and in like manner we may say, man made the long-legged, bare-poled, sun-scorched and hide-bound cherry tree, while nature made the noble, bushy-headed and shady-trunked specimen; the branches of which, sweeping the ground beneath, bids defiance to the sun's bark-binding attacks. At any rate, (and this is the most important point,) our old fogy's Cherry trees, with their bodies marked

"Like a bonny son of Mars, with many slits and scars,"

in health and vigor and beauty of growth far exceeded those of his neighbours. And we have seen it since tried without prejudice, and have invariably found that slitting the bark of hide-bound trees is a great and decided advantage.

Some few years ago, when in the neighborhood of Darby, Pa., we saw an apple orchard with trees having most remarkably clean, smooth and healthy-looking stems. Inquiring of the son of the proprietor, we were told that his father divested the trunks of his trees of their bark every Spring. "What," said we, "the bark itself? You mean the loose scales on the outside." "No," he replied, "he tears it off in strips like willow peel." Our science was horror struck. The physiology of our school could stand no such treason to its constitution. Conceiving it was an attempt to "sell" us, the subject soon passed from our mind.

Two years ago, a respectable farmer "amongst the Dutch," in Bucks county, Pa., told us that every year, in June, he regularly tore off the bark of his apple trees, with the happiest results. Had it not been for our previous experience, we should have classed it with the "Moon's signs," for which our brethren in that region are so famous. But, last year, as there was some talk about the decortication of Elms successfully in France, we thought we would try for ourselves if anything could come from such a barbarous experiment. So on the last day of June, we took a ten year old, well-trimmed-up cherry tree, and from about three feet above the ground tore off the bark into the wood as far up as we could reach. Within a week afterwards, innumerable corrugations appeared on the surface; apparently exudations from the medullary rays of the wood, which soon met each other, and in about three weeks a new surface of bark, and new wood beneath it, covered all the North side of the tree; on the South side they dried up before meeting, and all the branches on that side

subsequently died; but our partial success, besides teaching us some new ideas about the rise and fall of the sap, to which we may refer when some more experiments, now in progress, shall have been made, taught us that there was truth in the common report. We have since met a gentleman of the highest character, who assures us that he strips Maple trees between the 20th and 25th of June, entirely of their bark, and a new one forms immediately, to the increased health and vigor of the tree.

These facts we have now proved to be undeniable; but we are not going to recommend that trees should be scored and scalloped like a whittled rustic seat in a "Down Eastern State," or shorn of their bark like a May sheep of its fleece; but we do recommend that such unsightly treatment should be rendered unnecessary, by taking every possible care to prevent the induration of the bark, which is so fatal to the healthy development of trees.

For orchard trees, the heads should be made as low as possible in order to afford shade to the trunk—and when, as we hope some day to see, the barbarous practice of cropping orchards shall be amongst the things only of history, there will be no objection to their heads being very low. At present it is a well ascertained fact that low branching Peach trees, especially in the Southern and warmer States, are considerably the healthiest and enjoy the longest lives.

With weeping trees and others that must be grafted high up in order that a natural "flow of tears" at the barbarity may result, the object may be attained by allowing a growth of young shoots about the trunk, which by judicious pinching and pruning at the right time, as explained in a former number, may always be kept in check, so far as robbing the trunk of nourishment is concerned.

Washing the trunks of choice trees with weak ley occasionally, so as to keep the old bark softened, that it may swell easily, and give place to the new, will also be beneficial.

Altogether, the subject is one calculated to effect vast improvements over the practices of our fathers; and though we have to dismiss it for the present, the interest we feel in its importance will induce us to return to it some time hereafter.

INTERIOR OF A HOTHOUSE.

[*See Frontispeice.*]

We furnish our readers with a sketch of the interior of a hothouse in the vicinity of this city, which we think a decided improvement on the stiff and formal arrangement which generally prevails. It will, at any rate, furnish some hints which may be improved on.

The drawing requires but little explanation. The centre stage or grotto is formed by building up two side walls of large rough stones, (some of which should be allowed to project on the inside of the grotto to prevent too formal an appearance,) and by turning an arch from one wall to the other. The stone work should be laid in hydraulic cement, (which costs but little more than lime,) on account of the excessive humidity of the house, which would destroy lime mortar. After the side walls are built and the arch turned, select irregular shaped, and if possible, moss covered stones of large size, and pile them up *edgewise* against the outside of the walls, so as to leave as many crevices and interstices as possible, for pots and plants.

The side or front tables are formed partly of wood and partly of stone. The part nearest the glass being of wood, constructed in the usual way, with large stones piled along the front or side next the path. Two rows of pots are arranged on the wooden table, the fronts being concealed by long strips of bark. In addition to the plants in pots, the interstices between the stones can be filled with leaf mould and planted with ferns, lycopodiums, rock plants, etc. On each side of the house are two trunks of trees with the branches on, covered with creeping plants. The whole interior of the house is painted a light shade of green, which corresponds well with the green leaves of the Passifloras, Ipomeas, and other twining plants trained up the rafters. The collection of ornamental foliage plants in the house is extensive, and well adapted to a house of this kind. The basin of water in the grotto is supplied by a pipe built in the arch, and is allowed to trickle continually, thereby adding much to the natural appearance of the scene. Orchids are suspended from the roof in rustic baskets and on blocks of wood, and rustic vases containing collections of native and foreign mosses are placed in the corners. The paths are paved with rough flag stones which correspond well with the rock work.

FRUIT GROWERS' SOCIETY OF EASTERN PENNSYLVANIA.

The Committee for the County of Philadelphia, respectfully call the attention of Fruit Growers, (both professional and amateur,) to the existence of this society; the object of which is to foster and encourage the introduction of new and desirable varieties of fruits; to give a correct and impartial description of them, and to aid in their dissemination.

In order to carry out these objects, they respectfully urge on all who take an interest in this subject, the importance of carefully conducted experiments in hybridizing our native with foreign sorts and in the production of seedlings from such hybrids as well as from the seeds of our well known sorts both native and foreign.

Besides the production of new kinds, there are doubtless many really desirable fruits already in existence which deserve to be better known. All such will be accurately described in the proceedings of this Society, if well ripened specimens are forwarded to the Committee at the proper season; and they invite all lovers of fine fruits to aid them in carrying out the objects of this Society by imparting such information as they may possess in reference to this object; such as peculiar modes of culture, the application of special manures, pruning, diseases, and the destruction of injurious insects, and the ripening and preservation of fruits. If these suggestions are carried out, we may confidently anticipate the happiest results from the operations of this society, not only by the introduction of new and desirable fruits, but in preventing the dissemination of worthless sorts.

J. E. Mitchell, *Chairman*,
No. 310 York Avenue, Phila.

SEQUOIA.

It is due to our correspondent, "L." that we inform the readers of his article—"Sequoia *vs* Washingtonia," that he does not assume, as implied in our note, to have been the first to suggest that the name Sequoia was derived from See-quah-yah of Cherokee fame. But he does claim that he has exhausted the authorities accessible in the libraries of Philadelphia and made assiduous inquiry among the leading botanists of the city, and by the aid of a much interested friend, has made similar research in New York, and failed to detect any clue to any other origin.

He who described the genus and applied the name, has not informed us whence he derived it, and in the absence of any positive knowledge on the subject, the strong presumptive evidence drawn from the extensive philological attainments of the late distinguished Endlicher, warrant us in believing that the suspicion first awakened in the columns of the *Country Gentleman*, a few years since is correct. Moreover, as the story has not appeared in any horticultural journal, where it properly belongs, we believe it has been found by the thousands of readers of the *Gardener's Monthly*, as fresh and interesting as if for the first time spread before the public.

AMERICAN POMOLOGICAL SOCIETY.

We understand that the enterprizing President of this society, Hon. Marshall P. Wilder has succeeded in securing the immense building of the Academy of Music for the meeting of the Pomological Convention on the 11th of September next, in Philadelphia.

Inverting Fence Posts.—Mr. Howe, in the *Genesee Farmer*, gives some interesting experiments proving that posts last longest when set upside down.

Questions and Answers.

Hemlock Hedge.—A friend of mine, and a subscriber to the *Monthly*, has a Hemlock Hedge, set last Spring, of two or three hundred plants taken from the woods, (and they all lived except two or three.) Now, they made some growth last year, and look rather awkward, being all heights, from 12 inches to 3 feet.) Now, had he better cut them back this Spring? or let them go till another Spring before cutting them? Please answer in the *Monthly*, and oblige.—*J. H. H., Amesburg, Mass.*

[Cut them down with the shears, first of May, or about, to 18 inches from the ground. As a boy leaps farther by first going a few feet backwards, these will grow faster by being shortened, and become bushy.]

Winter Growth of Roots—*Thomas Meehan, Esq.* Dear Sir:—In discussion, the other day, with one of our best gardeners, on the subject of trees, out-door plants, &c., he contended that the roots of trees and plants grew in winter. I am well aware that while the ground is not frozen that they absorb moisture from the soil, but unless it can be shown that the sap ascends and descends in the winter as it does in the summer, under the above circumstances, it could not take place, but believing that the sap or moisture that the roots absorb, evaporates through the pores of the bark and does not return to the root, consequently they cannot grow far. I believe that the elongation of roots takes place when the sap returns to the roots. It would afford me great pleasure to have this question settled; it is not the first time that I have heard it, and would like to see it disposed of in your practical journal. Investigator.

[Roots do grow through the winter, but very little, especially with deciduous trees. Roots of evergreens grow more; they commence active root growth in February; altogether, leaf growth does not commence till April or May. The idea of evaporation is correct. The little that the roots absorb in winter, or gain by root growth, is often fully evaporated by cold winds and frosts, from the stem and branches. Frequently more is evaporated than is absorbed, and many trees otherwise hardy, die in winter from this cause.

As to the theory of the rise and fall of the sap, so fully believed in by most physiologists of the past day, it is now an almost exploded one. The probability is that nothing of the kind occurs, and that the phenomena that have hitherto been supposed plainly to indicate this, will be explained by other theories. Cuttings of grape eyes have, often, roots two inches long before the buds have little more than burst.]

Orchid Culture—A Correspondent in New York, "Claude Melnotte," sends us a criticism, on the article on Orchid growing that appeared in our last, taking the ground that in condemning one system, the writer had not given the readers of the *Monthly* any better one; and the *Farmer and Gardener*, alluding, we suppose to the same article, makes in effect the same objection. It is but justice to our correspondent to say that at the time he sent us his communication he intimated that the piece was but preliminary, and we have since received handsome illustrations to go with his article, which are now in the engraver's hands.

Grapes and Strawberries—*Fayetteville, April 3d*, 1860.—Mr. Editor:—Please accept my thanks for information received through the March number of the *Gardener's Monthly*, on propagating grapes from eyes. I notice that some of them in my hotbed are growing finely, while others in the same bed, after growing about an inch, turn yellow and dry up. Can you tell me the cause? I have kept a uniform heat of about 70°. Have I not given them sufficient air, or is it probable a part of the eyes were not well ripened? The weak layers are doing finely in the same bed. (1) I feel considerable interest in a new Strawberry noticed in the April number of the *Monthly;* cannot you figure it in some future number—the Wizard of the North. (2) Can you give me any information on the Pauline grape? How does it compare with the Logan for earliness? What is the size and flavor? (3) Subscriber.

[(1) The top shoots grow faster than the roots, and the eye dies of exhaustion; remedy:—pinch out the young point of the shoot as soon as a leaf or two is fairly visible.

(2) The plate of the Wizard of the North Strawberry we saw, occupied nearly two feet square—rather large for our columns; besides, we seldom figure anything, unless likely to suit our climate or culture, which foreign strawberries often do not.

(3) We have not fruited the Pauline yet ourselves, but it is highly spoken of in the South.]

Mildew.—Loudon supposed this to be caused by the soil being colder than the atmosphere in which the plants grow. This may be one of many circumstances tending to cause mildew, but we doubt whether it is the cause itself.

We would call especial attention to the Fruit Growers' Society of Eastern Pa., noticed on page 147.

Roses.—*J. J. F., Henderson, Ky.*—Please send me, or publish a list of the best Works, with date of latest editions, on the Rose.

[Buist, or Parsons on the Rose, are both excellent.]

Cannas, Bedding Plants, &c.—J. W. McL., *Poughkeepsie, N. Y.*—Dear Sir: If you will answer the following, under the head of Questions and Answers, in the next *Monthly*, you will oblige a constant reader of the *Gardener's Monthly.*

1. Will Canna Indica bloom the first year from seed? Can the roots be kept same as the Dahlia through the winter? 2. Is the Commelina good for bedding out? How far apart should the plants be put in the bed? 3. Will the Whitlavia grandiflora do for bedding, and how far apart should the plants be set? How long will it bloom? 4. Please name a list of plants that would do for a vase standing in the sun.

[(1) Yes, if you sow them early and grow in a warm rich soil in your garden.

2. We do not value it for bedding, though it is pretty in its way.

3. It will do well in your latitude, and please you as a blue flower; set about six inches apart. It will bloom till September.

4. Scarlet Geraniums, Petunias, Mesembryanthemums, Portulacca and Plumbago Larpentæ.]

Watering with Well Water.—*B.*—Never do this when you can use it of the temperature of the plant house. To apply fire to heat your house to 70° and then cold water to reduce it to 50° is absurd.

The Frenchman's recipe for making Punch, "a little brandy to make it strong, a little water to make it weak, a little lemon to make it sour, and a little sugar to make it sweet," may do in that peculiar line of animal treatment; but such extremes are fatal to good plant management.

Basket Plants, Lavender, &c.—*A. J. B., Camden, N. J.*—Will you please give a list of the twelve best kinds of trailing plants for baskets; also the best manner of cultivation. I wish to raise them from seed to be ready for Fall. (1.)

I also have a large bed of Lavender growing very thickly. Would it be advisable to transplant? or, would spading some manure around them increase their fertility? (2.)

[(1.) Kenilworth Ivy, English Ivy, Creeping Saxifrage, Senecio scandens, Lysimachia nummularia, Blue Lobelia, Tradescantia zebrina, Kennedya Marrayatteæ, Tropæolum splendidissima, Lycopodium denticulatum, L. Cæsium, Crassula lactea. There is no difficulty about their cultivation.

(2.) It would be as well to take up, tear to pieces, and replant thinly as in setting out box edging; and next season set out the plants to their desired distances.]

Manuring Fruit Trees.—*J. W. M., Lebanon, Pa.*—I intend setting out an acre with mixed fruit this Spring—Standard and Dwarf Pears, Apples, Cherries, Plums, etc., and am offered at a reasonable rate the sweepings of a smith's shop, consisting of the parings of horses' feet, droppings, etc. Will this make a good manure to mix with the soil at the time of planting? To which would the application be most beneficial, and about what quantity should be applied?

The soil is at present in good condition and produces fair crops of wheat, corn and grass—composed of clay and sand, two of former and one of latter, and no want of lime. Answers to the above in the May *Monthly*, will much oblige a regular reader.

[Such manure is excellent for encourageing growth, and will do for young trees. In the vegetable garden we have found it excellent. We think wood ashes the best of all manure for most kinds of fruit trees, when fruitfulness is desired. We like spreading manure on the surface, and raking or harrowing-in.]

Seedling Pansies.—From *Daniel Barker, Hartford, Conn.*—Equal to the finest prize flowers, and very beautiful.

We have also on hand an article on Tritomas from his pen for our next issue.

Mr. B. is about to visit Europe, to collect all the novelties that are likely to do well in this country, which, from his knowledge of our climate, and of what constitutes a good flower with us, he is likely to do very successfully. We wish him every success.

McDougall's Disinfectant.—A Correspondent informs us that this is a patent mixture of disinfecting elements, compounded by an English Chemist. It is principally sulphite of Magnesia and Lime, and Carbonate of Lime; and we should judge from the statements before us, that as a disinfectant, it is a cheap article, and may be valuable as a manure.

Hybridizing Grapes.—We have on hand a very interesting article from our correspondent, Mr. Bright, from Notes made during his late European tour, explaining how the flood of excellent new foreign grapes have been produced, that have recently made their appearance in European collections, which will appear in our next.

Planting Grape Cuttings.—*R., Quincy, Ill.*, inquires why these may not be as well put where they are to grow, as transplant rooted vines? They will do as well, but it is not the cheapest way. It saves time and money to set out good rooted plants. Where land and labor is no object, vineyards are often planted with cuttings.

Seedling Azalea.—From *Jno. Feast & Son*, named "Baltimore Beauty, is one of the handsomest striped ones we have seen; the crimson is very bright. In this respect it is far superior to the noted "Beauty of Europe." It is not up to the standard in rotundity of outline, but will be very popular.

Rose "Dr. Kane," from *Mr. Pentland, Baltimore, Md.*—A few flowers of exquisite form and delightful fragrance. In color it seems to be intermediate between Solfaterre and Lamarque. But at this season of the year, from forced specimens, it is impossible to speak of comparative merit.

Rebecca Grape.—A Correspondent near West Chester, says:—

"We have instances during this peculiarly changeable, hard winter, of New Rochelle, Dorchester and Common Blackberry being killed to the ground, and Rebecca grape, in some places, uninjured."

Pine Seed.—*E. T., Winchester, Ohio.*—Sow thinly under a garden frame, raised a few inches at the four corners to admit a draught of air, and whitewash the glass before hot weather sets in—leaving the glass on.

Cherry Grafts.—*R.*—Mazzard cherries do not take kindly on the Wild (*Cerasus serotina,*) nor do cherries on plums. We do not know that the latter take at all.

Apple.—*D. W G., Harrisburg, Pa.*—Your specimen seems to be Tewksbury Winter Blush—larger than usual. It is one of the best keeping apples we have.

Grape Culture.—*J. Davenport, Stanford, Conn.* Mr. Bright's work, noticed in another column, will give you exactly the required information.

Ravages of the Gopher.—*L. H., Lee Co., Iowa.*—Can any of our readers give us an effectual preventive of the ravages of this animal?

Books, Catalogues, &c.

The Illustrated Pear Culturist.—In our notice of this beautiful and useful volume, in our last, we spoke of it as a new work. In referring to it again after our notice went to press, we find it dated 1857.

This does not, of course, render it any the less valuable; but it is necessary in order to explain a remark we made under the impression that it was just from the press.

Bright on Grape Culture. Published in Philadelphia by the Author, and in New York by C. M. Saxton, Barker & Co.

A fresh, original work, is a great treat in these days of book making; and, had Mr. Bright effected nothing more by his efforts than this, we should have enjoyed it on that account alone. But the work is not by any means to be valued merely because it is not what is popularly and aptly known as "rehash;" it abounds with new and original ideas, for which Mr. Bright's contributions to the *Gardener's Monthly* have already become so noted.

The author of this little work has had one advantage as a "book maker," which all authors of practical works have not invariably possessed. He has been long known as a practical grape grower of the highest eminence, and his *work* has followed his deeds. The "sayings and doings" of many distinguished individuals have flooded the press. Mr. Bright has reversed the general order of such matters, as he has reversed many time-honored practices related to the subject of which he treats. The work is emphatically the "doings and sayings" of Bright on grape culture, and as such we welcome it. The work, though confined to 120 small octavo pages, covers the whole subject of vine culture—native and foreign—in pots, borders, vineyards and city yards; planting, training, pruning—as much, in fact, as is usually given in works double the size; and this conciseness of language in these railroad times is not one of the least of its merits.

There are some things in the work with which we would not agree. The idea generally prevalent amongst the most scientific portion of agriculturists, that the most perfect system of manuring is that which applies to the soil those elements which chemical analysis shows the plant growing in that soil to contain, Mr. Bright also leans to. We honestly confess that we cannot controvert this belief, and yet our faith has been shaken occasionally by some cross-grained observations. There seems to be something in that mysterious and incomprehensible principle, which for want of a better name we call *vital force*, which acts in the premises, and sets the best rules of science so far as yet known, at defiance, and produces results other than as they ought to do according as they are laid down "in the books."

But all this is natural. Far in advance as we regard the views held forth in this little work over present general practice, the future will no doubt produce still more perfect ideas; and probably Mr. Bright himself, with his naturally observant genius, will be one of the first to lay hold of and popularize them.

We cordially recommend the book to all any way interested in grape culture.

The Orchard House. By *Thomas Rivers*, with an appendix, containing additional directions, by William Saunders. C. M. Saxton, Barker & Co., New York.

This little work of Mr. Rivers is already familiar to many American readers, through having been reprinted last year in the *Horticulturist*. In the present pamphlet form it will come acceptable to many, and the enterprising publishers have conferred a favor on the horticultural community in preparing it for them.

Mr. Rivers is an enthusiast in the subject, and he has given an impetus and popularity to it that, considering how slow communities are to adopt new ideas, is really surprising. As the past testifies, the *Monthly* has never been with those who believe the day for cultivating out-door fruits is gone by, and that we must look to the orchard house as a *dernier resort* for an occasional mouthful of fruit; but as a pleasant pastime for the amateur of leisure, a delicious luxury for the affluent, or even as a source of profit when the principles of management are thoroughly understood, and entered into with a thorough business spirit, we believe it will become one of the most popular branches of the gardening art.

The Germantown Telegraph.—This well known and widely circulated family and agricultural journal commences a new year about the present time. The horticultural articles are often of the highest excellence, and we hope it will continue to be like good wine, which they say improves with age.

Origin of Species. By Dr. Charles Darwin.

As botanical knowledge progresses, the difficulties of classification increase. When Linnæus delineated his system, for a while it seemed perfect. Compared with the present list of vegetable forms, the number of plants then known was a mere trifle; and after the light of genius had once dawned on the mind of the great botanist, it was a comparatively easy task to arrange them into classes that seemed very well defined and perfectly satisfactory. But long before this great father of modern botany had passed away from us, difficulties gathered with the accumulation of new discovered species; variations that were deemed but exceptions became the rule, and he himself gave the first blow towards the destruction of the magnificent arrangement his brilliant genius had created, and which destruction the natural system of Jussieu afterwards so successfully completed. Jussieu divided the whole vegetable kingdom into one hundred orders or classes, and the classification seemed again perfect; but new discoveries soon showed its imperfections—natural though it was supposed to be; and after being

patched and tinkered by various clever hands, was entirely revolutionized by Endlicher and Lindley, the latter of whom came ultimately to the conclusion that nothing short of over three hundred orders would embrace the vegetable kingdom; and since his efforts scarcely any score of botanists can be found to agree as to the proper limits of any of these so-called orders, and clearly to define what they mean by any one of them.

If they are not agreed as to what constitutes an order, so neither are they any more successful with genera or species. What are so considered by one, are rejected as such by others; and it has been found impossible to define what any one means by a species. The only agreement has been in a quiet assumption, —a sort of dreaming, indistinct idea, that they mean by a species something that was originally created independently separate and distinct from any other kind to which it may be allied. Each one adopts what he considers some character essential to a species, and when he discovers any other form, agreeing with his ideas of essentiality, but differing in other respects, he assumes that it is but a variety that has sprung from the species, and so classes it.

To any one with a mathematical turn of mind, this is an extremely unsatisfactory state of things. The idea that any study can be a science, the principles of which cannot be demonstrated, is unnatural, and the explanatory apologies about exact and unexact sciences afford no relief. To such a mind the doctrine of Cicero is law. So general a disagreement amongst men proves that the idea is *not* the voice of nature,* and is an *argumentum veritatis* that the idea that all existing forms were independently and specifically created—the source of the existing disagreement—is not true.

And so the beautiful science of Botany, which, from the instability of its principles, proves to be no science, suffers. There are not half the botanists there were twenty years ago, proportionally speaking; while chemistry, geology, anatomy, and other branches amongst whose votaries glimpses of the unity of nature have been more of a practical reality than of a delightful dream, have gained in popular appreciation and real scientific progress.

But it is easier to find fault with a system that is false, than to point out another which is true; and unsatisfied as every scientific mind must be with the independent theory, it asks for a better one before it abandons the other. Many daring geniuses have attempted it and signally failed. Lamarck's effort, recently vitalized by the "Vestiges of the Natural History of the Creation," was little more than still-born, and is one of the most noted of modern attempts. This one of Darwin's is the most recent, and the most plausible of all.

Mr. Darwin goes to his task with the resolution of a David marching on Goliath. He has spent twenty years in the collection of facts bearing on his theory, and has so carefully collected and elaborated them in the present work, that though the mind of the reader will in the main remain unconvinced, it is almost impossible to review it with justice. As the book is one long argument, so is the struggle between what we feel and believe, and the facts as presented —one long continuous effort for predominance. The probability is that Darwin is on the right track; but whether his theory will sustain all that he claims for it, we think very doubtful. The very fact of his having made the subject one of such intense study, is an inference *a priori* that it has been pushed to extremes. We find in our everyday experience, that one closely attached to the study of Entomology is firmly convinced that most of the diseases of vegetation are attributable to the attacks of insects; the mycologist pleads as strenuously for the all-potency of fungi; the chemist and the electrician ride their hobbies as statelily; and the physiologist accounts for all easily, without the help of any of the others. Mr. Darwin starts by handling the non-definability of species most unmercifully, and belaboring it most effectually. He shows that most of the domestic varieties of plants and animals, especially dogs and pigeons—which we happen to know are derived from one original parent stock, though we call them varieties—are yet, in the characters considered essential in the idea of a species, as different as the wild forms or species, the origin of which we do not know; and from this he starts with the *possibility* of his theory, which is that there is really no difference between species and varieties other than what has been stamped on them by the hand of time and circumstances. In a few words, all existing species have sprung from a few primordial forms. All scientists agree that striking variations do occur—the only difference between them and Mr. Darwin is in degree. He tries to prove that there is no limitation to this variation, but you must give him time—several millions of years; but they, on the other hand, assert that the variations are limited, and never occur in any *essential point*. "Thus far shalt thou come, and go no farther," they believe to be the fiat that governs these specific oscillations. Mr. Darwin takes issue with them on this *essential point*, that whenever it is found to vary it ceases to be considered essential, and this arguing in a circle naturally does not suit his system of reasoning. The classification of Linnæus was at one time considered as founded on essential points, until found so variable as to be worthless. Having proved, as he thinks, that variation is unlimited, he goes on to show how these variations assume a specific character. He calls in a new principle—not new in itself, for we are all aware of its reality—but a new principle in its application—a new power, which he calls the "struggle for existence." An oak in one season may produce ten bushels of acorns, which, with twenty thousand in each bushel, would produce a million of trees. A few hundred oaks in a forest would produce enough to stock the whole globe in a single season. And so on with other things: offspring enough from both the animal and vegetable world are annually produced to stock a score of such worlds as ours. They cannot possibly all survive, and only those do survive that crowd out the weaker individuals. This is what the author metaphorically calls the "struggle for existence." As temperature, climate, and other circumstances change, only those "struggle through" which by the natural law of variation adapt themselves to the change; and this they do by a principle implanted within them by the Creator, which Mr. Darwin calls the principle of "natural selection."

This he explains as a sort of instinct common to the whole organic creation, which leads the individual to select that which is best suited to its own preser vation and the perpetuity of its own offspring. It is the principle of self-love applied to the whole organic world. And here it seems to us the horticulturist can step into the arena with great advantage, and take a position which may have a material influence on the subject.

We think Mr. Darwin has overlooked the fact that there are two principles in the individual which are diametrically opposite, namely, self-preservation and reproduction. Whatever tends to the vigor and luxuriance of a plant, is so much detracted from the reproductive principle. The most productive trees of the same variety are the shortest lived, and the most healthy and vigorous are those which bear little fruit. It seems to us that where two opposing principles exist, so long as they do exist there must be a barrier beyond which variation cannot go; and a limit to variation being a fair inference in one direction, why may it not be in another? That this limit is more than a mere hypothesis is shown in many things. The pansy is an instance. About a quarter of a century ago, the only representative was the wild *viola tricolor* of English corn-fields. The flower and foliage, in the hands of skilful florists, became larger, and—in a florist's sense—finer, until the flower reached two inches across; but there it stops: no skill has been able to make them finer. The same with the geranium and other flowers—the maximum of size is soon obtained, and improvement in that direction soon ceases. All this, however, is at the expense of the reproducing principle, for all these improved flowers seed only with great difficulty. It may be argued that "natural selection," working for the plant's own good, would not allow a plant in a state of nature thus to work to the injury of its reproducing principle; but the instance is only given to show that there is in some respects a limit to variation, and that the opposing principles of reproduction and preservation may have more influence on limiting the powers of natural selection than the author claims for it.

Altogether Mr. Darwin's theory captivates by its beauty, and if true, would throw a new light on many mooted points in Pomology and Horticulture. The wearing out of varieties of fruit perpetuated by grafting, for instance, receives strong corroboration in Mr. Darwin's views; and we can imagine with what delight the spirit of Thomas Andrew Knight contemplates the increased confirmation his theory receives from it. The raisers of seedling fruits will rub their hands in glee, and those who maintain that American seedling fruits are the best adapted to American latitudes, will look you in the face with "did not we tell you so?" expressed in every feature. And not only the practical, but the intellectual mind will enjoy Mr. Darwin's book, let his views be facts or unripe theory. The unity of type in vegetation, first revealed to us by the illustrious Goethé, and known as vegetable morphology, applied to all organic matter is a grand conception of the human mind; and should it be ultimately proved to be the fact, that instead of a single, and, compared with eternity, momentary act of creation, the whole universe is one perpetual manifestation of such a divine work, our reverence for that great, unseen, and omnipotent Author of all will only be increased by the discovery of such wonderful foreknowledge in the arrangement of all things.

Nothing but a careful perusal of the book itself will give the reader a good idea of its nature. As the author himself expresses it, the work is "one long argument." It is one of the most original works published for many years, and it is impossible to foresee what revolutions it may yet make in botanical science.

THE CRANBERRY CULTURIST. By *W. H. Starr*. Starr & Co., New London, Conn.

Cranberry culture is just now exciting a high degree of attention, and this little work appears very opportunely. It embraces 32 octavo pages, and treats of varieties, soil, planting, pot culture, profits, and production. With this little work the merest tyro in the art of raising cranberries cannot go astray.

Catalogue of Books of *C. M. Saxton, Barker & Co.*, on nearly every variety of topic connected with urban or rural life.

CATALOGUES.—*Negley & Co.*, Pittsburg, Pa., orna-

* "Quoniam vero in re omni consensio firma gentium omnium est vox naturæ, et argumentum veritatis." I *De legibus*.

mental bedding plants. *Oden Hayes*, Bellefontaine, O., fruit and ornamentals. *H. A. Dreer*, Philadelphia, plants. *James Daniels*, Philadelphia, seeds. *J. M. Mattison*, Jacksonville, N. Y., dahlias, bedding plants, &c. *Barnes & Washburne*, Harrison Square, Mass., new plants, &c. *Do., do.*, flower seeds. *Geo. Davenport*, Dedham, Mass., grape vines, &c. *Hoag & Crane*, Lockport, N. Y., grapes. *Sayres & Hutchinson*, Cincinnati, O., plants. *G. R. Garretson*, Flushing, N. Y., flower seeds. *A. H. Bailey*, College Hill, O., fruits. *Gilpin & Feast*, Quincy, Ill., evergreens, &c. *John Wilson*, Albany, N. Y., dahlias, &c. *J. M. McCullough & Sons*, Cincinnati, O., fruits, &c. *Joshua Pierce*, Washington, D. C., fruits. *Babcock & Bro.*, Summerfield, Ill., fruit and ornamentals. *A. Plank*, Lynchburg, Va., fruit and ornamentals.

Foreign Catalogues.—*J. B. Booth & Sons*, Hamburg, Germany. For botanical accuracy of nomenclature this probably has no superior in the world; and in variety and extent of the several collections it is quite astonishing. The catalogue is in fact quite "a book."

L. Van Houtte, Ghent, Belgium, Plants de serres, et de plein air, as enterprising as ever. Mr. V. H. seems to have every novelty in this new list.

E. G. Henderson & Sons, London. So full a list of seeds that it has to be divided to go through the mail law.

Canada.—*George Leslie*, Toronto, C. W. Descriptive catalogue of fruit trees, shrubs, &c.

We are apt to think our brethren of the north, with their cold climate, must necessarily be limited in their enjoyments. A glance at this splendid and very accurate catalogue will speedily dispel such an idea.

New or Rare Plants.

New Fuchsias.—E. G. Henderson's of London, are sending out the following novelties; all said to be very superior:

Count Cavour—Large open lilac lavender or mauve-colored corolla, with well reflexed sepals, close jointed growth, and fine habit, forming a distinct exhibition plant.

Dr. Livingstone—Tube clear delicate blush-white, with well recurved white inner-surfaced petals. Corolla blush, shading into a bright violet-rose margin; habit of Silver Swan, free; requires pinching from the young growth at stated periods.

Garidaldi—A beautiful colored flower, with light scarlet recurved sepals, and dark violet-tinted black corolla; free growth, and constant in character.

Longfellow—Rich deep scarlet sepals, well recurved, in contrast with an intense violet corolla; good habit, and distinct.

Lord Macaulay—A very effective and beautiful variety for competition, having large broad sepals of great length and elegant curve; corolla deep violet. *A telling name.*

Princess Alice—Style of Maid of Kent; free branching habit and rich green foliage; sepals pure white, and well reflexed; corolla rosy purple, tinted with maroon. A profuse and continual blooming variety for the season.

Prince Alfred—Tube and outer face of sepals blush, with rose stripes, the inner recurved sepal fronts pure white; corolla deep plum or mulberry, with a pure white picturesque base extending one-third of the depth; sepals wide and finely recurved; growth free, robust, and short-jointed, with dense flower clusters.

Prince Imperial—Sepals fine scarlet, broad and recurved; corolla violet, remarkably large, and of great width; habit compact and close jointed. An excellent trade plant.

Prince of Orange—A first-class exhibition variety, having wide scarlet sepals well curved, and of firm leathery-like substance; habit of growth free, graceful, drooping. Unequalled in its section.

Phalænopsis Schilleriana.—Every lover of orchidœa is acquainted with the P. amabilis, the moth-flowered white orchid, and which always makes such a sensation at horticultural exhibitions, and any new species will make as much of a sensation as a blue dahlia would, or a scarlet mignionette.

The *Gardener's Chronicle* says it received a flower of this species from Mr. Consul Schiller, in whose grand collection at Hamburgh it blossomed the other day. The Consul informs it that it was obtained by himself from Manilla two years ago, and that out of 30 plants he only succeeded in saving one. The leaves, he states, are of the form of P. amabilis (not long as in P. grandiflora,) and variegated with silver irregular spots. Prof. Reichenbach compares them to those of a Sonerilla (such we presume as margaritacea,) and describes them as being nearly a foot long, blackish green, with broken silver bands above, and purple beneath. The flower stem is branched and the flowers flesh color.

Ornamental Grasses are at once extremely interesting and highly effective; the taller growing kinds having an elegant appearance in shrubberies, islands, the sides af ravines, rivulets or lakes: while the smaller sorts add beauty and variety to mixed flower-borders, and many of them, when cut and dried, are invaluable for winter decoration. The following comprise many valuable varieties, which should occupy a place in every garden. We shall add to the list through the season, and invite our friends to send us notes of any they may have that they think beautiful or interesting as objects of beauty or ornament:

Agrostis dulcis, A. effusa, A. elegans, A. laxiflora, A. nebulosa, A. plumosa, A. pulchella, A. retrofracta, A. verticillata, Andropogon Sorghum, Anthoxanthum gracile, Avena sterilis, Briza major, B. gracilis, Brizopyrum siculum. Ceratochloa pendula, Chloris fimbriata, C. radiata, C. submutica, Chrysurus aureus, Coix lachrymæ (Job's Tears,) Diplachne fascicularis, Eleusine corocana, E. indica, E. oligostachya, Eragrostis cylindriflora, E. elegans, E. megastachya, E. Namaquensis, E. Senegalensis, Erianthus Ravennæ, Lagurus ovatus (hare's tail grass,) Panicum colonum, P. concinnum, P. crus corvi, P. crus galli, P. eriogona fimbriata, Paspalum elegans, Pennisetum longistylum, Piptatherum Thomasi, Setaria macrochæta, Sporolobus tenacissimus, Stipa pennata (feather grass,) S. juncea, Trilochlæna rosea, Trypsacum dactylioides, Uniola latifolia.

Thuja Occidentalis, var. Hoveyi.—This is a seedling from the common American, raised by Messrs. Hovey, of Boston, and is said by those who have seen it, to be as beautiful as the *Biota aurea*, and from its parentage must be more hardy and valuable.

New and Rare Fruits.

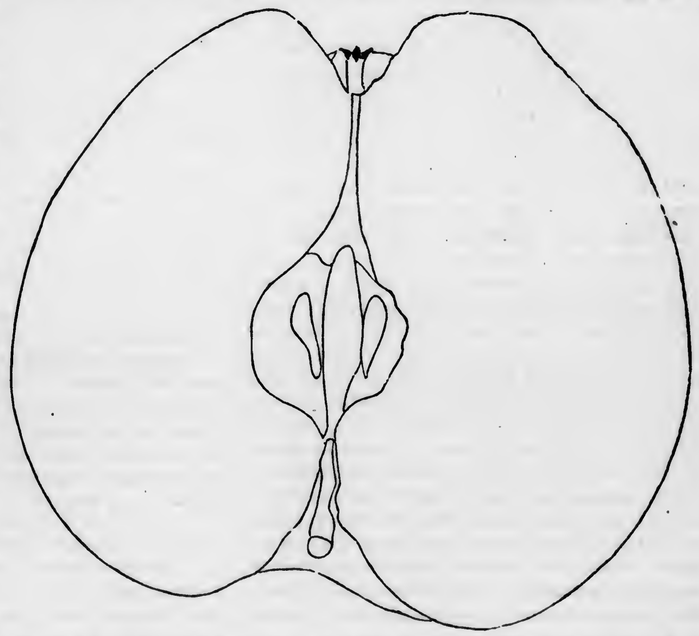
Stœver Raspberry.—It was found growing wild in August, near Lake Dunmore, in Vermont, by Mr. Jefferson F. Stœver, and removed to his garden at Tacony, near Philadelphia, in the fall of the same year, where it fruited in 1859. Being a native of the northern part of the United States, Dr. Brinckle thinks "it will probably be better adapted to the exigencies of our climate than most of the large varieties."

The Berry is very large, full three-quarters of an inch long, by one and one-eighth inches wide; roundish-conical in form; of a rich crimson color, and of good flavor.—*Horticulturist.*

Maxatawny Grape.—Mr. Berkmans thinks this, after good means of judging, a grape of much promise, and though "evidently a hybrid from the Malaga," (he says in *Hort.*) well adapted to our country.

Bradford Water Melon.—A Correspondent of the *Farmer and Gardener* praises and thus describes this fruit. "The rind is a grayish-green color, closely traversed by fine dark green veins; flesh, varying from light to deep red, extremely sweet and tender, sometimes separating from the rind like the Orange watermelon; size varying from small to quite large.

The Prinz Apple.—Few fruits reached us the past season that gave us more pleasure to look at, and to eat, than an apple under this name from our good friend J. G. Youngken, who informed us that it was from a tree imported from Germany, by the Rev'd Mr. Waage, of Montgomery County, in this State; second to very few in quality, it is at the same time the most beautiful kind we know.



We were under the impression that it might be the *Melon*, of Europe—(not of Downing, which is a very different fruit,) and so wrote to Mr. Waage himself for a full account of the Prinz.

From the way he speaks of the Melon, it must be distinct from the Prinz. He says:—

"In my native country, (Duchy of Schleswig Holstein.) The Prinz, Gravenstein, and another splendid kind—the Melon, are the favorites amongst all the apples of that

Northern region." Mr. W. has had it bearing now eight years, and every year loaded with its handsome fruit.

We made the annexed cut and description from the specimen sent us. Prinz Apple: fruit of the largest size, roundish, ovate, slightly conic, occasionally somewhat angled, rather tapering towards the crown. Skin yellowish green, with occasional brown dots; on the sunny side of a deep crimson blush. Stalk short, rather thick, deeply inserted. Calyx closed in an irregular, somewhat ribbed basin. Flesh greenish-white, juicy, firm for a large apple, with a pleasant sub-acid flavor, quality very good. A very handsome, showy apple.

Domestic Intelligence.

Mr. Bright's Vine Borders.—The *Horticulturist*, speaking of these, alludes to a friend's grapery constructed on principles similar to Mr. Bright's, which has been in operation seven years, and with great satisfaction to the owner.

Rose Mildew.—A Correspondent of the *Horticulturist*, finds roses drained with charcoal, less subject to mildew than others.

Forcing Lettuce.—Mr. P. Henderson sows the Brown Dutch, or Black Seeded Butter, about the 15th of September, in cold frames; seed sown thinly, and plants covered by sash on severe nights. About the 1st of January commence to force in deep pits; of these Mr. H. says in the *Horticulturist*—

"It is in the structure and use of these pits that our mode of operations differs essentially from the usual practice in private establishments. The pits are from two and a half to three feet deep; the sides are boarded up with spruce plank, which, if painted with coal tar, will last for fifteen or twenty years. The back board is allowed to rise nine or ten inches above the surface, the front board five or six inches; this gives but a slight angle, but that we do not think any disadvantage. The width of the pit is six feet; the most convenient length we find is about sixty feet, sufficient for twenty sashes. The space allowed between the rows of pits for walking is four feet.

The manure when put in is made moderately firm to the depth of eighteen or twenty inches; it is then covered to the depth of six inches with soil. When the soil indicates a "falling" temperature of 80°, the lettuce is planted at about six inches apart, or about fifty plants in a sash; with due attention to airing in fine weather, and covering up by straw mats, at night, the salad is fit for market in six weeks from the time of planting, usually about the middle of February. This—the *first* crop—usually gives a return of about $2.50 per sash,

As soon as the crop is cut out, the soil is thrown off, and about six inches of hot manure is again thoroughly mixed through the now almost cold bed; this, in a day or two, again enlivens the whole mass, when the bed is planted over again for the *second* crop. This is usually sold off by April 1st, and is generally very fine, averaging $3.00 a sash. The weather by this time is warm, and no further advantage is taken of the hot manure; but the pits are again planted for the *third* crop, which comes in about May 1st, this last is rather late, and does not give more than $1.50 per sash. The three crops thus give collectively $7 per sash."

Stock of Wine.—Early in February, Mr. Longworth had on hand 460,000 bottles! Pretty well for one grower.

New Fruit Book, By Dr. Warder, the *Prairie Farmer* says, will be ready before many months.

Woodburn, Illinois, March 14th, 1860.—Weather beautiful here now, Spring fairly open, Farmers sowing oats, and I am crowded daily with customers at my nursery.—*J. H.*

Retarding Peach and Apricot Blossoms.—A Correspondent of the *Country Gentleman* keeps the ground cool by mulching, and removes it as soon as the weather becomes settled, so that it gets its fair proportion of Spring warmth.

Grapes—*Three Crops in two years*—Mr. H. Simpson, of Saxonville, Mass., still continues his successful forcing. His grapery is 80 feet long. On the 25th of January, the *seventeenth* crop in eleven years was in blossom and some had set, while the vines were in perfect health.

Nativity of the Isabella Grape.—Mr. S. B. Buckley says in *Horticulturist* that this was brought from Europe by way of the West Indies by M. Lespeyre, a Frenchman, early in the present century, and existed in his garden "long before" Mrs. Isabella Gibbs, after whom it was named, ever knew of it. He adds that "it has never been found in the United States by any botanist."

Tarring Potato Sets.—At a recent meeting of the New York State Agricultural Society, Hon. A. B. Dickinson said he had not sown or planted anything for ten years without a coating of tar, and in planting his potatoes he dissolved one pint of tar in three pails of boiling water, and added four pails of water afterward. This solution he poured over his seed and mixed it with them, and covered with plaster.

Enlargement.—Our friend William Thorburn, whose Seed Store on the corner of Broadway and Maiden Lane, Albany, has been well known for twenty years or more, has found it necessary, from the increase of his business, to enlarge his borders, which he has done by annexing the adjoining store. The partition having been removed and the two stores made into one, he has now a specious establishment, well filled with all the varieties of seeds necessary for the farm and the garden.

Honey Dew.—Mr. Nuttal, in his "Travels in Arkansas," says that sometimes the grass on the prairies would be so covered that their shoes and mocassins would present the appearance of having been oiled, and would entirely preclude the idea that it was the production of Aphides. The hotter the period, the greater the deposit. He regarded it as the result of vitiated sap.

OBITUARY.

A. H. Ernst, Esq., Cincinnati.—The decease of this distinguished Horticulturist is announced in the Cincinnati papers. Mr. E. was one of the founders of the Cincinnati Horticultural Society, and one of its most popular presidents. He was originally a merchant of Cincinnati, which in 1828 he abandoned for country life, and he set about forming around him one of the first nurseries in that neighborhood.

Pomology especially was Mr. Ernst's great delight, and he spared no expense in procuring new varieties of fruits from all parts of the world, and testing them thoroughly in his locality. His loss will be severely felt, not merely in Cincinnati but throughout the whole union, where his knowledge of fruits and opinions on fruit-growing, were always received with respect.

Foreign Intelligence.

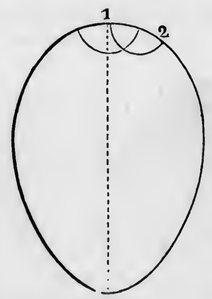
How Roots Feed.—Can the roots of plants take up only such substances which are dissolved in the ground and thus prepared for them, or can they themselves dissolve them?

This question has been solved by Liebig, and by experiments made before the Society of Natural Science in Carloruhe, he has proved that the roots of plants, by giving forth some acid, probably carbonic acid, do dissolve the alkali, ammonia and phosphorus in the soil. Dr. Schimper showed the meeting, as a further proof of Liebig's doctrine, some pebbles which evidently had been eaten in by roots of plants. The fact was visible, the process, however is not yet clear.

This valuable discovery of the great chemist goes clearly to show us why the rains and floods cannot wash out of the ground the substances forming the food of plants; on the contrary, we now know that the earth takes from the liquids which touch it, and solidly appropriates substances which the roots of the plants again absorb by their action. In the same way we clearly perceive how plants can draw from the soil substances which are solids and which are not soluble by water.—*Deutsches Magazin.*

How to Detect the Sex in Eggs.–Richd. Smith, in the *Cottage Gardener*, gives the following directions, founded on long experience:

At the large end of the egg there is a circular space or cavity containing air, which country folks call the "crown of the egg; its proper name I know not.



When you examine the egg, hold it, the large end uppermost, before a candle or gas-light, and in looking through it you will observe a dark circular mark something similar to the moon when partially eclipsed. This dark circular mark is the space filled with air, or "the crown" of the egg, and is to be found in all eggs, situated either in the centre or on the side of the perpendicular dotted line. (See diagram.)

My method of examining the egg is as follows:—I make use of the thumb and fore finger of my left hand as two points, by placing the small end of the egg on my thumb, my fore-finger covering the large end of it, and as near the centre of each end as possible. I then place the egg in this position steadily before a candle, and gently turn it round; if the crown be in the centre it will be scarcely visible, the figure marked (No. 1) nearly covering it. On the contrary, if the crown be on the side (No. 2,) you will only see it on one side of the egg as you turn it round.—Richard Smith, Wood Green, Witney, in *Cottage Gardener.*

We have a mortal antipathy to chickens, as the numerous feathers scattered through our garden amply testify; but as some of our lady friends will have them about, we insert the above, in order that their "worser" halves may know at least how to mitigate the evil, by slyly removing from the nest of the sitting hen the eggs of those which prove the most adacious of trespassers on their choicest seed-beds.

Substitute for Box-Edgings.—A young contributor to the *Monthly* recently created some interest by an attack on Box-Edgings. Though not agreeing with him altogether, we append a list of plants adapted for bordering, as collected by M. Bouché of Berlin:

Cerastium argenteum, C. tomentosum, Statice armeria, Dianthus plumarius, Saxifraga cœspitosa, S. hypnoides, S. trifurcata, S. umbrosa, Geum of various species, Sedum involucratum, S. hybridum, S. spurium, S. oppositifolium, S. Kamtschaticum, S. Emersii, S. anacamperos, Aubretia deltoidea, Arabis caucasica, Alyssum saxatile, A. gemonense, Campanula pusilla, Vinca minor, Lychnis viscaria, Sedum acre, Sempervirum tectorum.

Moveable Greenhouses.—At page 79 of our last volume, we gave the details, with illustrations, of Sir Joseph Paxton's new method of erecting these structures. We trust that our readers will not lose sight of this plan of hot-house building, as we regard it as one of the most valuable improvements that have been made since Rivers gave such an impetus to the present popular style of fixed roofed building.

Fig. 1.

In order to recall our readers attention to the subject, we now insert a few cuts of the elevations, which, with the details referred to above, will give a pretty good idea of their construction and appearance.

Fig. 1 is a section of the house Figure 2, and shows the interior arrangements and appearance.

Fig. 2.

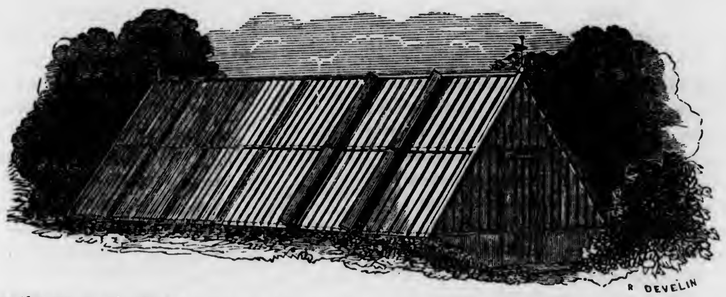
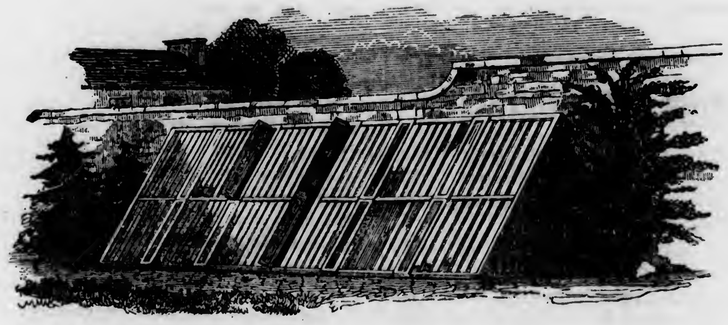


Fig. 3 shows the same principle applied to a lean-to structure. It will be observed that the mode of ventilation is quite new.

Fig. 3.



We have no doubt some of our enterprising horticulturists will soon have one of these structures up, to show us now that we have directed general attention to them, and may book us for a call when one is completed.

The Pope's Garden is so extensive and so full of all the treasures of art and the luxuries of wealth, that he can scarcely exhaust the variety they afford. The garden of the Vatican covers thirty acres and is one of the most beautiful in the world.

Foreign Correspondence.

From our English Correspondent,

Chester, March 6th, 1860.

I imagine you have no conception of the gigantic proportions of *Cyanophyllum magnificum* and its magnificence; a specimen of which I observed in a private garden near Hamburgh, a few weeks ago, while travelling on the Continent, the leaves of which had attained the immense size of 48 by 35 inches, and promises to become even larger. I also observed a plant at Knowsley Hall, near Liverpool, the Seat of Lord Derby, with leaves 29 by 18 inches, the height of plant about 4 feet from the pot. This is by far the largest leaf I know amongst monoclamydeous plants, and, doubtless will even rival the famous *Musa Ensete*, if not in length, most certainly in width and beauty.

Ferns are rapidly becoming much enriched, close on the heels of the beautiful *Pteris argyrea*, which I sent you a notice of, are two other beautiful variegated species; one by M. Linden, of Bruxelles, named *P. tricolor*, quite a gem—fronds in the way of Pasericaulis, with bright red midribs, down the centre of each pinnecæ, on either side of which is a beautiful silver stripe. The other has just been imported from Peru to the B. G. Kew, (not yet named) it is a *Pteris*, with a silver edging round each pinnœa.

Van Houtte, of Ghent, is also sending out a new *Gymnogramma*, having the upper side of the frond powdered over as with *G. Peruviana argyrophilla*, but with golden color of *G. Chrysophylla*.

The new dbl. Peaches, introduced by Fortune from China, are becoming vastly cultivated; they are fine things for early forcing as pot plants, particularly the dark variety, and are only surpassed by Van Houtte's various-colored one.

Amongst seeds of merit are the following: Turner's Cottager's Kale is the only vegetable which has withstood the severity of the last winter without hurt—a very useful and delicious vegetable; several good new Peas, Brocoli, Leeks, Cucumbers, &c. Amongst good new flower seeds are—Salvia bicolor, Cyclamen Persicum striatum bicolor, Macrophylla, Spragua umbellata; Tropæolums, Tom Thumb Scarlet, Tom Thumb Yellow, and Tom Thumb Beauty all good for bedding; Chrysobactrum Hookerii, Callirrhœa digitata, Lychnis Haageana.

Royal Gardens, Frogmore, England.

Among the new vegetables lately brought into notice, perhaps the following are among those worthy of especial notice; perhaps the greatest improvement of all is in Peas, and that we owe to the untiring perseverence of Dr. Maclean, of Colchester, who has some years in various experimental ways, in the hope of obtaining the desired end, and one of his principle objects was to reduce the height of our finest marrow, and to get the quality of those that grew 8 feet high, into a dwarf and prolific habit; in the following varieties these qualities are combined, and much earlier than the old varieties, and only from 2 to 3 feet high:

Advancer (Maclean's) is the earliest of all marrow peas; it is an extraordinary cropper and of the finest flavor, and being only 2 feet in height will prove a great acquisition; it is of the green wrinkled class of marrow peas.

Prolific (Maclean's.) This is a fine large wrinkled, white pea, of excellent flavor, aud heavy cropper; its height is about 3 feet.

Essex Rival (Macleans.) A very large, second early green-wrinkled marrow; it is of fine flavor, dwarf habit, and very prolific.

Mignon (Macleans.) This is also a wrinkled marrow early dwarf pea only 18 inches high, with a different flavor to other kinds.

Powell's Early Tomato. This is a fine red variety, the principle features being its earliness and dwarf habit; the leaves are smooth and curled, and it does not make so much useless growth as other kinds.

New Perennial Spinach. This is likely to prove a great acquisition to the kitchen garden summer crop, as it is very hardy and will stand the dry and hot weather better than the common spinach; it has a large, thick and fleshy leaf, and will stand two years in this country without seeding.

Frogmore Forcing Cauliflower, or New Early Mammoth, is a variety not surpassed by any other kind for pot culture or any other mode of cultivation. The heads are large, white, and very compact, and its habit very dwarf, and makes but little foliage, and earlier than any other kind.

Incomparable Celery is a very excellent kind, both for early and late purposes; it is very dwarf, close, stiff in habit, and will admit of double the quantity being grown on the same space, compared with other varieties; it is of excellent flavor, solid, crisp, sweet and juicy.

Cottager's Kale. A winter-sprouting green, growing 5 feet high; it will withstand severe frost better than any other of the Brassica tribe, which constitute its principle value.

J. Powell.

Horticultural Societies.

LIST OF OFFICERS OF HORTICULTURAL AND POMOLOGICAL SOCIETIES.

For the information of those who wish to correspond with the different societies, we furnish a list of the Officers of as many of them as we have been able to procure, and hope to be furnished with any that are omitted. We insert only those societies of a strictly horticultural or pomological, and not of an agricultural character.

HORTICULTURAL SOCIETIES.

Name of Society.	*President.*	*Cor. Secretary.*
Pennsylvania, Phila.	M. W. Baldwin,	William Saunders.
Massachusetts, Boston,	Joseph Breck, Brighton.	Eben. Wright, of Dedham.
Maury County, Columbia, Tenn.	M. S. Frierson.	
Chicago Gardener's.		
Chester County, W. Chester, Pa.	J. K. Eshleman,	Josiah Hoopes.
Buffalo, N. Y.,	Jason Sexton,	William Coleman.
New York, (City)	John Groshon,	Thomas Hogg.
Cincinnati, Ohio,	William Orange,	E. P. Cranch,
Montreal, Canada,	William Lunn,	William Brown,
St. Louis, Mo.	William Glasgow, Jr.	Carew Sanders.
Cleveland, Ohio,	Dr. Edward Taylor.	
Genessee Valley, Rochester, N.Y.,	Joseph Harris,	C. W. Seelye.
Brooklyn, N. Y.,	Jno. W. Degraaw,	Edwin Scott.
Portland, Maine,	T. C. Hersey,	John W. Dana.
Kentucky. Louisville,	Thos. S. Kennedy,	Ormsby Hite.
St. Catharines, C. W.,	James Taylor,	Thomas Shaw.
Richmond, Indiana,	John H. Hutton,	W. R. Smith.
Keokuk, Iowa,	A. Bridgeman,	J. L Tewksbury.
Fort Wayne, Indiana.	J. D. G. Nelson,	H. C. Grey.
College Hill, Ohio,	Jacob Tuckerman,	D. B. Pierson.
Workingmen's, Frankford, Philadelphia,		Thomas Hargreaves.
Progressive Gardener's Society, Philada,		R. Robinson Scott,
Meramac, Mo.,	Dr. A. W. McPherson,	Edward Vaughan.
St. Paul's, Minnesota,	Alexander Buchanan,	George Scattan,
Pittsburg, Penna.,	J. Knox, Pittsburg,	Thomas L. Shields.
Toronto, Canada,	Hon. G. W. Allan.	
Hamilton, Canada,	(?)	
Cobourg, Canada,	(?)	

FRUIT GROWERS' SOCIETIES.

Name of Society,	*President.*	*Cor. Secretary.*
Western New York,	B. Hodge, Buffalo,	C. P. Bissell, Roch'r.
East'n Pennsylvania,	Dr. J. K. Eshleman, Downing'n, Pa.,	Thomas N Harvey, Jennersville, Pa.
Missouri,	Norman J. Coleman,	Dr. L D. Morse, Allentown, Missouri.
Ohio Pomological,	A. H. Ernst, Cincinnati, Ohio.	M. B. Bateman, Columbus, Ohio.
Am. Pomological,	Marshall P. Wilder, Dorchester, Mass.	Meets in Philad'a, September 11th.
Conn. Grape Grow's',	Col. D. S. Dewey, Hartford, Conn.	M. C. Weld, Hartford, Conn.
Welmington, Del.	H. F. Askew,	Dr. G. Pepper Norris.
Am Wine Grow's Asso. Cincinnati, Ohio.	Dr. N. B. Shaler,	S. W. Haseltine.

PENNSYLVANIA HORTICULTURAL SOCIETY.

MARCH.

Mr. Mackenzie made an exhibition of Camellias, that has not perhaps ever been equalled any where. As they were all first-class varieties, we append a list of the whole:

6 Camellias in pots, (first premium): 1 C. alba pleno, 2 C. Renica, 3 C. Sovereign, (Low's), 4 C. Mrs, Cope,(American), 5 C. Archduchess Augusta, 6 C. General Wayne.

15 Cut Flowers, first premium, viz: — Camellias Miniata, Mrs. Cope, (American), Reine des Fleurs, Alexina, Archduchess Augusta, General Wayne, (American) Alba pleno, Dunlap's White, Ellen, (Mackenzie's, American) Towne's Blush, Imbricata, Sacco magnifique, Duchess of Orleans, Myrtifolia, Queen of Denmark.

Collection of 70 Flowers:—Camellia Fordii, Mrs. Lurman, (American) Ochroleuca, Henri Favre, Sarah Frost. (American) Mammoth, (Mackenzie's American) Alba imbricata, Jeffersonii, Joan of Arc, Linkil nova, Johnii, Bealii or Sieboldii, Carswelliana, Lawrenciana, Pompone, Fimbriata, Maria Therese, Amabilis, Smith's American) Feastii, (American) Tricolor, Candidissima, Donckaarii, Anlica, Loddiges, Grevilles red, Gilesii.

APRIL.

The stated meeting and display of this Society was held on Tuesday evening, the 17 inst. We cannot but congratulate the Society on the magnificence of the exhibition, and it was, without exaggeration, the finest collection of beautiful and well-grown plants and flowers ever brought together at a monthly meeting. The old spirit of the Society, which formerly made its meetings so attractive to persons of refined taste, but which has been dormant for several years, appears to have become enlivened and determined to resume its activity, and again make these displays the centre of attraction to our citizens. It would perhaps be difficult to specify the names of those who had contributed the best collection of plants, where all were so very excellent. The Committees, without doubt, found very great difficulty frequently in making the awards as required by the schedule of premiums.

We give below the names of the exhibitors and the Reports of the several Committees, only remarking that we hope that the display for the next month, and hereafter, will as much exceed the present as this has surpassed the previous ones.

Plants and Flowers—By Jno. Landers, gardener to S. T. Altemus; Thomas Meghran, gardener to Joseph Ripka; Thomas Meehan; Wm. Joyce, gardener to M. W. Baldwin; John Pollock, gardener to James Dundas; John Randall, gardener to J. D. Whetham; James Thomas, gardener to A. J. Bucknor; Henry A. Dreer; James Matheson, gardener to Francis Yarnall; James Eadie, gardener to Dr. Rush; John A. Goehring. M. Hegarty, gardeners to Joseph Harrison; and Chas. H. Miller, gardener to D. Rodney King.

Grapes—By John Cook, gardener to Rev. J. M. Richards, and by William Joyce, gardener to M. W. Baldwin. Apples by the same. Vegetables by Thomas Meghran; Anthony Felten, gardener to Henry Duhring; Thomas Robertson, and John Cook.

The Committee on Plants and Cut Flowers awarded the following premiums: For Pelargoniums, best to James Thomas, gardener to A. J. Bucknor; Geraniums, best to James Matheson, gardener to F. Yarnall; Cinerarias, best to M. Hegarty, gardener to Joseph Harrison; second best, to John Randall, gardener to J. D. Whetham; Roses, best to Henry A. Dreer. The same exhibitor had several more collections of roses which would have received premiums, but that they were excluded by the rule of the Society on the subject. Azaleas, best to John Pollock, gardener to James Dundas; second best to James Eadie, gardener to Dr. Rush; Azalea (dwarf) various specimens, best to John Landers, gardener to S. T. Altemus; Hyacinths, best to M. Hegarty, gardener to Joseph Harrison; second best to Thomas Meehan; Panzies, best to Henry A. Dreer; second best to James Thomas, gardener to A. J. Bucknor; Collection of ten Plants, best to William Joyce, gardener to M. W. Baldwin; second best to John Pollock, gardener to James Dundas; third best to C. H. Miller, gardener to D. R. King; Specimen Plant, best to William Joyce; second best to James Eadie; Specimen Plants (one pair.) best to Jno. Pollock; second best to James Eadie; New Plants, shown for the first time, by Thomas Meehan, a new Azalea, Duke Adolphus of Nassau, and a new Lycopodium, Selaginella Compacta, new Geraniums, General Simpson, Colonel Harcourt, and Duchess of Kent, were reported by the Committee as not sufficiently grown to show their merit. New Plants by Charles H. Miller. Pothos Violacea and Caladium atropurpurea, were not in flower. Table Designs, best to Jno. A. Goehring, second best to Thomas Mehran.

The Committee also awarded the following special premiums:—Of $3 to John Pollock, for a collection of very beautiful Begonias, including two new ones, shown for the first time, viz: Prince Troubetskey and Roi Leopold; of $4 to James Eadie, for a large general collection of very beautiful plants; of $3 to Chas. H. Miller, for an unusually fine collection of variegated plants; of $2 to James Eadie, for a collection of splendid orchids; of $1 to John Pollock, for Calceolarias; of $1 to Thomas Meehan for a large collection of Hyacinths and Tulips. The Committee also called attention to a collection of Camellias, exhibited by Mackenzie & Son, and also to three vases of flowers by Henry A. Dreer.

The Committee on Fruits awarded special premiums to William Joyce, for Apples and White Grapes; and to John Cook, gardener to Rev. J. M. Richards, for Black and White Grapes.

The Committee on Vegetables awarded, for best Asparagus to Jno. Cook; For Cucumbers, to Thomas Meghran; best Rhubarb, to Thos. Robertson; and second best to A. Felten; for the best Radishes, to the same.

There were several new members elected, and some proposed.

FRUIT GROWERS' SOCIETY OF DELAW'RE.

At the meeting on the 21st of March, Dr. H. F. Askew was elected President the ensuing year; Samuel Canby, Vice President, and Dr. G. P. Norris, Secretary. A great number of new members were elected. A resolution of Ed. Tatnall, was adopted, inviting members of other Societies to aid in their Society; and the Fruit Growers' Society of Eastern Pennsylvania to hold one of their meetings there.

CHESTER COUNTY HORT. SOCIETY.

The next Semi-annual Exhibition will be held at West Chester, on the 15th and 16th of June.

M. Rosenthal del

1 Caladium Argyrites
2 Chantini
3 Sonorita Margaritacea
4 Anomassa Sativa Variegata
5 Caladium Bicolor Splendens.
6 Anactochilus Striatus

THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, Editor. JUNE, 1860. VOL. II.---NO. 6.

Hints for June.

FLOWER GARDEN.

June, the month of Roses, having arrived, the preparations of the past six months ought to be now bearing their harvest of enjoyment to the proprietor. And to return to the Rose—the queen, or the empress, or rather the most perfect; the true woman of all flowers—no care that can be bestowed on it will be a fair recompense for its matchless beauty and loveliness. The Summer or June Roses are not so much cultivated since the many fine kinds of perpetuals have come into existence; but these, in order to derive from them all the beauty they are capable of affording, must have a special treatment. As soon as the first flowers are fairly faded, they should be cut off several buds below the flower; from the shoots which will then be encouraged to push from the remaining buds a very free bloom will be received some weeks afterwards.

Every opportunity will, of course, be taken to keep down the weeds. As soon as they are barely visible, the ground should be hoed over lightly, and the surface afterwards broken fine and smoothed over with the back of small rake. This not only gives a neat and cared-for appearance to the flower-beds; but the free admission of air, which a thorough pulverization of the surface-soil effects, is one of the best means of keeping the soil from drying out, and thus avoiding the necessity of frequent waterings, which, though they cannot at times be avoided, have always attendant disadvantages. Should soil so finely raked appear to "bake,"—that is, form a crust on the surface—after heavy rains, all you have to do is to hoe and rake it over again. It will be any thing but labor lost on your flowers.

As soon as Tulips, Hyacinths, Lilies, and other bulbs have done flowering, and the leaves at their base finished growing, they are better taken up and put in flower-pots, mixed with dry sand, and set in a dry place till the season of planting in October again arrives.

FRUIT GARDEN.

Strawberry time has doubtless had the effect of stimulating the resolves of the owners, to have "some more of them" another year. Where this is decided on, take care to give the runners every chance to perfect themselves, by providing good rich soil for them to run into, and by thinning out the weaker ones, that they may not rob and impoverish the rest. When the Raspberry has done bearing, the old fruit-bearing canes should at once be cut out, and also many of the weak suckers, leaving only about six to each square foot to perfect themselves for bearing another season. The fall-bearing kinds are much aided by having the bearing shoots of the present season cut back severely about this time, say to within two feet. There are some who slyly hint that many of this class owe their sole reputation to this practice; but this is by no means certain.

The mildew on the Gooseberry will appear about this time. It is now a pretty well ascertained fact, that any thing that injures the tissues of the leaf, will be followed by an attack of mildew on the part so injured. The Gooseberry luxuriates naturally in mountain districts, and in a moist atmosphere, and as soon as our dry seasons commence, the leaves are injured and mildew appears. Any thing, therefore, that will favor moisture about the bush, will prevent mildew. Partial shade, salt hay, deep soil, and similar experiments may be tried.

Pears and Apples, especially those on dwarf stocks, ought not to be allowed to bear too freely; the irreparable injury, and often death, of the tree is frequently attributable to this mistake. So long as a tree appears to grow freely, no injury from overcropping is likely; but as soon as they seem to have no inclination to make wood, something is wrong, and it should not be permitted to bear much fruit.

Attention will now be required to the nice operation of summer pruning. Articles in our former numbers will explain the principles which can be applied to all kinds of fruit trees.

COLOR PHOTO

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2 Chantinii
3 Xanthosoma Marguerittaeum
4 Anamassa Sativa Variegata
5 Caladium Baxter Splendens
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INTENTIONAL SECOND EXPOSURE

VEGETABLE GARDEN.

In Northern latitudes, and even in many parts of the Middle States, the first week in June is the chief period chosen for the main crops of Corn, Beans, Squash, Melons, Cucumbers, Okra and other kinds of seeds that are liable to rot if sown before the ground has become quite warm. Most persons plant Corn in hills. This is an error in garden culture. It should be sown in drills, and at such distances as ultimately to be eighteen inches apart. In hills each plant robs the other. It is so employed in field culture for the convenience of hoe-harrowing by horse-power. Pumpkins and Squashes grow very well amongst Corn, neither crop seeming any the worse by the presence of the other,—probably each feeding on the different matter.

The Swede Turnip or Ruta Baga should be sown about the end of the month. A well-enriched piece of ground is essential, as by growing fast, they get ahead of the ravages of the fly. Manures abounding in the phosphates—bone-dust, for instance—are superior for the Turnip.

Cabbages and Broccoli of all kinds for fall use, are to be planted out this month, and the ranker the manure, the better they seem to grow.

Celery for early use is often planted out this month, though for winter use July or August will be early enough. It is best to set out in shallow trenches, for convenience in watering, the Celerybeing fond of hydropathic appliances. If the ground has been deeply subsoiled, and the subsoil well enriched, the trenches may be near a foot in depth, for convenience in blanching; but beware of planting down in poor, barren subsoil. Many plant in double rows. Where very superior Celery is not an object this will do, but the single-row system is the best for excellency. The season is now arriving when the advantages of subsoiled ground will be apparent. In such soil plants will grow freely though there be no rain for many weeks.

Sweet Potatoes must be watched, that the vines do not root in the ground as they run, which will weaken the main crop of roots. They should be gone over about once a month, and with a rake or pole, the vines disturbed somewhat from their position.

Endive is becoming very popular as a winter salad. Now is the time to sow. The Curled-leaved is the most desirable. Sow it like Lettuce.

Carrots and Beets for winter use may still be sown on rich, light soil, and often make roots much preferable for flavor and tenderness to those sown earlier in the season.

Herbs for winter use should be cut just about the time they are coming into flower. They should be put in an airy place, but in the shade, to dry, and be turned over every other day for a week, before being tied up in bundles and hung up in the store-room. Clean housekeepers put the dried herbs in muslin bags, which keeps dust, flies and spiders from injuring.

Onions, on showing signs of decaying foliage, should be drawn up and thoroughly dried before stowing away. The great secret of keeping Onions is to get them first thoroughly ripe, and then thoroughly dry, before putting away in the store-room.

HOT AND GREENHOUSE.

Oranges, Oleanders, and other large plants in pots or tubs, that are now commencing to grow, should be shifted into larger or fresh soil if they require it. This is generally known by the growth being weak, and the leaves small. Sometimes the plants are sickly through the soil having become sour, and the roots, in that case, are rotten. This is usually known by the leaves of the plant being yellow, and of a very sickly appearance. The best way is to take out and wash the roots, just before or as growth is commencing, and repot anew in fresh soil, employing the smallest pot or tub that the roots can be well got into. Cuttings of Geraniums or similar plants, required for flowering in houses next winter, should be put in at this season. Camellias and Azaleas, and other things that it is desirable to inarch, may be operated on as soon as the wood is firm enough; that is, as soon as it has progressed from the watery to the woody state.

Communications.

CLIVIA NOBILIS.

BY A. F., PITTSBURG, PA.

[Translated for the Gardener's Monthly.]

[CONTINUED FROM PAGE 145]

In order to modify the great difference between the native growth at the Cape, and the scientific care in our greenhouses, it is necessary to water the plants much less in winter, but at the same time maintain a suitable warmth and allow them all the light and sun possible, or else they will always have bad provision for flowering. An error is frequently made by many in supposing that these plants, in their resting state, need no care whatever, and can be stowed in any corner where they are just saved from complete destruction through cold or other injury, and only require attention when they begin to sprout. There is a great difference between keeping a plant alive, and bringing it to full growth; it is also one thing to mature a plant, and quite another to make it bloom luxuriantly. The greatest difficulty is to become familiar with the various circumstances by which a plant is surrounded in its native habitat, and afterwards to imitate these, or compensate for them in a suitable manner. Several bulbs, at particular seasons, shrivel both their roots and leaves; these varieties can, in this condition, be placed in a very dark place, provided it is dry, and at a proper temperature; but bulbous growths, which retain their roots as well as their leaves, need light, even during their time of rest, because here the life does not withdraw to the very innermost of all the faded vegetable structures, but by means of the circulation of the juice in the leaves the matter is altered and renovated by secretions. The consideration of these external conditions and of the internal plant life, furnishes the best guide in the artificial culture of foreign plants.

From such observations, we arrive at the following rules for cultivating the *Clivia nobilis*:—A temperature from 50° to 65° fahr., according to facilities, kept steadily at one point, because rapid vicissitudes do more harm than a lower temperature, if it be uniform. Water should be given in sufficient quantity to prevent the leaves from wilting. Towards spring, when the vegetation has advanced, according to the corresponding growth, water should be more freely given till fall, when the rest time begins, and the moisture is withheld. During the latter period, when the pots can be sunk in a hotbed it not only improves the plant generally, but particularly assists in the production of the flower; bottom heat is also of great service to the young off-shoots.

For room culture, a raised shelf in a window, exposed to the sun, is the best place during the time of activity, and the plants can remain there in winter, when they are protected from frost by double sash or other means, otherwise they should be placed on a flower-stand in the centre of the room, where they can enjoy some light. This plant requires a soil of rich mould mixed with sand, to which peat has been added, and, on account of the abundance of its roots, a large pot, with a deep layer of pot-sherds, for drainage.—*Deutches Magazin.*

The spirit of the above disquisition carries us to the bosom of a region where nature has been most lavish in her self-adornment, and where it has been shown in what endless variety a single genus can be produced, to enjoy for a time, in imagination, the beauty and perfection of these flowering gems, whilst its practical bearing shows, that by diligent and careful study of phenomena, we may, without attempting "to hold, as 'twere, the mirror up to nature," so imitate her ways as to enlarge our knowledge and brighten our firesides by the presence of plants unknown in our inhospitable climate. The philosophic tone of its teachings vividly recall a graphic and delightful picture of the tropical seasons, and the striking effect, both upon vegetable and animal life, produced by the genial rain upon the parched and thirsty ground, given by Humboldt, in his Views of Nature, to which we would respectfully refer any of our readers who have not already perused it.

TEA ROSE---GLOIRE DE DIJON.

BY PROF. PAGE, WASHINGTON, D. C.

The following particulars are worthy of note at this time concerning this matchless Rose. I have twice before alluded, in your journal, to a Dijon bush which made an aggregate growth last season of 75 feet. That bush is now, April 6th, pushing vigorously at the very summit of its long branches, many of the shoots being six inches long, and well filled with leaves, and is the most forward Rose bush on the place. The remarkable feature about it, is, that while the thousands of Tea, Noisette and Bourbon Roses on my grounds have been destroyed, to within two or three inches from the ground, this Rose bush should not have been injured in the least, belonging as it does to the tenderest class of roses. Imagine this monarch of roses a month hence, loaded with its huge globular and cupped flowers of incarnate and yellow, and salmon hues, each distilling a fragrance rivalling Devoniensis, and you have some conception of the value of Gloire de Dijon, hardly yet appreciated by our amateurs.

During the past twenty years, there has not been so much injury done to vegetation as in the winter just past, and nothing could more clearly establish this fact than the injuries done to the following hardy plants. The flower buds of the following trees and shrubs have all been killed, and the plants themselves much hurt:—Pawlonia Imperialis, Spiræa prunifolia, Pyrus japonica, Forsythia viridissima, nearly all the Peaches, Almonds and Apricots, and, what is very remarkable, the tree Pæonies are cut down to within three inches of the ground. All this mischief was done in January, when the thermometer fell to 10° below zero fahr., after a mild spell of weather. A Tea Rose that will so perfectly resist such a winter here, must certainly stand out unprotected very far North of this, especially if upon a wall. For the conservatory border, or for adorning the back wall of the conservatory or greenhouse, it is without a rival, as a four years' old bush will testify, which at this moment is loaded with a profusion of its cups of nectar.

TAYLOR'S BULLITT GRAPE.

BY W. R. PRINCE, FLUSHING, L. I., N. Y.

Agreeing, as I do, with Dr. Garber's fear of confusion in names, and with your ideas touching the authoritative nomenclature of fruits, I think your suggestion, that the name which heads this paragraph be adopted for the grape hitherto known as the Taylor or Bullitt, should receive public approval, and I shall assume it.

IMPROVING GRAPES AND OTHER FRUITS BY CROSSING.

BY WM. BRIGHT, LOGAN NURSERY, PHILAD'A.

The art of crossing Grapes and other fruits, has recently been so far perfected, that any desired cross or "hybrid" (as such seedlings are erroneously termed) may be obtained with the utmost degree of certainty; and we may now look forward with confidence to the production of seedlings, suited to vineyard culture in this country, which will rival the most famous grapes of Europe, and other seedling fruits surpassing in excellence any that we now possess.

During a recent visit to England, we found that the old practice of depending on chance seedlings was pretty generally abandoned,—and the method of Mr. T. A. Knight, explained now many years ago in the Horticultural Societies' transactions, but not much practised since his day by more modern fruit raisers, was in general favor, and with the best results.

As many in America have never heard of Mr. Knight's plan, we will give it before we conclude.

Before, however, proceeding to describe the process by which any two grapes or other fruits may be crossed, so as to produce with certainty a seedling having the best qualities of the two parents, we will state in what manner, and by what kind of crossings we think vineyard grapes may be obtained, suited to the climate of the United States.

The best native grapes yet discovered on this continent, it must be confessed, do not possess qualities fitted to make wine as perfect and delicious as that which has been produced in Europe. It is then to the foreign grapes that we must look for the higher qualities of delicate texture and exquisite flavor, which are wanting in the natives. Much might no doubt be accomplished towards improving our native grapes by high and careful culture; by strengthening the stock; and by selecting the best grapes and the best seeds from our best natives, and planting them for many years; but the task is a formidable one, and the result at best uncertain. No point sufficiently high could ever be reached by that process. Nor can we hope that a perfect wine grape will be produced by chance American seedlings, or even by the scientific crossing of natives with each other, for we cannot surely suppose that the native grapes, in their unions with each other, can produce qualities which the parents do not themselves possess.

By crossing the most hardy and perfect of the foreign grapes with the best natives, we may hope to obtain seedlings possessing the vigor of the natives united to the higher qualities of size, texture and flavor, which exists only in the foreign kinds. The *Black Hamburgh*, for instance, is nearly hardy out of doors in this country, as far north as New York, and has frequently been ripened in favorable situations, in gardens near that city. It is, all things considered, the best grape grown, in Europe or America. In the hothouse and cold grapery, the Black Hamburgh will endure more bad treatment than any other grape. It resists mildew, under severe extremes of moisture or dryness, with great power. It is a strong grower, a free setter; its bunches are large, its fruit is scarcely surpassed in qualities suited to all tastes, by any of the new kinds. From the Black Hamburgh, in a cross with our natives, we should expect to obtain rare qualities.

In our first attempts at crossing, we should not go back to the wild fox grapes for a native parent. The grape which we should take, in preference to all others, for a union with the Black Hamburgh, would be the *Diana*. This, we think, is the best of all our true natives grapes. It is an immensely strong grower; an uncommonly free bearer; by far the richest and most delicate in flavor: and is, to say the least, as little affected by mildew as any other, we think much less so. Its juice contains a large proportion of saccharine matter, and its entire flavor is peculiarly aromatic and wine-like.

We do not anticipate that the highest result would be attained by a single cross of a native with a foreign grape. Possibly a cross between the Black Hamburgh and the Diana might not be sufficiently hardy to stand out of doors successfully. We might have to go back again with the seedling to a cross with some more hardy native; or if the first named cross were hardy, the flavor might not be precisely that which we should desire, and a more perfect grape might be obtained by a cross with some other hardy foreigner, and this latter seedling, if not altogether hardy, might be strengthened by crossing with another native, and so on.

Another cross which we should advise, would be the Diana with the *Chasselas de Fontainbleau*. This is a white grape, quite as hardy as the Black Hamburgh, and nearly a month earlier. It has been ripened in this country in the open air. It is a free grower and immense bearer. The form of its bunches very much resembles that of the Diana. Its flavor is delicate and extremely delicious. We have no faith in any other Chasselas as a cross.

The *White or Grizzly Frontignan* would make another good parent with the Diana. This is a very hardy, free growing grape, with a fine muscat flavor.

We do not think that the Muscat grapes can ever be crossed with our natives so as to produce a hardy seedling. They are all too late and do not ripen their wood sufficiently to stand our winters. We must look to the Frontignan grapes for the muscat flavor. The Black Frontignan is more tender than the White or the Grizzly.

The *Zinfindal*, we think, would be a good grape to cross with the Diana. It is a jet black grape, comes early to maturity, produces a good crop, and resists mildew well. Its flavor, however, is second rate.

The true old *Dutch Sweetwater* is the earliest of all the foreign grapes. It is six weeks earlier than the Black Hamburgh, when standing side by side. It is a delicious grape, an immense bearer, and ripens its wood perfectly. Its union with the Diana would certainly, we think, produce a first rate early grape.

The *Muscat Muscadine* is another early grape, and a very free bearer. Its color is white, and its flavor resembles the Sweetwater. It does not readily mildew, and we think it would answer admirably for a cross with the Diana.

The *Trentham Black* is a very early new grape, said to be quite hardy out of doors in England, and seldom affected by mildew. We have seen a vine of this variety bearing twenty large bunches of well perfected grapes, in an eleven-inch pot. We should try this also with the Diana.

Those who have any favorite native grapes, suited to make wine, in any part of the United States, may try a cross of them with the best foreign grapes, as for instance the Herbemont and Scuppernong at the South; the Mustang grape in Texas; the Catawba in the West; the Concord at the North, &c. We think the Catawba, well grown, is next to the Diana in all its qualities as a wine or table grape.

The *process of Crossing*, by which a union may be effected between two grapes or other fruits, with positive certainty, we will now proceed to describe.

The flowers of grapes and most other fruits, with a few exceptions, (as the palm, and the osage orange,) are hermaphrodite, that is, they possess both male and female organs in the same flower. By this new method of crossing, the flower on one kind of grape is scientifically deprived of its male organs, and thus made of necessity (as we may say) the *mother*, or *female parent*; while the other, being permitted to retain its male organs, becomes the *father* of the new seedling. Our suggestion would be, in most attempts at crossing, to make foreign grapes the males, and natives the females.

The process is one requiring much care and skill, and not a great number of flowers could be operated upon at a time; but this would not be necessary, as a single bunch, properly impregnated, would produce upwards of two hundred seeds.

The vines to be crossed should all be kept in a cold vinery. It is not important that they should be grown in close proximity, but of course they should be brought into flower at the same time, in fact, as nearly as possible at the same moment. The best way to accomplish this, would be to grow both the natives and foreign grapes in large pots, as they could then be so placed, and so treated, as to hasten or retard the time of flowering, and thus more successfully attain the object.

Now, we will suppose that you have a Diana and a Black Hamburgh vine, both in flower at the same time. The Diana is first to be changed from the hermaphrodite condition to a female; that is, the male organs are to be removed from the flower. With a pair of fine-pointed grape-thinning scissors, carefully clip off the *stamens* (the male organs) and it will then no longer possess the power to impregnate itself, it will become essentially a female. In doing this be very careful not to injure the pistil of the Diana flower. This operation must be performed upon the flower the instant it is developed, so that you can see the stamens. In some kinds the anthers burst before the petals open, in which case the petals have to be carefully removed, which, when done carefully, will not injure the other essential organs of the flower. Now having a flower of the Black Hamburgh just perfected, you will take it off by the stem with a pair of tweezers, being careful not to shake it in the least, and dust the pistil of the Diana flower with the pollen of the Black Hamburgh, applying it very gently, just touching the pistil with the pollen, or fertilizing dust which lies on top of the anther. This being properly done, a cross is effected, scientifically and positively, and the seedling resulting from that union will exhibit the characteristics of the two parents, with a degree of certainty and exactness truly surprising.

While in England, last winter, we saw many extraordinary and highly gratifying results from this method of crossing, some of the most famous new grapes being obtained in this way. The Black Hamburgh being crossed with the Dutch Sweetwater, the Hamburgh being the female and the other the male, produced the splendid *Golden Hamburgh*; the union of the Black Hamburgh as male, with Muscat of Alexandria, brought forth the superb *Muscat Hamburgh*. The Trentham Black, the Marchioness of Hastings, the Bowood Muscat, Lady Down's Seedling, and that magnificent new grape, the Buckland Sweetwater, are all the results of crossing European grapes with each other, by this scientific method. Not more than one or two decidedly good seedling grapes had been produced in England for thirty years previous to this practice. No crosses have been made with native grapes in Great Britain, as they have no indigenous grapes, or at least none of any value.

What glorious results are these from careful scientific crossing! And with such success in the commencement of this new era in grape culture, what may we not expect in all the world hereafter! What high incentives to patient experiment are here offered to the amateur and the professional grape grower!

And how do paltry chance seedlings, picked up in American woods and gardens, sink into insignificance before the prospect, now opened, of true scientific progress in the production of seedling grapes!

The method of crossing above described, may be performed with all fruits as successfully as with the grape. At the Royal Gardens, at Frogmore, England. we saw a very valuable cross between the Morello Cherry and the May Duke. The fruit department at these Gardens is under the directions of Mr. JOHN POWELL, of whom it is not too much to say, that he is beyond comparison the best practical pomologist in the world. Mr. Powell has practised crossing, according to the specific rules we have here given, very extensively, and with the most gratifying success. The Morello Cherry, it is well known, has a tendency to form barren wood, instead of fruit spurs. The May Duke, on the contrary, has the habit of forming fruit spurs freely. The object of the cross above alluded to, was to impart to the Morello the habit of the May Duke, and this Mr. Powell most happily accomplished. Of three blossoms impregnated by hand, two of them furnished seed which produced trees bearing Morello fruit with the prolific habit of the May Duke,—the May Duke giving part of its delicious flavor, united to the keeping qualities of the Morello; a great improvement upon the latter.

Experiments with Pears have been equally successful. Among other instances we saw a cross between the Bergamot and Seekel, the result being a half Bergamot and half Seekel, in the habit of the tree, and. in the size, quality and flavor of the fruit.

The same thing may be done with Strawberries, Currants, Gooseberries, Apples, and all other fruits. Mr. Powell says he feels certain that by this method of crossing we have the nature of seedlings to be produced entirely under our control. Very interesting and useful experiments might be performed by crossing, for instance, the Bartlett and the Seckel pear. There is plenty of luxuriance of growth in the Bartlett, and great productiveness in the Seckel, with high flavor in both; they also ripen nearly at the same time. Such a cross as this, properly effected, could not fail to be a great acquisition. So of a cross between the Bartlett and the Lawrence—this last being a very vigorous tree, rather later than the Bartlett, and altogether a very excellent pear. Other combinations might be suggested by a little reflection, even more desirable than these.

The production of Seedlings, the world over, has heretofore been entirely the result of accident, the wind or the bees doing for us, by chance, what we had not intelligence enough to do for ourselves. But now that science and ingenious practice have shown us the art of performing this work, with precision and almost mathematical certainty, a great revolution cannot fail to be effected in our estimate, not only of our native and foreign grapes, but of all fruits now considered first rate; and we fancy but few years will elapse before our Pomological societies will be called upon to revise their entire lists of select fruits; and in this eager and progressive age, it may be somewhat difficult for them to keep pace with the march of improvement in this direction.

[Mr. Bright's article is suggestive of many important matters.

One of them teaches how important it is to continually bring good ideas before the public. Though Mr. J. Fiske Allen, of Salem, and Mr. Rogers, of Salem, Mass., and others in the United States and Canada, have raised valuable seedlings by this very process of hybridization or crossing, we are satisfied that Mr. Bright's detail of the practice, will be new to nine-tenths of our readers. Indeed in spite of the successes of the gentlemen referred to, some of our best pomologists believe that the grape cannot be crossed.

Another point suggested is, that a failure should not discourage further attempts. Mr. Knight, in one of the papers alluded to by our correspondent, states that he crossed the Morello Cherry with the May Duke, and was so very successful that the progeny were perfect mules, all bearing flowers, but never producing any cherries; and yet we have here the acknowledgment of Mr. Powell's succeeding with the very same varieties, in producing an useful result. We should be glad to hear from some who may have tried the northern hybrids, how they have so far succeeded with them.—ED.]

TOBACCO LEAVES AGAINST THE PEACH BORER.

BY N. L. WOOD, SMITHFIELD, OHIO.

For many years we used Tobacco leaves or stems from a cigar shop, with perfect success. Apply them about the 1st of June, in small quantities, close around the roots of the trees, at the surface of the earth. The insects will not approach while the tobacco is there.

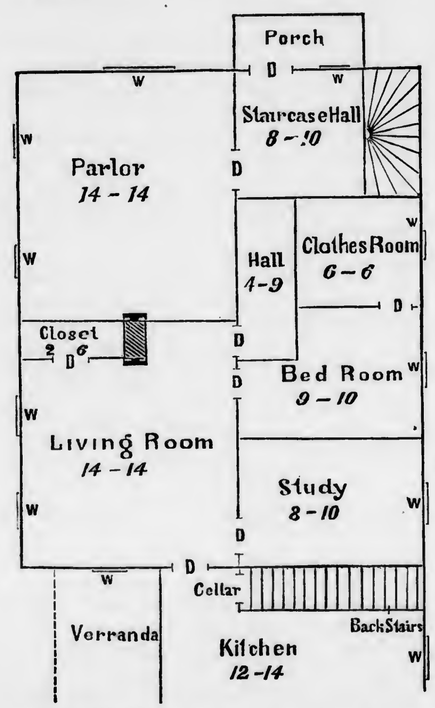
We have also tried, for a few years past, a mixture of Tar and Lard, (about 1 part tar to 3 parts lard,) with very satisfactory results.

[Several correspondents write of the benefits of Tobacco leaves, and we judge the hint is a valuable one for borers of all kinds. The quality of gas tar varies, and should be used with caution. That of Philadelphia, applied to the collar of trees, has no injurious effects, nor has the tar of some other places; but in others injury has resulted.—ED.]

PLAN OF A RURAL COTTAGE.

BY S. L. E., BROOKDALE FARM, MAINE.

The accompanying plan comprises as many conveniences and advantages as can be had in a cottage of moderate cost and medium size. It is designed for a farmhouse, where the lady wishes to preside over domestic matters, and has been especially planned for a family of culture and intellectual habits. The general plan is also well adapted for a gardener's cottage, or a tenant house.



The arrangement of the rooms in the main house, is well shown in the plan, which does not represent the whole of the L or wing devoted to the kitchen. This may extend to any desired length, and have as many rooms as the wants of the occupants require. In the kitchen is a pantry, an entry opening upon the verandah, washroom, &c. The wood-house is entered from the kitchen, from which the cellar and back chamber is also approached. The study may be used as an office, and may be arranged with cases for books, papers, specimens in natural history, minerals, dried plants, &c., according to circumstances. If necessary, the study may be converted into a bedroom, and a connection made between the two by means of a door.

The second floor comprises three good sized bedrooms with the usual closets. The second floor of the L part may be arranged into two or three suitable sleeping rooms for workmen, &c.

An elevation is not given, as it may be erected to suit the taste of the owner. The cost of building would of course vary much with the materials used, and the locality.

APPLES IDENTICAL.

BY J. VAN BUREN, CLARKSVILLE, GA.

Thomas Meehan, Dear Sir: I see by the April number of the *Gardener's Monthly* that T. Carter, of Raleigh, N. C., says, the Equinetely Apple is identical with Buckingham and Fall Queen. This is a mistake. Buckingham is a striped apple, while Equinetely is never striped, but evenly shaded with dark red. Equinetely is also far superior as a keeper and in flavor; to say it is identical with Fall Queen, is like saying such a man looks like John Smith; these Queens and Kings are about no names at all, or are made to fit a large variety of apples. I think it is also a mistake to say nurserymen have grown and fruited them side by side. They may have grown the trees but have not fruited them, for it is but 4 years since this variety was brought out, and we were the first nurserymen in the United States who cultivated it; we set a few grafts at that time in the limbs of large trees, which even have not fruited yet.

Four years since we got our dozen specimens of fruit from the only bearing trees known in N. C., and from which trees we have since that time propagated our stock.

Those whose trees produce fruit corresponding with Buckingham, have not got it true; and as the Equinetely is a very popular and estimable variety, it need not be wondered at, should spurious varieties be sold under that name.

Berry, Wall, Sumerour, Nickajack and Howard, are all identical.

Our apple crop promises to be a very abundant one should subsequent frost not injure it. Peaches pretty well thinned out by the late cold and frost (of the 27th March); the same in relation to Pears.

IMPROVEMENTS IN NORTHERN NEW JERSEY.

BY WALTER ELDER.

I paid a visit last month to Belvidere, the County-town of Warren, New Jersey, and was agreeably surprised to see the many fine improvements that have been made of late years there. The Brainard Seminary, and dwelling-house of the owner and principal, Rev. James Addison Whitticar, is one of the finest improvements. The buildings are of striking beauty, and the grounds are tastefully laid out. They are

lined on three sides with arborvitæ hedges, and many evergreen trees are grouped over them. The grounds are several acres in extent, and comprise a very high eminence, which not only overlooks the town, but commands a view of ten miles over the surrounding country, which is a beautiful and highly cultivated district. The Schooly's mountains appear from the place like a gentle rise in the landscape; and the Delaware looks like a silver belt stretched along the valley.

I called at the noted seat of J. M. Baul, Esq., in Belvidere, and was sorry to find that the great Fall Pippin appletree, so noted for its size, the branches of which nearly overspread a square of the kitchen-garden, has gone; and I looked upon the stump with sad feelings, having as you know lived here many years ago, and often sat under its grateful shade.

PRUNING FRUIT TREES.

BY NOVICE.

May not the use of the pruning-knife, on fruit trees, be mainly dispensed with?

I have a few reflections to offer on this subject, the result of some reading and observation, and not a little dearly bought experience.

Let us take for example, a yearling Pear tree, as usually sent out from the nurseries; it consists, for the most part, of one long straight cane, from 2½ to 5 feet in height, and a few small, rudimentary side shoots, sometimes mere buds, from a few inches up to 1 or 2 feet from the ground. Generally we find the strongest of these laterals on *two sides only*, the effect of too close planting in the nursery rows. We have now to commence the frame-work of the future tree, and, according to the "directions in the books," we must cut down the leader one half or two-thirds, and shorten in the laterals "according to their strength," to induce the weaker buds to push, or the dormant eyes to break, and thus form the base of a symmetrical, well-balanced head. But *every cut is a wound and every wound leaves its scar*, which may or may not heal over, but is quite likely to prove a source of future weakness, deformity or disease, especially if a *stump* be left, to decay and cause an unsightly scar. Thus, at the very outset, we commit an outrage upon the young plant, we do gross violence to its nature, and, unless we possess the skill of Barry or Debreuil, we shall soon not only *dwarf* but *deform* it altogether. The young tree expends its full energies an entire season, in producing and maturing 2 to 3 feet of leader, and a corresponding amount of lateral branches, (on two sides mainly,) which are remorselessly cut away, at the spring or autumn pruning, as entirely superfluous. The uppermost bud pushes out, the second year, nearly at right angles to the main stem; and then shoots up parallel to, but not in line with it; while the buds on the abscinded laterals start off at all sorts of angles, forming branches where, perhaps, they are not wanted, and which must be, in turn, reduced or removed at a subsequent pruning. After a second season's growth the leader is once more headed in, at a bud, (if such fortunately there be,) opposite the previous year's cut, so as to "bring the leader into line," and so of the laterals likewise. A continuance of this process will, in time, give us a main stem as crooked as a snake, and side branches fuller of elbows than a Chinese idol. We may, it is true, by the exercise of rare skill, obtain a tree of pyramidal or other desired *form*, but without a *single straight stem* or *branch* in its framework and whose *outline* has been obtained at the expense of *beauty of detail* and needless waste of energy on the part of the growing tree. I have, in my grounds, standard and dwarf trees of the Bartlett, Beurre Diel, and many other kinds, from the best nurseries in the country, and from 2 to 8 years old, which were all pruned "*secundum artem*," and are generally esteemed well-shaped trees, yet are so scarred and distorted, by the free use of the pruning-knife, as to enlist ones sympathy for the wanton surgery they have undergone.

Pruning is, at best, contrary to nature, and should be done, I think, at such times and in such manner, as to offer the least possible violence to the laws of vegetable life. I believe that by judicious, well timed pinching or summer stopping, by the removal of superflous buds, the occasional insertion of a bud to fill a vacancy, and by bringing into place, by means of stakes, any straggling branches; we may obtain (in connection with well-timed root-pruning of too luxuriant trees) the highest possible result, leaving the pruning-knife to be used, as the surgeon does his scalpel, only to repair the effects of *accident* or *neglect*, or to correct a *natural deformity*.

But, to be entirely effective, this treatment should commence in the nursery rows and with the tree from the bud, pinching off the leader and stronger laterals once or more during the early part of the growing season, when they will continue their growth in the same direction as before; the wounds will heal without scars, and the sap, thus checked in its upward flow, will be concentrated where it is required, for the development and full maturity of the lower branches and fruit spurs. No useless wood is grown, to be cut off at the annual pruning; but we obtain straight, handsome branches that are a pleasure to the eye.

There are many kinds of trees, as the Rostiezer, Marie Louise, Beurré Diel, and other pears, and several of the peaches, plums, &c., of such straggling, tortuous growth as to tax to the utmost ones skill in the use of the knife to bring them into shape. Handsomely formed trees of these varieties, obtained by

knife pruning, are rare. Might they not be more easily and certainly obtained by the method above suggested?

We all know how very impatient of the knife are all the stone fruits,—how its distorts the branches of the plum, makes "brooms" of the cherry, and causes them all to "gum." By the practice of *thumb* and *finger* pruning these evils may, in the main, be avoided, and the earliest possible fruitfulness attained, without any injury, but rather a benefit to the plant. Further, I firmly believe that trees thus treated at the outset, if grown with *sufficient space* in the nursery grounds and *lifted with moderate care*, may be safely transplanted without the inevitable amputations, &c., which we are always advised by writers on the subject, but may be safely left to the annual summer stopping above suggested.

Much remains to be said, which perhaps may serve for a future article. A desire to provoke inquiry and experiment during the coming season and to elicit the opinions and experience of those skilled in fruit culture has been the leading motive of this communication from a mere NOVICE.

[Though our correspondent modestly chooses "Novice" as his *nom de plume*, we may be pardoned for saying that we reckon few more successful horticulturists amongst our valued contributors than he, and we ask for his present communication the attention of all practical men. Like some other articles that have enriched our pages, it may by some be considered too radical. If even it should prove so on careful trial, we are well assured that, as in the other cases alluded to, very much good will grow out of it.

In "dropping into" our friends model establishment some months ago, we noted that he had conceived what to us was an original idea, that of having an open tank carried around his vinery filled with water, in order to furnish an abundant supply of atmospheric moisture. The vines then were models of health and beauty. We should be pleased to hear from him as to the result so far.—ED.]

INARCHING WILD GRAPES.

BY J. L. S., WASHINGTON, D. C.

Now that Grape culture is attracting so much attention, an article in your *Monthly* on layering the wild vines, and engrafting the choice new American grapes on wild vines, along the fences and woodsides, thus securing in a single season strong vines and a heavy crop next year, would be a good idea. A successful cultivator recommends the last of May for this section, when the vines will cease to bleed. This engrafting, budding and inarching may be continued during the summer and autumn. I have had splendid specimens of pears and other fruits from late summer and autumn grafting. Fruit-bearing shoots may be taken from feeble vines or trees, and put on strong ones, with a certainty of having fine specimens of fruit next season.

BUDDED ROSES.

BY BUD-HIST, MASS.

Mr. Editor: A sufferer from budded roses, and an ardent lover of this queen of flowers, begs his brother amateurs not to be influenced by Mr. Strong's strong recommendations of Roses budded on Manetti stocks, nor to have any thing to do with any budded roses. They are a treacherous and troublesome nuisance, and must be watched incessantly, stealing more of the amateur's time and care than they are fairly entitled to. They are the worst of suckers; and he who grows them, will be well *sucked in*. Have nothing to do with them, is my advice; turn away from them and pass on the other side.

For Roses, the safest by all means are those on their own roots; giving you far less anxiety and work and no disappointment. The budded ones may do for the professional gardener; but for amateurs they are not the thing.

[The above is from one of our most practical and reliable florists, and, as such, entitled to respect. There are, however, two sides to every question. Good roses—we may say first-rate roses—can be grown on their roots, and are not troublesome on account of suckers. It is the easiest way of growing roses, undoubtedly. The other side claim, that if there is more labor, there is also finer Roses, and hardier plants attending the budding system; and also, that the suckering only continues until the bud forms a head of its own, strong enough to draw up all the sap the roots supply—as in the case of a budded fruit-tree.

The question seems to us to amount to this. One party is satisfied to have good roses, with little labor; the other is willing to have more trouble and finer flowers. Each reader can choose for himself.—ED.]

HORTICULTURAL CONSERVATISM.

BY T. W. C., WESTERLY, R. I.

H., of New York, heads an article at page 101 of your excellent *Monthly*, with the above title. Although there are standing rules in gardening, every person is at liberty to experiment and deviate from these rules when he pleases; but it is difficult to unlearn a practice that is almost universally adopted and thought to be necessary, and so there is some excuse for our conservatism. Mr. H.'s remarks on "Gardening with us" is, perhaps, all right. His remarks on the tillage of "market gardens around London," may be as unquestionable; but when he refers to the "practice of crocking pots preparatory to the planting or shifting of soft-wooded plants," as

"nonsensical formula," I rather feel proud of the title of conservative.

I think good drainage always necessary for Fuchsias. Dahlias, Chrysanthemums, Verbenas and other "bedding-out" plants, may be of secondary importance; still every flower-pot should be more or less provided with drainage before inserting the plant. However small the pot may be, the hole in the bottom, should at the least be covered with a piece of "pot-sherd," or some equivalent. I know of nothing so good as broken charcoal. It is an absorber of the gases; a sweetener of the soil; and a store of sustenance, as well as a drainage to the plant. I earnestly recommend the use of it to all who have not abandoned the practice of crocking. One single load of charcoal will furnish a small piece for the bottom of a hundred thousand small pots; and one large pot could contain a thousand little pieces, to be dropped into the bottom of small pots when planting.

Crocking of small pots is necessary, not only as drainage, and for the circulation of air, but it also helps to keeps the roots of the plant within the pot. Many I know have seen the bad effects of non-crocking in "Florists establishments" where the small "bedding-out stuff" is placed in "pits," on earth shelves, to keep them moist and save watering. They may grow well, and look well when undisturbed, but when removed, the purchaser finds half the roots outside the bottom of the pot's, and before he reaches home the bright, healthy looking gem of the Greenhouse, has dwindled like a cut beet-leaf under the sun, and the roots must be stripped, or the pot broke before the plant can be inserted in the flower-bed. This causes a check on the plant, a check on the hopes of the purchaser, and cannot reasonably enhance the character of the establishment where such plants were purchased.

I do not include all Floral establishments as practising this method of shelving small pots on earth. Nor do I know whether your correspondent places his pots on clean shelves of wood, or upon what they rest; but I think there is a great chance of non-crocked pots having the hole in the bottom clogged up, or the earth will wash through it. I will acknowledge that indiscrimination is a great fault with a plant grower; and he that uses all plants alike is unfit for any thing but gathering onions. Hoping that the advocating of my opinions will give no offence, I remain yours, &c.

[In underdraining land, it was at one time thought necessary to keep the tile a short distance from each other, until it was found that the water percolated as well through the tile itself into the drain, and the crevices were abandoned as unnecessary. We understand H. to take somewhat similar ground.

We are not prepared ourselves to abandon the crocking of pots in the finer branches of culture, though we have abandoned it with things in small pots, without any apparent injury; but we are pleased to see the subject inquired into, believing that no horticultural topic is so time honored as not to be improved by an occasional ventilation.—Ed.]

SPERGULA PILIFERA AND SOME OTHER NEW PLANTS.

BY H. W. SARGENT, ESQ., WODENETHE, N. Y.

Believing some of your readers would feel interested to know the chances there are in this country of establishing this little Alpine plant, which is just now attracting so much attention in England, I am induced to give them the little experience I have had in it, promising a much fuller account of it another year.

I imported a quantity of the seed from Messrs. Henderson, of London, last Spring, and sowed it in a cold frame on the Northern side of a high wall. It came up very well and regularly, but in spite of its Northern exposure, with additional shading in the early part of the day, it generally seemed to disappear, and I saved very little of it. It was so excessively delicate and sensitive that our warm weather in June destroyed it. Subsequently, in the latter part of August and early in September, my gardener sowed it again; but this time in thumb pots, which were put close together in several frames, shaded from the noon sun, and protected from cool nights, until it came up thick as before, and filled the whole pot, when it was gradually hardened off; until, by the middle of October, the entire surface of some five hundred pots were covered with a thick green mat or sod.

About the beginning or middle of November, I planted out about fifty pots or sods in different situations, and exposures. Some of them, in a very low spot, where they were part of the winter under water, occasionally frozen entirely over. Sometimes, when the water subsided, the plants or sods, about two inches in diameter, were fully exposed above the water in a soft oozy mud, to the alternating influence of hot sun and chilly winds; and yet every sod preserved its character and color, and I am not conscious that a single plant, of the many composing each sod, has either perished or suffered.

This has proved to my mind quite satisfactorily that our winters will not kill it; for these plants were put out purposely under every disadvantage, so late in the autumn as to prevent any chance of the roots taking hold of the ground.

It now remains to be seen if it will prove equally satisfactory in our intense summer heat. I think it merits all that has been said of its beauty and color, in England; and if it will stand our summer as well as our winters, it will indeed be a great acquisition.

I have this spring planted about five hundred sods of it, 4 to 6 inches apart each way, and hope before long to see a piece of verdure heretofore unknown in this part of the country.

While upon this subject, your readers will likewise be glad to know that the three new and superb Berberis—Japonica, Bealii and intermedia—have resisted the severity of the past winter with the most complete success. As severe and bad as the winter has been, they are perfectly untouched, and have proved much hardier than the common Berberis Mahonia, which alters and always gets browned.

Abies Kæmpferii has also proved perfectly hardy, quite as much so apparently, as the common Larch, and I find it is about as far advanced as this tree. It has unfortunately become a Larix instead of an Abies; but during the Summer months it is none the worse for this. *Larix Griffithii* seems a pretty thing, and I have no doubt will prove quite as hardy.

I find I have the *Abies Williamsonii* figured in your March number; but under the name of *A. Mertensiana* (Californian Hemlock), my specimen is about 6 feet high and seems quite as hardy as a Hemlock, which, indeed, it resembles so closely as to be difficult to distinguish.

The new Arbor vitæs, *glauca Craigiana*, *gigantea* (the English gigantea), and *Meldensii*, have all stood this winter perfectly on the north of a wood. Meldensis, though hardly an arbor vitæ, is very interesting, from the charming purple color it assumes in winter.

Cupressus Lawsoniana, on the north of a wood, is perfectly untouched, and the greatest acquisition.

Wellingtonia is somewhat browned.

Of the older favorites, *Deodara robusta* and *Cryptomeria Lobbii* both stand well, when the older Deodar and Cryptomeria Japonica, have suffered a little; but even this last tree apparently does well enough unprotected; strange to say, it seems impatient of any covering, and quite willing and able to get through the winter without any protection.

The *Golden Yew* is a great acquisition to some of our hardy trees, perfectly untouched in our bitterest weather, when the common English suffers in wood and color.

Abies Douglassii, *Pinsapo*, *Cephalonica*, *pichta*, and especially *Nordmanniana*, are all valuable and hardy acquisitions to our Firs; while *Pinus Benthamiana*, *Beardsleyii*, *Jeffreyii*, *Lambertiana*, *Sabiniana*, *Nivea*, *Ponderosa*, *Laricio*, *Cembra*, &c., are great gains to lovers of this class.

The male Cephalotaxus seems perfectly hardy, while the female gets a little misused. *C. pedunculata* and *durpacca*, stand as well as the Irish Yew. The newer Yews *monstrosa* and *microphylla* are quite hardy.

The great acquisition, however, of this winter with me has been the three new Berberi, *Cupressus Lawsoniana*, *Abies pyramidalis* and some few others, above mentioned.

[Mr. Sargent's notes on *Spergula pilifera* are particularly valuable just now, when there is so much inquiry about it. Mr. S.'s motto seem to be "to try." Such men are real benefactors to the community. His next summer's experience will be anxiously looked for.

It is gratifying to learn that Mr. S. has the *Abies Williamsonii* growing, and so fine a specimen too. "Hardy, and with the habit of the Hemlock," will make a beautiful association with the fine cones we have figured We have not evidently called attention to the confusion with *A. Mertensiana* any too soon. Mr. Murray, of Edinburg, has probably had something to do with the confusion of names in our Coniferæ. His *Pinus Beardsleyi* will probably turn out to be but *P. ponderosa*. Our friends cannot be too careful of the names they get with their plants from abroad.—Ed.]

FATAL EFFECTS OF THE PAST WINTER.

BY PROF. C. G. PAGE, WASHINGTON, D. C.

My fears, expressed in February last, have been more than realized here, in the destruction of shrubbery and other plants. By way of record, I notice the following results:—All Tea, Noisette and Bourbon Roses, in the open ground were killed down to the snow level, which, at the time, was from three to four inches deep. Many Remontants and other Roses considered as entirely hardy, were also similarly injured. Spiræa Reevesii and Spiræa prunifolia lost all their bloom. Forsythia viridissima no bloom except from branches on the ground. Wiegelia rosea much injured. Euonymus generally killed, root and branch. Tree and dwarf box extensively injured. Chinese Arbor vitæ in many situations killed to the snow level. Tree Pæonies killed to the snow line; never before known here. Corchorus Japonica—Japan Rose—killed to the snow line; never before noticed here. Honeysuckles generally killed to the snow level. Wall-flowers generally killed. Flower buds of Pawlonia imperialis all killed. The worst we have to record is the entire destruction of the flower buds of the Peach, Nectarine, Almond and Apricot, except in a few instances on high ground; never before noticed here.

The above are examples under my own observation, and it would be interesting to hear from other parts of the country, in respect to the above *hardy* plants, and any others of note or common interest. On my grounds the grape vines Isabella, Catawba, Diana

and Rebecca, bearing vines, were not injured. These are the only varieties I have in bearing. Blackberries, Raspberries, Gooseberries, Currants, and Strawberries, not injured; and for our own consolation, the prospect of small fruits is unusually good, which is somewhat remarkable. Apples, Cherries, Plums and Dwarf Pears promise well, as usual.

HINTS ABOUT GRAFTING.

BY A. MATTISON, PADUCAH, KY.

In Mr. Comstock's application of wax in grafting, (see page 109,) I think his success is good. Such hints are of great benefit to the trade: lessening labor and leading to success. I formerly practised his method myself, but abandoned it as not the quickest or the best. By his mode, if the graft is not well fitted, it will sometimes get injured by the wax getting between it and the stock. I think it is better, in strong cleft root grafts, not to tie or wax at all. They will do just as well and better than if tied or waxed; slender root grafts always need some tie or binding. I think it of advantage, whether the graft be tied or not, to puddle them before planting, in a mud made of good soil and water. Every grafter knows that, in the old way of stock grafting in the nursery, no tie or any thing was needed; nothing but the soil drawn up about the graft, leaving one or two buds out. That was always done late, to avoid the lifting by the frost.

TRENCHING.

BY DR. J. K. E., DOWNINGTOWN, PA.

In the official, as well as your own, report of the proceedings of the Fruit Growers' Society, I am made to attribute the good effects of trenching to capillary attraction alone. With your permission, my views will be given more at large.

It will be seen that capillary attraction plays the least important part; indeed, it is questionable whether earth is ever too compact to prevent it.

The best way to make a point clear, is by illustration; therefore, let any one remove a solid foot of the most compact earth he can find,—so compact that if two gallons of water be poured slowly thereon it would not penetrate one inch, and requiring a pick or post-bar to accomplish. Replace said earth, compressing it with a heavy stamper, and it will occupy less space than before its removal. Now pour two gallons of water upon it, and it will be almost instantly absorbed. Before applying the water it could have been easily penetrated by a shovel or a spade, notwithstanding the earth occupied less space than before removal, consequently more compact or specifically heavier. The inference is, that trenching has effected a new arrangement of particles, which admits water freely, and consequently air; therefore superfluous water, during protracted wet weather, passes through freely; and during a long continued drought, the air, having free access, penetrates until it meets a cool surface, upon which its watery vapor is condensed. Hence trenched ground suffers less in either dry or wet weather, than if in its original condition.

How long does this new arrangement of particles continue? Does the earth, once removed, ever assume its original form?

The mooted point, whether the lowest stratum should go on top or remain below, must depend upon its character. Complete comminution is of the greatest importance.

REMARKS ON THE GENUS TRITOMA.

BY DANIEL BARKER, HARTFORD, CONN.

Among the many plants now cultivated in vases and ornamental pots for the decoration of the lawn and flower garden, the greenhouse, conservatory, &c., none are more useful than the "*Tritoma uvaria*," and its many beautiful varieties; and when more disseminated in this country, and their merits become fully appreciated, they must become universal favorites with every lover of fine showy plants.

Although easy to cultivate—so much so that any one may grow them, yet to have them in perfection requires some management and care bestowed upon them—I will now offer a few remarks upon our system of management, which may be acceptable to some of the readers of the *Gardener's Monthly*, particularly to those who, like myself, are admirers of this beautiful tribe of plants, (HEMEROCALLIDEÆ).

As specimen plants, *Tritomas* are, if well grown, deservedly admired; while, for the ornamental vase upon the lawn, &c., they are among the most handsome half-hardy plants *(none of them are hardy north of New York)* grown, and in this respect are entitled to precedence over many others.

Any time from the commencement of April to May, procure some of the best and strongest plants, and plant in vases or garden pots, not less than sixteen inches over, in a compost of well decomposed leaf mould and loam, using a little rough wash sand in combination with both; picking out all worms and insects that are to be found in it. Spread about one inch of small lumps of charcoal over the bottom to allow of free drainage, covering it over with a layer of about half-an-inch of well decomposed cow-dung. When planted, place them in a frame or greenhouse, where the heat ranges from 50° to 60°, supplying them rather liberally with water, being careful that they are never saturated. *Stagnant water at the roots will destroy them.* Admit air freely whenever circumstances permit, keeping the plants near the glass, in order to prevent their being drawn up weak, as well

as to keep them strong, vigorous and healthy.

By the first week in June they may be removed from the greenhouse or frame, and placed upon the lawn, where they should remain until fall, keeping them well supplied with water. When in flower they are removed to the greenhouse, conservatory or plant cabinet, where they form for many weeks objects of the greatest beauty and magnificence. Soon as the flowering season is over, withhold water gradually, and keep them partially dry during the winter months at the coolest part of the house, or where no greenhouse can be had, a light part of a cellar, away from frost *and the furnace* until the ensuing Spring, when they are repotted and treated as before.

TRITOMA UVARIA, or *Great Tritoma*, was introduced from the Cape of Good Hope into Europe in the year 1707. The flower scapes are about 2 to 2½ feet high, with flowers of an orange color, slightly tipped with green; flower from September to November.

TRITOMA MEDIA, *Lesser Tritoma.*—From the same country as the former, introduced into Europe in 1789. This is much more slender in growth than *uvaria*, and much more susceptible of cold. The flower-stems attain a height of from one to two feet, with scarlet orange colored flowers; time of flowering from December to April. For the decoration of the greenhouse in mid-winter, this variety is most valuable.

TRITOMA PUMILA, *Least Tritoma.*—A small but beautiful species, introduced from Africa to Europe during the year 1774. The flower-scapes seldom attain more than 18 inches in height, of a fine orange color; flowering from September to December.

TRITOMA UVARIA GLAUCESENS, *Glaucous Tritoma.*—This is without doubt the finest variety in cultivation, being the same which is so extensively planted in the Royal and and other gardens of Europe. The flower-scapes of this magnificent variety frequently attain a height of from 4 to 5 feet in height, the flowers upon which are densely clustered, of highly colored orange scarlet flowers, which remain in perfection from September to October. In part 5 of the "*Illustrated Bouquet*," is a finely executed colored plate of this charming plant.

TRITOMA BURCHELLII, *Mr. Burchell's Tritoma.*—*Said* to have been introduced by the gentleman whose name it bears. Be this as it may, it is much inferior to any of the varieties of *uvaria* which have come under our notice; the period of its flowering is from July to August.

TRITOMA ROOPERI.—This is described in the "*Illustrated Bouquet*," as a very fine summer-blooming species, being of very vigorous growth, with elongated scapes of bright colored flowers; peculiar from having the stamens enclosed within the tubes.

TRITOMA UVARIA SEROTINA.—One of the most beautiful of the entire group. The flowers are borne on scapes from 3 to 4 feet high, with long racemes of bright orange colored flowers; season of flowering from October till the end of November.

The above list contains all the best species and varieties of this beautiful genus, and when in full bloom, with their rich and varied tints of orange and scarlet, they cannot fail in affording a pure source of pleasure and enjoyment to the admirer of beautiful plants, upon which they cannot gaze without being thankful to that beneficent Being who has strewn our pathway of life with such gems.

> God might have made enough—enough
> For every want of ours—
> For luxury, medicine and toil—
> And yet have made no flowers."

GRAFTING TWINE.

BY R. W. HUNT, GALESBURG, ILL.

Mr. Editor: We notice in the April number of the *Monthly*, an article from A. W. Comstock, of Burlington, Iowa, in relation to grafting wax, in which he takes A. Mattison to task for his sayings in regard thereto, in an article in the February number, written by him, (Mr. Mattison); and as they both use the word fogy, we conclude it is not a copyright expression, and venture its use, and call both their methods old "fogy," as regards root-grafting.

Not willing to let it appear upon your records that the West—the Great West—is willing to stop there, and take it for granted that the method by them described, although a step in the advance, is the "*summum bonum*" in that direction; but believing our own process, as practised by us and several to whom we have communicated it, as a step still further towards perfection, and not wishing to keep secrets from our brother Nurserymen, we propose to present it in the following manner, hoping that some may be induced to try it, and others to furnish something still better. As to the cost, we have compared it with the warm wax process, and corn husk, waxed paper and cloth, and by actual experiment, find that $1 will furnish the material ready for use, sufficient for 100,000 root grafts, and the time in using bears no comparison. We herewith enclose a piece ready for use, which has lain about since this time last year, and will not therefore stick as well as if fresh. Take a skein of common cotton yarn or warp, wind into a ball, take 3 pounds rosin, 1¼ pounds lard, 1½ pounds beeswax, melt together in a kettle, and boil your ball of cotton until it sinks. After which, take it out, let it drain over the kettle till nearly cool and rewind. When it is ready for use, wind as loose as you can the second time; and use as follows:—take the graft by the root in the right hand, take the string in the left hand, place the end on the lower end of the

lap of the graft, place the forefinger of the right hand upon the end of the string; point the string towards the bottom end of the root, crossing the string at the first turn, then continue rolling the root, and wind the string three or four times around, leaving it at the top of the root, and with the thumb nail of the left hand, snap the string off close. The wax will hold the string to its place without tying, and, although you may pack your grafts in either dirt or sawdust, it will not rot off until after your grafts have been set in the ground. As the season advances it will gradually give way, and does not interfere with the growth of the graft. I believe this will be new to all who did not read it in the *Prairie Farmer*, in an article written by me, and hope it may prove as advantageous to others of the *Monthly* as it has to us.

[The specimen sent was very satisfactory. Where tying is necessary, nothing could be better. Is the beeswax of any service? Rosin and lard boiled together we think is quite sufficient.—Ed.]

BURNING FLUID A REMEDY FOR MEALY BUG.

BY A. MARSHALL, WEST CHESTER, PA.

Some two months ago I discovered that a Lemon tree in my Grapehouse, was somewhat affected with the *Mealy Bug*. I thought of Dr. Uhler and the aloes. I procured the drug, and made a strong solution; applied no other water to the roots for a week or ten days, but without the slightest effect. I then went to work and cleaned them off by hand, in the usual way.

A few days ago I discovered that my old acquaintance had reproduced a young army on the same tree. I thought of the alcohol, but not having any at hand, I concluded to try some burning-fluid, (which is a mixture of alcohol and spirits of turpentine). This I applied with a camel's hair pencil to the little cottony nests, and it changed the color immediately. This remedy was effectual wherever applied. While hunting the nests in crotches in various parts of the tree, I discovered that several of my mealy friends seemed to have very urgent business from home, travelling over the branches with great rapidity. A touch of the pencil, with a drop of fluid, changed the color and annihilated them at once. Did the odor of the turpentine stimulate this disposition to locomotion, with a view of getting beyond its influence?

[Some years ago we tried Spirits of Turpentine diluted with water, to remove mealy bug from a collection of Cacti, and with excellent results.

By the occasional use of warm water, we have entirely eradicated the mealy bug from our collection; and it is now so long since we have seen one that we almost forget what they look like. We prefer hot water to turpentine or any thing.—Ed.]

NATIONAL BOTANIC GARDEN AND CONSERVATORY, WASHINGTON, D. C.

BY K. R. D.

Having recently paid a hurried visit to this establishment, and supposing that a brief description of it may not be uninteresting to your readers, I hand you a few notes or memoranda in regard to it, regretting that my other engagements did not admit of a more careful examination.

In the erection of the two new wings of the Patent office it was found necessary to remove the conservatory from the rear of that institution to the extensive grounds at the foot of the hill, on which stands the Capitol. The grounds are neatly enclosed, and are now being planted with a great variety of hardy trees and shrubs, mostly indigenous, and many of them contributed by government expeditions. Among them, the excellent and polite superintendent, Wm. R. Smith, pointed out to me an evergreen small tree or shrub, received a few years since from the Rocky Mountains, viz.: the *Cercocarpus ledifolius*, or Feather Bush of Nuttall. It has been found to be perfectly hardy here, having stood uninjured several remarkably severe winters. I enclose you a small twig, which will give you an idea of its appearance. The leaves are lanceolate, about one and a quarter inches long and about three-eighths of an inch wide, smooth and of a dark rich green on the upper surface, and beneath softly villous, with brownish hairs. In its general appearance it somewhat resembles the olive tree. The flowers are small and white, produced at the extremities of the twigs, and closely resembles feathers, whence its name. Mr. Smith thinks this will prove to be a valuable acquisition to our small stock of hardy evergreen shrubs.

Through the centre of the grounds extends a broad avenue, of specimen trees, planted in pairs, which in time will be a very interesting feature.

After taking a hasty look at the grounds, I entered the plant houses, which at present consists of an octagonal conservatory 45 by 55 feet, and a double-pitch house adjoining, 72 by 32 feet; also a range of brick propagating pits, and two large lean-to buildings, one of them devoted to the culture of grape vines.

I enclose a ground plan of the principal houses; those in black lines having been already erected, while those in dotted lines are to be erected hereafter.

The houses are of an ornamental character, in the Gothic style, but at the same time well adapted to the growth of plants. They were designed by Mr. Renwick, the architect of the Smithsonian Institute. The first house you enter is the octagonal house, in the centre of which is a group of very large specimen plants, among which I noticed the *Zamia horrida* or Caffer Bread-tree; *Araucaria Braziliensis* and *excelsa*; *Phœnix dactylifera* or Date Palm, &c. The latter, I was informed, had been grown in the garden of a gentleman in Georgia, with but slight protection; and that it will be tested the coming winter without any protection at all. They require ten years in their native country to arrive at maturity, after which they go on fruiting for thousands of years, bearing from one to three hundred weight. The plant is diœcious or unisexual, requiring a male and female plant to be planted together to ensure fruitfulness.

My time and space will allow me to notice but few of the many interesting plants with which these houses are crowded; suffice it to say, that here can be found many plants not to be found in the most recherché collections; particularly Plants of Commerce.

Passing from the octagonal into the rectangular house, which is kept considerably warmer, I found a large variety of tropical plants, orchids, palms, bananas, ferns, pitcher plants, &c. Of the latter, two noble specimens of the *Nepenthes distillatoria*, male and female, covered some hundreds of square feet of wall. Mr. Smith informs me that the female plant matures a large quantity of seed every year, from which he raises many plants. I afterwards saw in the propagating department, several pans of seedlings, with their miniature pitchers, of a size to suit Queen Mab, already developed. I cannot forbear also to notice two splendid specimens of those very curious and beautiful parasitical or epiphytal ferns, the *Platycerium grande*; they were each at least eighteen inches in diameter, growing on large pieces of two inch ash plank. The palms and bananas in this house have already reached the glass, and the process of beheading will soon have to be resorted to. Mr. Smith is praying for an appropriation for his new Palm House, and I hope he will get it this session. He certainly deserves one. In passing by the plant called *Dieffenbachia seguina picta*, a kind of poisonous cane, the juice of which is used by the savages to poison their arrows, and which is also said to possess the singular property of depriving one of the power of speaking if any of the juice is imbibed, Mr. Smith told some of the M. C's., jocularly, that, unless they shortened their speeches, he would have to administer a dose to them all around; a proceeding which would, doubtless, meet with the hearty approval of all their constituents.

The propagating pits, some six or eight in number, are built of brick, side by side, and double-pitch roof. They are all heated by one saddle boiler, and are convenient and well-adapted to the purpose for which they were intended. I was gratified in passing through the houses, to meet an old veteran florist and botanist from your city, Mr. Bissett, whose long experience and correct judgment, is no doubt of great service here. I must not omit to notice, with hearty commendation, the fact that all the plants, in doors as well as out, are distinctly marked with their botanical as well as common names. The plants in the houses were generally in excellent health and free from scale, mealy bug, &c., a fact which Mr. Smith partly attributes to the coke from the gas works, with which the whole floor of the houses, under the tubs, boxes, pots and paths, is covered; this hint is at least worthy of experiment.

I regret exceedingly that my time will not allow me to give you a more full and satisfactory description of this interesting collection; suffice it to say, that Mr. Smith has accomplished wonders with the small amount doled out so reluctantly to him by our matter of fact Congress. When will the time arrive that we shall see a Kew grow out of these small beginnings?

After visiting this establishment, I had intended looking in at the houses where the Tea plants sent home by Mr. Fortune, are kept; but on inquiry found they were under the care of the Agricultural Department of the Patent Office, and as it was some distance off, and as I am not at all sanguine as to the success of the undertaking, I did not see them.

I then went through the conservatory attached to the President's house. It is immediately adjoining the house and communicates with it. It consists of a noble double-pitch house, about 150 by 35 feet, filled mostly with with hard-wooded greenhouse plants, Camellias, Azaleas, Oranges, Lemons, Acacias, &c., among which were many fine specimens. At one side of this is a hothouse, with a tank in the centre.

Both these houses contain many very valuable specimens; but, I regret to say, that at the time of my visit, they were in wretched order. I do not know the name even of the gardener, but candor compels me to say that the condition of these houses was either a disgrace to him, or to the nation, in not pro-

viding him with sufficient help to keep them in order. Dirt and disorder, decayed leaves, under potted half starved plants, met your view at every turn. Some *shrubby* plants had been, for want of pruning, allowed to grow as trailers; and the aquarium was filled with dirty, green, stagnant water, in the midst of which floated two leaves of an unhappy aquatic, which you would have to be informed was the peerless *Victoria*.

I also called in a few minutes to see the houses of W. W. Corcoran, Esq. They are quite ornamental, being curvilinear lean-to houses, the centre part being a hemisphere and filled with fine large specimen plants. One wing is used as a forcing vinery and orchard house, in which a fine crop of grapes and peaches were maturing. The peaches were in 12 inch pots, and the successful manner in which the crop had been matured at this early season, and in a house much shaded by vines, reflects much credit on the gardener, Mr. Spence.

I regretted much that I had not time to visit some of the commercial establishments, for which Washington has been celebrated. Please excuse these rambling notes as I have not the time to read them over.

DELAWARE GRAPE.

BY A NEW YORK FRUIT GROWER.

There seems to be diverse opinions entertained in various sections in relation to the origin and adaptation of the *Delaware* to the garden and vineyard. Some persons claim that it is of indigenous origin, and others, with equal pertinacity, declare it to be an *exotic*. Now, in my humble opinion, all this amounts to but little. All the fruit-grower wants to know about it is, is it hardy, a good grower and productive, and not subject to mildew? In some quarters it seems to afford good satisfaction, and in others it seems to be a failure. With me it mildews badly, and I greatly fear it will never prove profitable to grow for market purposes, as the vines are extremely hard to rear and get in a bearing condition.

Wm. R. Prince, it appears, has spared no expense or trouble to learn its history, and is unequivocally of the opinion that it is a foreign grape, and has every specific attribute of the *vitis vinifera*, and posesses none whatever indicative of indigenous origin.

There are some localities where some varieties of foreign grapes thrive and produce good fruit for many years, and that too without any extra care, other than careful persons give to native grapes; but in such cases I never knew of any large collection of vines; only a few specimens, and they were always planted in some sheltered place, and protected in winter.

The oldest bearing Delaware vine in the County of Columbia, was winter-killed last winter, (1858-9,) which would seem to indicate that it is not over and above hardy. It certainly is a grape of very great excellence, and in every section where it will thrive, it should be planted in the *garden* if *nowhere else*.

JAPAN PLUM.

BY W. R. PRINCE, FLUSHING, L. I., N. Y.

This is *Eriobotrya japonica*, formerly named *Mespilus japonica*, and also bears the name of *Loquat*. Your editorial suggestion is therefore correct.

WATERING TRANSPLANTED TREES.

BY E. FRYER, DAYTON, OHIO.

Some of our most intelligent Horticultural writers recommend "not to water trees after transplanting." I think the practice without qualification is untenable on scientific grounds.

Leibig says "water evaporates from the surface of the leaves of plants, and the quantity evaporated is in direct proportion to the extent of the surface." Now, if water is *continually* evaporating, why not water an evergreen after transplanting, where the natural supply is for a time cut off by that process?

A deciduous tree, when transplanted, generally has no leaves; but in this case, it must be remembered that, the juices of the plant are evaporated throughout the whole extent of the surface of the bark, and this drying process is considerably increased by the dry North-western winds which commonly prevail during our Spring planting time, rendering the practice of artificial watering even more necessary here than in most of the countries of Europe.

There is of course a right and a wrong way of applying water. Experience has shown that water poured round a tree, whether in small or large quantities, is a positive injury; if the surface is not pointed (broken or pulverized,) it becomes baked so that no water whatever can reach the roots except by capillary attraction; and, in dry weather the surface cracks, leaving great fissures, which reach to the roots, retarding growth and causing premature decay, and sometimes the death of the plant; while, on the other hand, if a sufficient quantity of water is applied, a thorough soaking of the soil, as far as the roots extend, immediately after planting, and the watered surface mulched, or in default of mulching, pointed where the soil is in proper condition to do so; the plant needs no more, nature afterwards furnishing all that is necessary.

In dry situations, or during the prevalence of a long continued drought, it is sometimes necessary to water choice evergreens that are even long established in the soil. With these the best way is to break the surface with a hoe, and pour on sufficient water to wet the soil thoroughly; and when this has soaked through, to cover the surface so watered with dry earth, leaves, grass or any thing that is nearest to hand, this will be found sufficient for several weeks of continued dry weather.

[We are always pleased to receive Mr. Fryer's communications. Short, pithy and to the point, they at the same time bear the imprint of a well balanced mind, on whose judgment one can rely. The present article will be of much service to amateurs at this season.—Ed.]

NOTES FROM THE SOUTH.

BY THOMAS AFFLECK, WASHINGTON, MISS.

Southern Nurseries, Adams Co., Miss., April 4th, 1860.

Thomas Meehan, Dear Sir: Almost ever since the receipt of the first number of your excellent and spicy *Monthly*, I promised myself, and partly promised you, to give you some notes on that vexed question, the *Cultivation of the Pear, in its dwarfed form on Quince*. But circumstances of one kind or another have hitherto prevented; chiefly, however, the gradual removal of such a concern as mine to the new State of Texas; but partly, too, the fact that it would be impossible to avoid the frequent use of *I, me* and *mine!* To be avoided when practicable. And yet, how else is individual experience to be given? Who cares to read an anonymous article, when compared to a similar, or perhaps less valuable communication over the true signature of the writer?

Well. It is now some eighteen years since I *began to begin* once more, and for the fourth time in these United States, to establish orchards of fruits; enough, at least, for experiment and home use.

This, as you are aware, is one of the oldest settled portions of the Southwest, West or South. First, as occupiers of the land after the native Indians—the Natchez Indians—then the French, after them the Spaniards, and lastly by the English or Americans.

The Natchez Indians, who, too, were interlopers, evidently cultivated fruits around their villages; as native Crab Apples, of extraordinary size, the most delicious varieties of that excellent fruit, the Chickasaw Plum, &c., are found there to this day.

The French left behind them, it is believed, sundry varieties of Apples and of Pears; some of the latter still existing, thrifty and productive, I am well assured, at several points of the lowlands of Louisiana—the Mississippi *coast*, as it is termed—worked upon the native swamp white or Hawthorn. The only fruit I have seen, stated to be from those trees, was quite inferior.

The Spaniards left behind them, too, sundry Apples and Grapes; of the latter, the so-called Jaques (Longworth's Cigar-box), is the only one of any value which was, probably, derived from that source. The *Celeste* Fig, too, we owe, most probably to the Spaniards—the most delicious, hardy and productive of all its tribe; and which I have been unable to identify with any one of some 60 and odd sorts I have grown here. But, alas! the terrible freeze of last November, has killed almost to the ground, trees with stems eighteen inches or more in diameter! I bewail one such tree, which alone, has supplied my family bountifully with its exquisite fruit, for many years!

Many of the early American settlers introduced fruit trees of many kinds; chiefly seedlings or suckers, from favorite trees in the gardens or neighborhoods they left. Peaches were grown to a vast extent, at an early day; so as to support large distilleries, engaged in the manufacture of that favorite drink, "Old Peach!" Much of the fruit was, no doubt, fine; and crops were much surer than at the present day.

A desire for something better, arising from the perusal of books on the subject, led to the importation from the North and from Europe, of varied and noted varieties of fruits. Nurserymen from the North and West bought large stocks of trees here, and sold them freely. But few of these original trees did any good; making no growth, but gradually dwindled and died. Some few succeeded, and are still thrifty and productive; but these form the exception. Even the Peach—though some of the imported trees, of choice varieties, producing fruit, satisfied their growers that something infinitely superior to their otherwise productive seedlings did actually exist—began to fail; partly because those imported trees were becoming widely planted and largely relied upon; but also from the fact that the *Ægeria* and the *Yellows* had been introduced. The former is still a great pest; of the latter I have not seen a case in some ten years.

When I first settled here, I could learn of but two nurseries, and these small ones, any where South of Tennessee,—those of Hatch, and of Lambert of Vicksburg. Several gentlemen around Natchez and this village were successful growers of fruit; and those were most so *who grew their own trees*. Noting this fact, I commenced the propagation of my own young stock, intended altogether for amateur experiments; importing largely of the best varieties, from Europe and the North. About the same time, the late Dr. Jenkins of Elgin, a neighbor and friend, began a series of similar experiments, in which we aided each other no little. I soon found that, *to grow to any extent*, and especially Apples and Pears, we must *propagate and grow, from the root up*, our own trees.

When I first asserted this fact, in print, "all hands and the cook" were *down* upon me! But now "all hands and the cook" are fully satisfied that it is indeed a *fixed fact*. And, that it is a fact, and a certain and sure result of planting trees which have made what growth they have, in a climate so altogether different,

a good many thousands of blind purchasers of trees, this past season, from Northern Tree Pedlars and agents of Northern nurseries, will learn to their cost. I doubt if less than a million of dollars was carried off from these Southern States by these pedlars and agents this Spring. But, so be it. As to the result, time will tell.

I have no time to go over the various published statements, made of late years, on this head. You have, no doubt seen them.

But—*a nos chagrin !* I soon found that at the then low prices of our chief staple, cotton, it would not pay me to carry on my experiments in fruit-growing, without turning them to some profit. And having been successful far beyond my expectations, I commenced the business as a nurseryman. A more troublesome and thankless one, I never engaged in. Yet the love of plants is one that, to me, is irresistable. And though abandoning the business here, after this coming winter, will continue it in Texas.

Now, then, we have reached the subject of this present writing:—Dwarfed Pears. I well remember seeing some fine, thrifty trees of Pear on Quince, during my boyhood, in the Old Country. Had, also, seen some good specimens North. Had read all that had then been written on the subject. And, finding it extremely difficult to secure good seedlings as stocks, and being determinedly opposed to the use of those abominations, *suckers*, I got in a goodly lot of cuttings of the common Apple-quince, and used them as stocks, until I procured the *Angers*. And, by the way, though there are some sorts that do no good upon the former, that thrive well upon the latter variety, there are still others which succeed to perfection on the Apple-quince. I have four trees of *Bartlett*, now some twelve or fourteen years old, which have borne full crops of magnificent fruit each year of the last ten; and they were worked on apple-quince. I however, greatly prefer the Angers to any other.

Let me premise that I have been limited, here, to forty acres of originally poor, and washed hill lands. There were, embraced in this, some three or four acres of bottoms, originally of the richest soil possible. These, by deep trenching—turning down the clay which had washed over the original soil—and by underdraining; and the hills by trench-plowing and manuring, have all been made suitable for the growth of young stock. But, I had very little to spare, suitable for fruit-bearing trees.

One small slope, dipping to the South perhaps one foot in five, covered with a close crop of that most invaluable of hay and pasture grasses, but most terrible of pests in crops of any kind—*Bermuda Grass*, as we wrongly call it, (the Doob-grass of the Hindoos; the *Cynodon dactylon* of Botanists). I trenched two spades deep, loosening up the bottom of each trench with the grubbing-hoe and fork; and there, the following season—the Bermuda grass being thus conquered—I planted a small orchard of some 300 Dwarfed Pear trees, of as many sorts. The ground is divided into five beds; the six-feet walks between the beds, being carefully laid off as *guard drains*, with a fall of one inch in ten feet, and emptying into a large pond; and the rows of trees being planted as nearly on a level as possible. For, be it known, that our soil, here, melts like brown sugar! And this melting and washing away have to be guarded against by every possible precaution.

About a hatful of broken bones were used in planting each tree; no other manure. But on the two upper beds, and the ends of all but the lowest, being somewhat poor, a good barrowful of rich, fresh, black soil, from a hill-side, the growth of which was originally *Magnolia grandiflora* and *Liriodendron*, was given to each tree there planted. I find, too, that the trees in the upper row of each bed, and especially in the bend of the walks, where some deposit is made, are by far the most vigorous and handsome; but not always the most productive.

The whole of the stock was covered about an inch; two would have been better upon sloping ground.

A good many sorts have died; and of these, unfortunately, correct notes were not always kept. The trees were planted during the winter of 1851-2, being then of two years' growth from the bud. Some few have been replanted since then. They were placed about twelve feet apart each way. Have had but very indifferent attention in the way of training and pruning; and now need the knife very much indeed. Little or no manure has been applied, except once to the two upper beds, which produced such an exuberance of growth, as to lead me to root-prune the trees in these two beds, two winters ago; and last year they bore and ripened a heavy crop; and this year have already *set* an enormous one. Once a year the ground was dug, and the Strawberry plants, which occupy the ground, replanted. The trees are nearly all branched very low; in many cases sweeping the ground. These trees, with few exceptions, grow and bear best. In almost every instance, the diameter of the Quince stock is nearly double that of the Pear at the surface of the ground. In some few cases, the soil having washed from around the tree, and could not well be replaced, the tree was let down a few inches, by digging around and forming a good sized ball, but cutting all the larger roots. The result was always an increased productiveness. I have filled up several vacant spaces, with large bearing trees from other parts of the grounds; with no injurious results whatever to the trees transplanted. Once or twice during the summer, the ground is hoed over. So prodigiously heavy is the crop now set upon these trees, with rare exceptions, that it is my intention, so soon as it can be done, to mulch with a good coat of stable manure, that has been exposed to the weather all winter. If I had the *Guano*, they should first have a good *soak* or two of a weakish solution of that valuable manure. In either case, care must be used not to induce a too rank growth, else the fruit would certainly, in a great degree be shed off.

A great majority of these trees have borne fruit annually since the second year they were planted. Some have ripened enormous crops. During the last five seasons, I have, unfortunately, not been here from about April to May, until September or October; my family, too, being generally with me in Texas. And, although I gave express orders that certain notes should be kept, and especially descriptive of the fruits grown on the premises, I have never yet succeeded in having any thing done in that way, that was at all reliable or satisfactory. And now I leave again in a few days, to be absent until November. So that my notes upon the varieties will relate chiefly to their growth, comparative productiveness, state of forwardness, in leafing out and in blooming at this date, &c. They range, generally, from seven to fourteen feet in height, with a spread of branches from six to twelve feet, and stems from two and a half to seven or eight inches at the ground. Although I have lost quite a number of *Pears on pear*, from a sort of blight, of the nature of which I am not sufficiently well-satisfied, even now, to speak knowingly; of *Pears on quince* I have lost very few indeed, and these I ascribe chiefly to a too free use of heating manures. And you will find, in these notes, that many sorts which Northern writers condemn on quince, or commend very faintly, do admirably well here.

You may note this, however, relative to the quality of fruit produced, that we have here *the* region of Pear growing *par excellence*. Such specimens of individual varieties I have never seen produced elsewhere. Our excellent friend, Marshall P. Wilder, will recollect, I presume, specimens of *Seckel* which I handed him during the Fair of the National Society, at Louisville, two years ago, which measured from eight to eight and a half inches around! And I have had them still larger; and from dwarfed trees on quince. Although the finest specimens of Seckel I have ever had, were from grafts inserted in large, bearing Apple-trees, and which continued enormously productive for ten years or more, when they needed regrafting. We have had, here, specimens of *d'Angouleme*, *Winter Nelis*, *Beau present d'Artois*, *Bartlett*, *White Doyenne*, etc., etc., which would stagger your belief, were I to give you their dimensions.

The business of Pear growing, along the banks of the Mississippi, for markets, both North and South, is yet to be a vast one. And those will find it most profitable *who plant dwarfed trees*—my neighbor Hebron's opinion to the contrary, notwithstanding! On the hills, where the preparation of the soil can only be done, and indifferently well done, with the plow, I should prefer the bulk of my trees on healthy, sound *pear seedlings*. Under no circumstances could I trust to trees worked on *suckers*. And these trees must either be grown in the South, or *maiden* trees, (those of one year,) planted, and *cut to the ground*, that they may here make a new growth.

And in planting orchards of dwarfed Pears, I should prefer the rows to run North and South, twelve feet apart, and trees seven to ten feet in the row, as to habit of growth. They will then shade each other, and the soil in which they grow, during a longer period of each day; whilst both sides of the row would get its share of light and warmth; and the trees being so trained and pruned as to form vast hedges, as it were, would be much less apt to lose their fruit from our frequent severe gales. Those of more spreading growth would require more space in the row than the upright growing sorts. And some such as *Bartlett*, *Gansell's Bergamot*, *Glout Morceau*, *Duchesse de Mars*, etc., I would plant in rows, with only nine feet between the rows and seven between the trees.

Just imagine extensive orchards of such trees, in a perfectly healthy condition, growing in soil which required no manuring or trenching, and nothing more than mere surface tillage with perhaps, a light mulching! Under, or other *thorough-drainage* might be needed, however.

As my next will contain the promised notes, I will close with the remark, that the past has been the most terribly destructive Winter on Southern gardens and nurseries ever experienced. Every thing at all killable was destroyed. And this because the weather just before the first killing frost, had been real-spring-like, and every thing was growing vigorously. It has been a severe blow to Southern Nurseries. But one that most of us are resolved, if Providence permit, to overcome.

I have said nothing of my experience in Texas, as tolerably full notes on that head were given in my *Southern Rural Almanac* for the current year, of which by the bye, of the number for 1861, there are already ordered 70,000 copies!

[Mr. Affleck is so well known, not only as one of the most active and energetic of our horticultural pioneers; but also one on whose discrimination and judgment thousands have learned to rely; that it seems like painting the lily, or gilding the rose, to call particular attention to this article. But, coming as it does from such a remote corner of our Union, and one to which so many of our readers are looking with interest, we cannot help saying that we regard it as of particular value.—Ed.

The Gardener's Monthly.

PHILADELPHIA, JUNE 1, 1860.

☞ All Communications for the Editor should be addressed, "Thomas Meehan, Germantown, Philadelphia," and Business Letters directed to "The Publisher of the Gardener's Monthly Box 406 Philadelphia."

NOTICE TO CORRESPONDENTS.

In consequence of the heavy increase in the circulation of the *Monthly*, and the consequent necessity of going to press earlier in order to issue the Magazine punctually to all our subscribers by the 1st of each month, it is desirable that communications requiring immediate attention, should reach the Editor before the 10th of each month.

WATERING WITH COLD WATER.

There has been no lack of suggestions for improvements in Hothouse building. The smallest plant cabinet may now be fashioned on truly scientific principles. But there are a few points connected with the subject that have not had the attention they merit. On one of these we now propose to say a few words.

We would have the water employed in Horticulture, always of the same temperature as the soil about the plants to be watered, and we would have arrangements made in every house for insuring this desirable end.

We are aware that some amongst the savans distinguished in horticulture, care little for an uniformity of temperature, and yet boast of their success,—and we also know that a few even advocate a high temperature during the day, and a low degree during the night, and point to the luxuriance of vegetation in a state of nature, where

> "——— the leaves of the trees
> Are rocked to rest by the cool night breeze,"

as the greatest authority we can follow in such matters.

All this may be very well. We have no sympathy with those philosophers who demand that the thoughts and practices of their brethren shall be either stretched out to the length, or shortened to the narrow dimensions of their Procustean bed,—and neither have we any ambition to stand with the scales of Nemesis, weighing out and balancing right to this one practitioner, and wrong to the other. That there are some excellent growers, who can successfully hurry along their plants during the bright hours of sunshine, and when night comes "shut off the steam" of growth, until

> "The Sun shall again kiss the dew from the Rose,"

we know is a fact. This may be owing to other causes, and in spite of the treatment. Whether or not, we will not be so critical as to inquire.

But our own affections wander away after that idea which tempts its captives to a moderate degree of uniformity in temperature, and, as a necessary consequence, to take care that the water employed is of the same temperature as that of the house. We have seen so many good deeds flow from this idea, that we cannot help loving it, and have observed so much evil spring from its opposite, that we have a dread of entering any plant house where it holds the power.

Hydropathy may be all very well as a curer of animal disorders; but cold water has been the death of thousands of plants,—and of cuttings especially, the number annually destroyed by it is astounding.

We get up a hotbed or a propagating pit, and so carefully arrange it that we can insure a regular bottom heat of 80° or 90°, and, as the cutting pots dry, we get water from the well or hydrant at 55° or 60°, or even less, use it over the cuttings, and they die. Then we scold the pit, blow up the house, heap anathemas on the sand, cry out about the fungus, have a great deal to say about the drainage, and make a great deal of complaint about every thing generally; but the right thing, the cold water, or rather the sudden change of temperature brought about by it, whoever thinks of it?

Some few there are, certainly, who can look on Mr. Kidd's now famous system of setting out Verbena cuttings into a tea saucer of sand, made into "slush" by water, and set in the full light, and learn by its great success, that it is not in the sand, or the drainage, or the mere degree of temperature, that we have to look for the secret; but in the one regular degree of humidity and temperature that is maintained. In fact, there is scarcely any thing of which cuttings cannot be struck in mere water, if one regular degree of heat and moisture is only sustained.

And it is the same with plant growth. We have entered the houses of florists to whom it was very important to have flowers for early Spring marketing, grow tolerably well through the winter; and have heard them complain that "for some reason or other their plants did not seem to grow at all, though they maintained a temperature of 55° or 60°. The reason has usually been apparent; that water often dipped out from under an ice barrel has been employed for watering, and the temperature of the soil in the pots has rarely been much above freezing point. This is particularly the case with those who use cold water in houses that have no side lights. In houses that have these additions, the early morning sun assists in raising the temperature of the soil so cooled by the water.

It is not usual with us to draw much consolation from "nature," because we know how liable this extremely patient and forbearing character is to be abused and misinterpreted. But the present season

is a remarkable instance of the want of warm water in the soil. We have had here one of the most open and mild Springs on record. Since February there has been, with a few exceptions, scarcely a cold day. On the contrary, the majority have been what, for the season, we would call "warm;" and yet vegetation is scarcely more advanced now (May 2d,) than we sometimes see it at the same date in April; and the ground is so cold, that though "corn-planting" time is nearly come, the nursery hands complain of cold fingers, while bedding-in young stocks and seedlings. All this arises from the absence of warm rain, in which this season, though otherwise so open, has been singularly deficient; and without which warming of the soil, vegetation cannot grow.

But we value practical experience, in the benefits of keeping up an uniform degree of high temperature in the soil, by using water of the same temperature as the house, far more than any analogical illustration borrowed from nature. And knowing well the advantages of the practice we recommend, we would advise all getting up hot or greenhouses, to make as good provision for heating the water to be used in them, as for heating the air of the structures. This will often be expensive; but it will be money well-spent. And indeed, it may be a question whether warm water to keep up a temperature, is not, after all, as cheap as fuel to raise a temperature which cold water has depressed.

To those of our lady friends who have but a few plants to attend to, the matter will be easily accomplished by adding warm water to that which they use for their pets; raising it thus to the required temperature. But on a larger scale, it will require more thought and planning before hand.

THE LAWN.

If we carefully analyze the distinctions between a beautiful natural scene, and a well-kept garden, the most striking point of difference is in the lawn.

The rarest flowers,—the choicest fruits,—the nicest arrangement of all things on the most scientific principles, are lost to us, if they are not crowned by a perfect lawn. To the lawn we bow; and as a subject of horticulture, offer to the lawn our strongest allegiance.

Hundreds of dollars are spent on fruits and trees, and flowers,—and hundreds more spent on carefully preparing the ground for and planting them. The grounds are then seeded down, and when the season comes for mowing, and for the enjoyment of that most enjoyable of all horticultural pleasures, a good lawn, the owner hates "to lose his hay crop!"

Occasionally, however the lover of hay gets a glimpse of such beautiful tracts of lawn as Mr. Sargent's beautiful seat on the Hudson, or that of Capt. H. Ingersoll, and others near this city, are famed for; and the hay fever subsides into a healthy desire to have something like the same for themselves.

To aid such of our friends in their virtuous resolutions, we propose to tell how to go about accomplishing their purpose.

And first the ground should be taken in hand, while dry, say about September, and subsoiled by a strong horse or ox team as deep as it can be done,—not less than two feet. Long straw litter or rubbish should be turned under into each furrow, as deep as it can be got; not so much with the view of manuring the ground, as of retaining as much moisture as possible beneath the surface in a dry time. This is one of the secrets of having a lawn to look green and fresh in Summer; the deep soil and vegetable matter incorporated therein, entices the roots down, where they can always find a supply of the liquid element.

In the world-renowned lawns of England this deep tillage is not so essential. Its moist climate keeps up the color; our deep soil does the same thing. It is not necessary to manure much on the surface. We would sooner sow on a poor soil, and sow thick. Coarse manure is the very thing for coarse weeds, and rough unsightly grasses, which are thereby encouraged to overgrow and crowd out the finer kinds.

As soon as the fall rains are likely to set in regularly, sow the seed,—and with it a little Rye. This will grow stronger than the grasses, and by shading the ground a little in Winter, prevent the throwing out by freezing and thawing, of the delicate grass plants.

If the ground for the lawn be not extensive, we would not sow rye; but rather cover with a thin coat of clean straw through the first winter.

After sowing, of course, the whole must be rolled smooth with a heavy roller.

Much of the success now depends on the first season's management.

First it must be gone over with the scythe as soon as it will lay hold of the grass; and, secondly, it must be carefully hand-weeded throughout the season. A Cabbage-bed will not require more watchful care in this respect than will the lawn. If weeds are once suffered to gain a foothold, all hopes of a good lawn are over; while on the other hand, if perseverance in rooting out the weeds, is maintained for one season, the triumph is complete, and a trifling watchfulness in the same line next season, will render it secure. Every succeeding Spring a day or two should be spent in watching the weed's progress, and acting accordingly; but very little action will be necessary after the first year.

As to the kind of grass, it is very immaterial. We do not like mixtures. It is preferable to have a lawn of one uniform color and growth, and this can only be secured by having but one kind. Rye grass (*Lo-*

lium); Blue grass (*Agrostis*); and Green grass (*Poa*), all furnish excellent varieties well adapted to lawn purposes. It is wise to watch the natural grasses of the locality, and what seems to thrive well, that kind employ.

The *Spergula pilifera*, to which we first called attention, and described it fully in our last volume, is now attracting much notice. Mr. Sargent's communication, in another column, shows satisfactorily its winter character, and if it should prove as able to stand our hot suns, as it has the winter, it must be valuable. A Committee of the Pennsylvania Horticultural Society recently reported against it, as unfit for our hot Summers; but we cannot learn that any of the members ever had any experience in it. To try as far as we could this winter, we put a plant in a two inch pot, and set it on a hot sunny shelf in a stove, and kept it barely dry enough to support life; but it has kept beautifully green and healthy and we have made from it the annexed cut:

Besides this, there are native plants very closely allied,—*Anychia dichotoma*, and *Sagina procumbens*,—the last so much like the plant in question, that we have difficulty in seeing the difference,—that may be seen any Summer's day thriving on dry barren rocks, about Philadelphia, and doubtless, many other places.

From these facts we have great hopes that this new lawn grass will be of very great value; this, however, the coming season will test; and then, if successful, we may not have to recommend, as we now must, to mow often.

PLANTS WITH ORNAMENTAL FOLIAGE.

(*See Frontispiece.*)

The horticultural and floricultural, like the political world, must have its hobbies, and at present the former seems to ride on *grapes*, and the floricultural, or rather, (to coin a word for the occasion,) the folii cultural community on leaf plants. We have recently imported from London a set of the very beautiful illustrated work, edited by E. I. Lowe, Esq., published in numbers, entitled "Beautiful Leaved Plants." We have made a selection of six varieties, that have already been introduced into this country, and can doubtless be obtained from our leading florists.

The illustrations, although done by the chromolithographic process, may be relied on for their correctness. We annex a few descriptive notes, taken from the work above alluded to, of the plants figured.

Caladium bicolor splendens.—A stove herbaceous plant; leaves 9 inches long, 7 inches broad, with centre of each leaf of a glossy metallic lustre, between scarlet and crimson, the margin being dark green. Flowers white. Increased by division or suckers, or by small side bulbs, or tubers. The roots should be ripened off late in the fall, and lie dormant through the Winter; and in March should have the old soil shaken from them, and pot in compost of peat, turfy loam and well decomposed cow dung, with some sharp sand. Some persons place the pots in flats of water when in active growth.

Caladium Chantini.—Leaves 14 inches long, 10 wide; deep crimson in centre, shading off to pale green towards the margin, and covered with a profusion of irregular shaped white spots. Stems of leaves dark purple, striped with crimson. Culture and propagation nearly the same as the first named variety. If on repotting the roots in Spring, any decayed spots are observed, pare them out with a sharp knife, and dust the wound with powdered chalk. In repotting barely cover the crown of the root. Powdered charcoal sprinkled over the top of the pot is said to brighten the brilliancy of the colors.

Caladium argyrites.—This is a small variety; generally not more than 9 to 12 inches in height. The ground of the leaves is a deep green, shaded into a lighter color irregularly. Spotted with white. Culture and propagation nearly the same as the preceding varieties.

Sonerilla Margaritacea.—A charming little half-shrubby, low growing plant, with small leaves of the exact size of the illustration, beautifully dotted all over the upper surface with pure white spots. Flowers of a pleasing rose color. Propagation by cuttings in the Spring; the cuttings should be small, not more than three or four leaves. Plant in pure sand and plunge in bottom heat. Shade well, and when rooted pot off, and cover with a bell glass for a month. It does best in a moist atmosphere, and it should not be allowed to bloom much, as it is apt to weaken and sometimes to destroy the plant. In Winter it should be sparingly watered and fully exposed to the sun's rays; but in Summer should be partly shaded.

Anæctochilus striatus.—Leaves oblong-linear, dark bronzy green, slightly veined and having broad distinct stripes of ochreous yellow extending along the centre of each leaf. The leaves are of the exact size of the illustration. Culture same as for the rest of the genus, viz.: soil a mixture of fibrous peat, and sphagnum moss chopped small, and freely mixed with silver sand, having a few small pieces of charcoal added. It should be grown under a bell glass. Propagated by suckers and by pegging down a plant, and when it has thrown out roots, cutting off at the joint below.

Ananassa sativa variegata.—A variegated variety of the Pine Apple. Culture the same as that plant. Soil—fibry loam, two parts; well decomposed dung, half a part; decayed leaves, one part, with a small quantity of peat, which is thought to improve the variegation. Propagation from suckers, and from the crown of the fruit, which should be twisted out and planted like a sucker.

IMPROVEMENTS IN WATERING-POTS.

In few things are there more need of improvement than in Watering-pots. Of the legion of forms offered for sale in most of our tin shops, the majority are only fit for the laundry, as clothes sprinklers. Most nurserymen have to get a few made expressly for their own use; but tools made to order are always expensive, and for all seldom exactly what we want.

The following cut we find in one of our English exchanges:

Fig 1

The advantages claimed for this is, that the peculiar handle renders it less fatiguing to handle than the ordinary form.

The rose—as the water spreader at the end of the spout is termed—appears to be fixed. This we do not like in a watering-pot. The rose should always be moveable, so that when matter gets in, choking the holes, it can be readily taken off, and the obstruction removed. Besides, it is often necessary to use the pot without the rose, and any contrivance that would admit of the rose being attached temporarily to the body of the watering-pot, instead of being kept in the operator's left hand, or thrown aside, where it is found only by a sacrifice of valuable time, would be a very decided improvement.

The tubes of the roses often split at the joints, by being often fitted on in using. This we have prevented by having a small piece of tin soldered around the base, as in Fig. 2.

Fig 2

Usually roses are made too convex on the surface; frequently representing half a globe. They should be very nearly flat; the smallest possible elevation is sufficient.

POST-OFFICE IRREGULARITIES.

Our contemporary *The Horticulturist*, notices the frequent complaints of subscribers not receiving their papers punctually, and sometimes not at all. We have been on the point of calling attention to the same thing, for some time past.

Publishers of periodicals are subjected to very heavy losses from this cause; and so great has the evil become, that a publisher is compelled to print at least ten per cent. more copies than is necessary to supply a given number of subscribers.

In addition to this loss he has the annoyance of receiving and answering a number of angry letters and the consequent expense of the postage on them. We have invariably, when a complaint is made, mailed the missing copies; but frequently *they* fail, also, to reach their destination. We sometimes suspect the growing taste for horticulture has reached even some of our Post-office clerks. No one scarcely ever hears of a *letter* being lost by the post and we do not understand why it should be otherwise with printed matter.

SHADING PLANTS IN SUMMER.

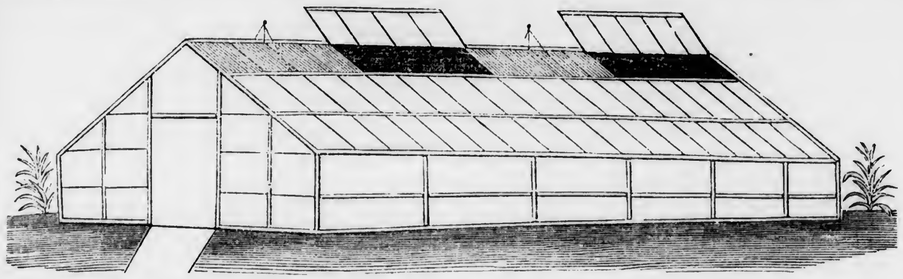
Every gardener knows the tribulations the month of May brings with it, in the necessity of finding places that cannot be found, where plants may be shaded in Summer, and yet have light and air sufficient to keep them in sufficient health. Old trees, fences, the North side of buildings, and other places more useful than elegant, are pressed into service; and yet the annual mortality is great, and with some kinds of plants, new Holland species, for instance, the losses are so heavy from heavy rains and exposure, that in many instances their cultivation is abandoned as hopeless.

Several of our correspondents have suggested canvass shades; and we would again impress on our plant growing readers, their importance. They may be made moveable, and so arranged as to pack away into a small compass during winter, when not wanted.

In a recent number of that excellent English periodical, the *Cottage Gardener*, is a sketch of a neat contrivance used by Mr. Standish, the eminent nurseryman.

It encloses a piece of ground 90 feet by 60 feet, with Larch poles standing 7 feet out of the ground, and about 10 feet apart. On these were nailed laths 19 inches from each other, and tiffany was pulled tight and tacked on the laths, a piece of common list being first put on where the tacks went, in order that the tiffany might not tear away, nor be cut by the heads of the tacks. The lower half of the sides (3½ feet) was tacked down in the same manner as the roof. The upper half was covered with a stouter kind, and tacked on to wooden rollers, so that this

part could be rolled up or let down. The whole place underneath was laid out in beds, and was certainly a most agreeable promenade, even when outside the north-east wind blew as if it intended to ruin all the barbers in creation.



Tiffany is muslin, prepared by a secret and patent process, and we believe has not yet been brought into use on this side of the Atlantic. One good recipe for glazing muslin is given at p. 56 of our last volume

Questions and Answers.

Watering with Cold Water—*W. D. F., North Attleboro*—will we think find all her enquiries replied to in an editorial article in another column.

Jones' Sun Flower.—In answer to the inquiry in relation to culture and hardiness of the *Green Centered Helianthus*, I would say, it will flower well as far North as Maine, but will not ripen seed well further North than New York City. The culture is the same as the ordinary Sun Flower, but needs more of it. Respectfully yours, N. R. Simmons,
Chatham 4 Corners, N. Y.

Silk Worms.—A few eggs—less than 100—are wanted at the Farmer's High School. Will some friend of that institution, who has fresh stock, not hatches, send a few by mail, addressed to Professor J. S. Whitman, Farmer's High School P. O., Pa. The favor will be duly acknowledged.

Peaches in New York.—A correspondent from Watkins, New York, says that there has been a failure but twice in twelve years in the Peach crop of that place.

Hop Tree—*T. M. F., Dallas, Ill.*—What is the difference betwen the *Hop Tree* and the *Hornbeam*, a common forest tree, growing nearly all over the West? Are they not one and the same thing?

[The Hop Tree is the *Ptelea trifoliata*. The Hornbeam is *Carpinus Americanus*. Hop Hornbeam is the *Ostrya Virginica*. All very different trees, but often confounded through a similarity of common names.]

Lady Pea—*J. J. F., Henderson, Ky.*—Your seeds belong to *Soja hispida*, popularly known as the Japan Pea, and which is becoming popular as a dried pulse for Winter use.

Cheap Labels—*From E. W. Denison, Boston, Mass.*—The best and cheapest we have seen. Mr. D. lays all plant growers under obligation for his great improvements; an obligation we are sure he will find them active in repaying, in a way satisfactory to him. Specimens at our office.

Grapes—*J. L. S.*—Chorlton's, J. F. Allen's and Bright's are the three principal works on the Grape for this country. They all three possess their own peculiar points of interest. The best Catalogue of Grapes we have seen is that of W. R. Prince, of Flushing. It contains descriptions, we believe, of all the kinds ever heard of. It is a most valuable list.

Fruits, &c., in Southern Illinois—Dr. Charles Kennicott gives us, in a private note, a glowing account of fruit prospects and horticulture generally in Southern Illinois. It has come out of the late severe winter comparatively scatheless, and promises to become *the* garden of the Union.

Cow Pea, Roses, &c.—Will you inform me where the "Southern Cow Pea" can be obtained, price per bushel, &c. (1)

Will the following Roses grow from cuttings:—Persian Yellow, Giant of Battles, Madam Plantier. (2)

Can you give a convenient and infallible remedy for the large brown Squash bug, so destructive to Squash vines in all stages of growth. This bug is the *Coreus tristis* of entomologists, and is very common in the West, as all lovers of good squashes will testify? (3)

[1. Do not know it by this name.

2. All Roses strike from cuttings.

3. Mr. S. Miller, at the Fruit Grower's meeting, spoke of having effectually stopped the ravages of the bug by watering with hot-water. Tobacco stems might afterwards keep them away.

Propagating House—*Maple Leaf, Hamilton, C. W.*—What am I to do with a Propagating House to make it profitable during the Summer months?

Can any thing be done with the present year's growth, with a chance of maturing sufficiently to stand out next winter?

What is the usual course pursued with such constructions during the hot weather, and how is the glass shaded?

Could a reliable person, with a knowledge of the business, be secured in your locality?

[We do not clearly understand the questions. Some men under some circumstances, could do something with a propagating house in summer to make it pay; but unless we knew the man and the circumstances, and so on, we could not tell. Some men would make it pay to grow grapes in such a house in summer, and hundreds would fail. We are afraid our answers will not be very satisfactory, and are sorry that we cannot better advise you.]

Gas Lime—*J. A. G., Muscatine, Iowa.*—All the experiments we ever saw, resulted in more injury than otherwise. If any of our friends know any way to use gas lime beneficially, we should be obliged by the account.

Management and Selection of Greenhouse Plants—*T. M. H., Lancaster, Ohio.*—Will you be kind enough to give me a few instructions in regard to furnishing a Greenhouse. I am about building one of the following dimensions:—60 feet, by 22 feet in the clear. I have a little experience in the culture of Greenhouse plants, but not enough to undertake it again without some advice. My Roses did not bloom until a few weeks since; and all the other plants ran up to long slender stocks, and furnished no bloom at all; the Camellia buds all dropped off with the exception of one, which bloomed a short time since.

I want more particularly winter blooming plants, and would be obliged if you would furnish me with a list of such plants, as you may think advisable; and also the names of a few of the best varieties of Roses?

Perhaps some of your numerous correspondents can give me some idea of what is needed. A few practicable instructions in the culture of Greenhouse plants furnished by them would, perhaps, be of benefit to a large number of persons situated as I am.

I read your valuable *Monthly* with much pleasure, and find it a great advantage in a great many ways. I would not do without it, indeed, I could not get along without it.

[This requires an answer at greater length than this column allows.

Some of our valued contributors will probably furnish an article or two on the subject, which we should be happy to receive.]

A String of Queries—*M. B. C., New Castle, Delware.*—Mr. Meehan: Thank you for the article on Summer Pruning, drawn out by a lady correspondent. Your *Monthly* is very welcome to us, who, living in the country, are often puzzled to know how to make our flowers bloom, and have no florist at hand; our nearest is six miles from us. He repots the plants in the Summer, and cuts down all the Fuchsias,—which have been very flourishing, but until now have not bloomed; they are now full of buds.

How shall I treat them to have an earlier bloom next year? (1)

Should Azaleas be repotted now? Should the pots be sunk in the borders next month? (2)

Should Camellias be put in the ground in their pots—trimmed? You seem to take so cordial an interest in enlightening ones ignorance, that I feel free to trouble you. My Camellias I kept in a glazed porch, thermometer 40° to 60°, no fire heat except a few cold nights, and the air from the flue in the hall. Water always in the room, and they regularly watered. Still they dropped their buds. Your *Monthly* caused me to think the waterings had not been thorough enough. Now some branches look sickly, and some are growing finely. Shall I trim off the sick branches? (3)

In what way can we cause flowers to bloom in winter? (4)

Will heading in do it? (5)

Should all blossoms, in Summer, be pinched off? (6)

I expect these questions will amuse you, as showing my ignorance; but, dear sir, your efforts to enlighten my ignorance may be useful to others not better informed.

One more question. Is there any reason why heating a room by burning gas in a stove should injure plants? (7)

In spite of my ignorance, my flowers are a great pleasure to me; and I am able, by the gift of a simple Geranium, Ageratum or Alyssum, to gratify many of the young people, and to induce a love of flowers in their hearts, which will grow with their years, and make their homes pleasant and beautiful.

Can you tell me where plants of our native Gentian can be purchased, and whether the *Amaryllis venusta* has been introduced here. I have two flowershoots of four blossoms each, on a plant of *Amaryllis Johnsonii*, which was potted March 8th, and placed in

a saucer of water on the top of our heater in the cellar, until it sprouted. My Achimenes rooted beautifully, heated in the same way.

There is yet one question more. What treatment should Begonia Fuchsoides have to make it flower well in the winter? (9)

I hope, dear sir, I have not wearied you by my numerous questions, You seem to have an innate love of flowers, and to desire to stimulate the same in others; this will, I hope, cause you to forgive this intrusion upon your time, etc. (10)

[1. To have an early bloom of Fuchsias next year, train your plants as already directed in the chapter on Summer Pruning, this year; and next Spring merely shorten in the points of the past season's growth. They flower earlier from old wood, than when they have to make an entirely new growth.

2. The best time to pot Azaleas is just before or at the time they commence to make a new growth,—in Greenhouse culture about March.

3. Camellias should be set out during Summer, in an airy place; but where the sun will not get at them. The pots may be plunged in the earth; it will obviate the necessity of frequent waterings; but the pots should be taken up, and replunged two or three times during the season to prevent too strong a root growth through the hole in the bottom of the pot. A "shining light" in the profession says, that if the rim of the pot is entirely buried under the soil, the roots will not go through the hole at the bottom, but ascend over the rim instead; but not yet having tried this ourselves, we do not offer to be sponsors for the fact.

Camellias must be watered when dry, and yet frequent applications of water will injure. The effort should be to prevent the soil drying as much as possible, by placing water in pans near the plants, and in any other way making the atmosphere as moist as possible. Sprinkling the plants with water daily is a good plan, and twice daily if the room is very dry. Cut away all sickly shoots.

4. Camellias can only be made to bloom early by forcing the growth early the season previous.

5 and 6. As applied to flowers in general, cannot be answered in a general way. Different species require different treatment.

7. There will be no injury, if no gas is suffered to escape. But the *if* is very unreliable in a gas stove.

8. Mr. Robert Kilvington, West Philadelphia, has the best collection of native plants of any nurseryman we know. Most all the principal nurserymen who have general collections of house plants have, or can get, the different species of Amaryllis.

9. Grow it well this summer,—that is pot it into a six-inch pot of turfy soil, and plunge the pot in a partially shady place till fall.

10. The string of questions is rather long, but we can easily forgive ladies their faults, especially when they spring from the love flowers in particular.]

Sex of Eggs.—Several of our correspondents inquire which of the marks in the egg represents the lady and which the gentleman. We are glad to find so much interest manifested in the subject, which, if we had stated which it was, we are sure would have soon been forgotten. As it is, we are sure our friends will learn more by experimenting a little, than if we say at once which it is.

Books, Catalogues, &c.

First Annual Report of the Proceedings of the Fruit Grower's Society of Eastern Pennsylvania.

We are just in receipt of the first issue of this Society, and find it a valuable paper, and which all who receive it will do well to carefully preserve. The addresses of Dr. Eshleman, Messrs. Rutter and C. H. Lefevre, are given in full, and form interesting chapters in the Pomological history of Pennsylvania.

The proof-reading might be improved a little, though, some cases where speaker is made to say, that he preferred to subsoil with the plow, than by "hard" labor for *hand* labor, the error is not so material, as when another is made to say that hand-trenching cost him "$16" per acre, instead of $60, as our reporter correctly made it.

The next meeting of the Society will be held in West Chester, on the 13th of June.

Address of Dr. H. W. Ravenal, before the Aiken Fruit Growing Association, July, 21st 1859.

Evidencing a profound scientific knowledge, with the happy faculty of making dry abstractions plain to the commonest understandings, we have perused it with much pleasure.

The Human Voice, by Rev. W. W. Cazalet. Fowler & Wells, New York.

One of the many useful little works for which this firm is so famous. A cursory examination satisfies us that few would read it without profit.

The Throne of David; or, The Rebellion of Prince Absalom, by Rev. J. H. Ingraham. A handsome duodecimo volume of 603 pages, we have received from the publisher, G. G. Evans & Co., Philadelphia.

Kennedy's Bank Note and Commercial Review, for May 1860, has been received from the publishers, at Pittsburg, Pennsylvania.

Few business pursuits call for the handling of so varied and so suspicious looking a currency, as that of the nursery trade; but as we presume all nurserymen subscribe for this standaad detector, we need not call their attention to it.

CATALOGUES.

Hugh Low & Co., Clapton, London, England. New and desirable plants.

Hovey & Co., Boston, Mass., A full set of their very full and unique collections.

Ensign & Ford, Toledo, Ohio. Descriptive Catalogue of fruit and ornamentals. It also includes Roses, Phloxes, and other popular kinds of flowers; and with the names and descriptions particularly full and accurate.

Geo. Davenport, Dedham, Mass. Small fruits, &c.

J. W. Manning, Reading, Mass. Nursery catalogue, and circular of Cutter Strawberry; one of the newer candidates for public favor.

J. C. Allen, Lena, Ill. Fruits.

Mr. A. "wants to clear off his ground," "wants to go to California," and, besides all the other "wants" usually resorted to, to draw sales, "wants money;" but he "don't want the money," and certainly not "the notes," of those who "stick in trees, and leave the rest to nature," and "never have no luck." Take their money, friend Allen, and induce them to take a year of the *Gardener's Monthly* besides. They will turn right side up in the end.

John W. Adams, Portland, Maine. A very neat and respectable catalogue of nearly every thing grown.

H. A. Dreer, Philadelphia. Flower seeds.

Geo. F. Needham, Buffalo, N. Y. Flower seeds.

A. Bennett, Wilkinsburg, Pa.—Roses, Verbenas, &c.

Barnes & Washburne, Dorchester, Mass. Full sets of their complete collections of florist's flowers.

H. A. Swazey, Tickfaw, La. Fruits.

Matthew Mackie, Clyde, N. Y. Fruits, &c.

C. J. Miles & Co., Rochester, N. Y. Descriptive catalogue of a full collection.

W. Parry, Cinnaminson, N. J. Fruits, trees, vines and plants; illustrated.

Dreer's Plant Catalogue for 1860; Philadelphia.

R. Buist & Son, Philadelphia. Bulletin of rare and choice flower seeds, supplementary to Spring catalogue.

Hubbard & Davis, Detroit, Mich. General list.

New or Rare Plants.

New Summer, Autumn, and Winter-flowering Tydæas.

T. Ignescens.—A very beautiful variety, of free growth, with a profusion of brilliant scarlet funnel-shaped flower tubes expanding to a bright vermilion-tinted orange-scarlet border or limb, from 1½ to 2 inches in diameter, which is elegantly marked with dark velvet-like crimson bands and spots.

T. Elegantissima.—A dwarfer variety, with light scarlet-flower tubes, and rich salmon-tinted rose-colored border, which is picturesquely traced with rosy-carmine lines, and showing a bright, rosy carmine-tinted margin.

T. Countess of Chichester.—A superb flowering plant, allied in its habit of growth to the still beauti- T. Lady Digby, T. Pearl des Tydæa, and T. gigantea, less robust than the latter, but superior to all in the rich cramoise-crimson colored blossoms nealy 2 inches in diameter, upon ventricose crimson scarlet flower tubes, and intense violet border, which is very finely traced and scored with dark crimson lines and spots.

T. Volunteer, (Elliot.)—A neat and attractive dwarf branching variety, with dark red stems and ovately-cordate leaves, prominently marked by crimson veins. Flower tubes crimson scarlet, throat or inner tube creamy white with carmine red lines, the upper border bright reddish crimson, picturesquely banded and spotted with dark velvet-like color, lower border lobes of a bright flame tint.

T. Lurline, (Elphinstone.)—A distinct and effective variety with orange-scarlet flower tubes, and lower front border of an ochraceous white ground, tint richly banded and spotted with brilliant cerise crimson, whilst the upper border shows a bright carmine ground scored with intensely dark lines.

New Garden Ferns. — *Pteris Tricolor*, (Linden).

Fronds pedately pinnate-pinnatifid, *i. e.* pinnate with the lower pinnæ posteriorly branched, and the pinnæ pinnatifid (as in *P. aspericaulis*); base of the segments greyish-white, forming a broad silvery stripe on each side of the purplish-red rachis, the rest green.

It is not too much to say that this is one of the most interesting of known Ferns, for being of moderate size, of elegant form, and of graceful habit, it has the additional recommendation of being beautifully variegated with three colors. The upper and larger portion of its blunt linear purple-ribbed segments is of a dark green, while their basal portion is of a silvery grey, as in Pteris argyræa, and the rachis or rib to which they are joined, is of a bright purplish red. Thus each of the elongated pinnæ is marked with a broad silvery stripe down the centre, and in the centre of this again is a conspicuous red line. The young partially developed fronds are entirely of a purplish red. There is no doubt whatever that this charming plant, which has been introduced from Malacca, by M. Linden, and will soon be offered for sale, is a colored variety of Pteris aspericaulis, for which the name tricolor, given to it by Mr. Linden, may be well employed in gardens. It has exactly the same habit of growth as P. aspericaulis, and produces the greyish marbled primordial

fronds peculiar to that plant. Whether or not P. aspericaulis itself is botanically a mere form of P. quadriaurita, which is the view Sir W. J. Hooker adopts in his "Species Filicum," is a question that may be left till there is some test discovered for the limitation of species. For the cultivator they are abundantly different, and this new Pteris tricolor will rank in gardens as three-colored variety of P. aspericaulis. Young plants of the tricolor Pteris were exhibited by M. Linden, at a recent meeting of the Floral Committee of the Horticultural Society, and were awarded a First-class Certificate. *T. M.*

New and Rare Fruits.

American Seedling Gooseberry.—Mr. Samuel Edwards, says in *Prairie Farmer*, the kind known by this name in the West, is also known as "Pale Red," and the "Cluster" Gooseberry.

It is probably the same as the improved kind of native gooseberry, common near all old settlements, and often called Houghton's Seedling. Is there, after all but one variety?

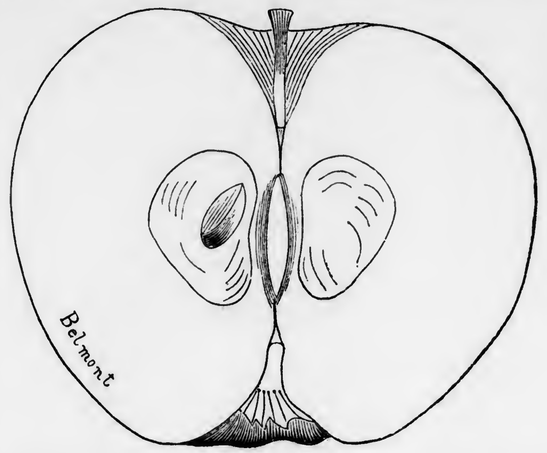
Ray Peach.—Enclosed find a drawing of the Ray Peach, originated by Dr. H. Ray, of Galobusha Co., Miss. It is a hybrid or cross between the Indian Peach and some other variety, of which the Columbia is a type. Size medium, [the engraving is one-third smaller than copy sent]; color cream white, spotted and veined with rich purple; glands reniform; leaves long and narrow; flesh exceedingly juicy and perfectly delicious, and by far the best of more than one thousand varieties I have tested. The tree blooms in succession for more than a month, and consequently never fails of a crop. Ripe throughout the last half of Augsut. W. H. Burford, M.D.

Selby Bellflower.—I send a rough outline of this new seedling apple. Fruit large roundish approaching conic; skin smooth; color pale yellow, on rather a greenish ground; stem medium in length, slender, inserted in a narrow regular cavity, surrounded by greenish russet; calyx medium, set in a shallow basin; flesh yellowish white, very tender, melting, juicy, mild subacid, with a very peculiar spicy rich flavor. November to March. Appears to be hardy and productive, somewhat similar to the Yellow Bellflower, (which it is a seedling of,) but a better keeper and much superior in flavor.

Pronounced by all who have tasted it to be without an equal. A great acquisition, and must become popular when known.

I. Stayman.

Belmont Apple.—This is not a new variety, having been already described by Mr. Downing, but its great beauty and value, has induced us to give a cut of it. It originated near Strasburg, Lancaster Co., Pa., and has, in a few localities, obtained the name of Gate Apple, and Mamma Bean Apple; the last from the lady on whose farm the original tree grew. It is said to be very popular in Ohio.

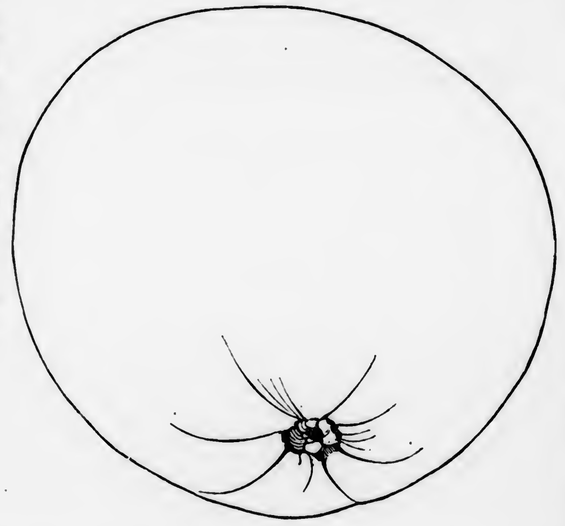


Fruit above medium, somewhat globular, flattened and narrowed towards the eye, inclining to oblong. Skin waxy yellow, with a bright vermilion-scarlet cheek; stalk the length of the deep cavity; calyx partially closed, in a deep plaited basin. Flesh yellowish white, crisp, juicy and agreeable; of first quality. Said to be regular and abundant bearer. Feb. 20th. Our specimen is from Evans & Co., of York, Pa.

Cox's Orange Pippin Apple.—This is considered as much a windfall to our trans-atlantic friends as the Seckel Pear was to us—going far ahead of any thing they have had before, and threatening to render dumb those who pertinaciously chaunt the praises of the Ribston Pippin, which to an American taste, has ever been suggestive of the story of "Paddy's Leather Breeches."

It resembles in form and appearance the Old English Nonpariel. It has a russety yellow skin, shaded and mottled on the sunny side with a beautiful scarlet-rose.

A friend has kindly handed to us a colored drawing, made by Andrews, from which we have had the annexed cut engraved.



Grosh Apple, (Libhart).—Read before the Fruit Grower's Society of Eastern Pennsylvania, at Lancaster.—Size, very large, 3 inches in length by 4½ in breadth, some sepcimens weighing 22 ounces; form oblate, often a little one-sided; skin pale, greenish white, on the sunny side profusely streaked with light and deep red, more or less intense at the base and gradually fading away towards the apex, speckled with numerous minute specks; stem short; cavity rather deep and narrow; calyx medium, basin comparatively small and abrupt; flesh white, texture loose and soft, rather juicy and quite acid. Ripens in September. Does not keep well; excellent for culinary purposes, cooking tender when quite young. Shoots stout and

erect; color brown; bears annually, every other year profusely.

This large and fine apple was originated by the late John Grosh, of Snufftown, Lancaster Co., Pa. About the year 1816 he planted the seeds of a Yellow Bellefleur, from which he raised several seedlings, all of which proved worthless when they came to fruit, excepting the one we have described. He had fruit several years before the original bore, from grafts placed upon bearing trees. Being pleased with the fruit he presented the original tree to his relative, the Hon. Jacob Grosh, of Marietta, in whose garden it still flourishes, a noble looking and vigorous tree; having served its present proprietor with many generous crops of desirable fruit, and promises yet to serve some generations to come.

We believe it has never been before described or brought to public notice, yet it has been somewhat disseminated where it is known. It has lately attracted the attention of nurserymen; and when better known, will be sought after for its large size and showy appearance. It will prove a splendid market apple. We have seen it in the market, in small lots, where it commanded ready sale at good prices, when other apples were a drug.

Domestic Intelligence.

Ripening of Fruits.—Certain substances are known to have the power of *storing up* light, and of giving it out in the dark;—among others, tartaric acid possesses this power in a high degree.

It has been demonstrated by comparatively recent researches on light, that if a solution of starch, or its isomeric form *dextrine*, be subjected to the action of solar light for a short time, it will be found changed into *glucose* or grape sugar.

Further, it is known that the starch which exists in all fruits in their unripe state, is changed by the action of the sunlight into acids and sugar; and when this process of sugar making is completed, the fruits are said to be ripe. And the main reason why many fruits will not ripen in northern climates is this, that there is not sufficient intensity and continuance of sunlight and heat to effect this change of starch into sugar.

Now, putting this and that together, M. Niepce de St. Victor has, he thinks, satisfactorily proven, that by surrounding bunches of grapes in the early part of the autumn by thin bags of white paper which have been dipped in tartaric acid, not only is their ripening hastened; but the quantity of sugar which they contain is greatly increased.

Experience is the best proof of the truth or fallacy of this statement; but it has a great appearance of reason: for the tartaric acid storing up the sun's light during the day, will impart it to the fruit at night, and thus in effect give a longer continuance of the sun's metamorphosing action. Doubtless the method is applicable to other fruits also.—*Scientific Artisan.*

Keswick Codlin Apple.—At the Tamaroa meeting, Hon. M. L. Dunlap said he esteemed this variety excellent for drying, and the best summer and cooking apple for all portions of Illinois. Tree very hardy, perfectly free from disease, an early and abundant bearer.

To Cook Asparagus.—A little contrivance and ingenuity will avoid sameness, varying the mode of cooking. Experience will soon teach the quantity of water required; let it boil; then lay in the stalks, the older ones at the bottom and the younger tenderer ones on the top, where they are not of uniform ripeness. Sprinkle a little salt among them, cover tightly and keep closed till done. The steam and the juice of the stalks do away with the necessity of having much water; use as little as possible. If prepared with toast, have the bread nicely and evenly toasted, and moistened either with some of the Asparagus water or clear water, buttered and laid on a platter; take up the Asparagus carefully and lay over this, pouring over the whole a little cream or milk gravy or drawn butter; or it may be taken up with a skimmer and laid in a dish and a little butter or cream spread over, or some of the water in which it was boiled thickened and poured over. Elsie.

[While passing the above scrap from the pen of a lady whom reputation speaks of as one of the best housekeepers in the Union, into our "intelligence" column, we may take the opportunity of calling the attention of our readers to the *Wisconsin Farmer*, in which it appears, as one of those energetic Western papers, which is doing so much good for horticulture and agriculture in that region, and well worthy of extended support.—Ed.]

Potato Muffins.—One pint of milk, six large potatoes mashed, one egg, a desert-spoonful of butter, and one gill of good yeast.

Fine Collection Pears—of Mr. Wilson, Malden, Mass., is said to be one of the finest in the world.

New Vegetables.—The Pine-apple Short-top Beet is a most superior variety. The Frogmore Protecting Broccoli, is a superior hardy, dwarf white variety; the Striped Purple Egg-Plant is as good as the purple, and more ornamental.—*Hovey's Mag.*

OBITUARY.

Mr. Charles L. Ingram, one of our best gardeners, and well-known amongst the "craft," in this country, recently died at Savannah, Ga., of consumption.

Mr. J. W. Jones, the originator and one of the Editors of the *Southern Cultivator*, a journal that has done, and is still doing, immense service in the cause of horticulture, was announced as deceased in the February number of that journal.

M. Louis Vilmorin, the well-known Paris Seedsman, and noted for his botanical enterprizes and and the whole horticultural world, owes much to his knowledge, is amongst the recently deceased. France, energy. The business, we presume, will be continued by his partners.

Mr. Alexander Parker, the oldest member of the Pennsylvania Horticultural Society, died recently, aged eighty-three. He at one time had the finest floricultural establishment in Philadelphia, in which he so gloried, that he opposed so vehemently the city's cutting a street through his garden, that his failure to prevent them weakened his intellect from which he never recovered.

B. V. French, Esq., of Dorchester, Mass. We learn with regret of the death of our friend Mr. B. V. French. As a leading horticulturist, his fame was widely extended; and as one of the founders of the Massachusetts Horticultural Society, and a useful citizen, his death will be, like that of all really good men, lamented particularly where he was the best known.

Foreign Intelligence.

The New Markets in Paris.—The Paris Correspondent of the New York *Journal of Commerce* says that there has just been completed there a group of six of the most magnificent market pavillions in the world, formed of glass and iron, and covering a surface of about 30,000 square yards. To these are being added four other pavillions, occupying a space of 12,000 square yards. There is no such market in any other capitol of Europe.

What are considered the best English Pears?—At a recent meeting of the British Pomological Society, a great number of varieties were placed for competition, and the first prize was awarded to *Duchesse d' Angouleme*, from Mr. Whiting, of the Deepdene; and the second to Mr. Ingram, gardener to J. J. Blandy, Esq., of Reading, for *Beurre de Capiamont.*

An Enemy of the Pear Tree.—At a late meeting of the British Pomological Society, F. J. Graham, Esq., of Cranford, read a paper on the ravages of the grub of *Zeuzera Æsculi*, on young Pear plantations, which was accompanied by a figure of the insect, and a specimen of the stem of a young Pear. The stem had been completely eaten all round under the bark, and beyond the alburnum, causing the whole of the upper part of the tree to die off. As this insect has not yet been noticed here, a watch should be kept on European pear trees against its introduction.

Horticultural Societies.

LIST OF OFFICERS OF HORTICULTURAL AND POMOLOGICAL SOCIETIES.

For the information of those who wish to correspond with the different societies, we furnish a list of the Officers of as many of them as we have been able to procure, and hope to be furnished with any that are omitted. We insert only those societies of a strictly horticultural or pomological, and not of an agricultural character.

HORTICULTURAL SOCIETIES.

Name of Society.	*President.*	*Cor. Secretary.*
Pennsylvania, Phila.	M. W. Baldwin,	William Saunders.
Massachusetts, Boston,	Joseph Breck, Brighton.	Eben. Wright, of Dedham.
Maury County, Columbia, Tenn.	M. S. Frierson.	
Chicago Gardener's.		
Chester County, W. Chester, Pa.	J. K. Eshleman,	Josiah Hoopes.
Buffalo, N. Y.,	Jason Sexton,	William Coleman.
New York, (City)	John Groshon,	Thomas Hogg.
Cincinnati, Ohio,	William Orange,	E. P. Cranch,
Montreal, Canada,	Jas. Ferrier, jr.,	L. N. Duvernay,
St. Louis, Mo.	William Glasgow, Jr.	Carew Sanders.
Cleveland, Ohio,	Dr. Edward Taylor.	
Genessee Valley, Rochester, N.Y.,	Joseph Harris,	C. W. Seelyo.
Brooklyn, N. Y.,	Jno. W. Degrauw,	Edwin Scott.
Portland, Maine,	T. C. Hersey,	John W. Dana.
Kentucky, Louisville,	Thos. S. Kennedy,	Ormsby Hite.
St. Catharines, C. W.,	James Taylor,	Thomas Shaw.
Richmond, Indiana,	John H. Hatton,	W. R. Smith.
Keokuk, Iowa,	A. Bridgeman,	J. L. Tewksbury.
Fort Wayne, Indiana.	J. D. G. Nelson,	H. C. Grey.
College Hill, Ohio,	Jacob Tuckerman,	D. B. Pierson.
Workingmen's, Frankford, Philadelphia,		Thomas Hargreaves.
Progressive Gardener's Society, Philada,	W. Saunders,	R. Robinson Scott,
Meramac, Mo.,	Dr. A. W. McPherson,	Edward Vaughan.
St. Paul's, Minnesota,	Alexander Buchanan,	George Seattan,
Pittsburg, Penna.,	J. Knox, Pittsburg,	Thomas L. Shields.
York County, Pa.,	E. Chapin,	Edward J. Evans.
Toronto, Canada,	Hon. G. W. Allan.	
Hamilton, Canada,	(?)	
Cobourg, Canada,	(?)	

FRUIT GROWERS' SOCIETIES.

Name of Society,	*President.*	*Cor. Secretary.*
Western New York,	B. Hodge, Buffalo,	C. P. Bissell, Roch'r.
East'n Pennsylvania,	Dr. J. K. Eshleman, Downingtown, Pa.,	Thomas N Harvey, Jennersville, Pa.
Missouri,	Norman J. Coleman,	Dr. L. D. Morse, Allen
Anna, Union Co., Ill.,	E. Harwood,	A. Babcock, town, Missouri.
Ohio Pomological,	A. H. Ernst, Cincinnati, Ohio.	M. B. Bateman, Columbus, Ohio.
Am. Pomological,	Marshall P. Wilder, Dorchester, Mass.	Meets in Philad'a, September 11th.
Conn. Grape Grow's',	Col. D. S. Dewey, Hartford, Conn.	M. C. Weld, Hartford, Conn.
Wilmington, Del.	H. F. Askew,	Dr. G. Pepper Norris.
Am Wine Grow's Asso. Cincinnati, Ohio.	Dr. N. B. Shaler,	S. W. Haseltine.

IRREGULAR PAGINATION

PENNSYLVANIA HORTICULTURAL SOCIETY.

Stated Meeting, held May 15th, 1860.

The display was not equal to last month, which is probably occasioned by the gardeners being too busy to devote the time necessary to prepare their articles. There were, however, some fine plants exhibited.

The Committee on Plants and Flowers made the following awards: For Calceolarias—best to James Thomas, gardener to A. J. Bucknor. Collection of ten plants—best to John Pollock, gardener to James Dundas; second best to Wm. Joyce, gardener to M. W. Baldwin; third best to George Penn. Collections of Six Plants—best to James Eadie, gardener to Dr. Rush. Specimen Plant—best to M. Hegarty, gardener to Jos. Harrison; second best to R. Buist, for Azalea, Eulalia Van Ghent. Pair Specimen Plants—best to John Pollock. New Plants—premium to R. Buist for Caladium argyrites and C. Chantini; special premium to Jas. Eadie for collection of Begonias, including 2 new ones: B. Nebulosa, and B. Urania; to R. Buist for collection of Rhododendrons, and to Jas. Eadie for a very handsome and varied general collection. The Committee call particular attention to the variegated plants exhibited by R. Buist; they will prove to be great acquisitions to our variegated foliaged family; also the general collection exhibited by James Eadie.

The Committee on Fruits awarded a premium for the best Grapes, (Black Prince.) to John Landers gardener to S. T. Altemus; second best (Black Hamburg) to Wm. Joyce, gardener to M. W. Baldwin; they also recommend a special premium to Wm. Joyce for a pair of of fine Pine Apples; and also to John Pollock for Ananassa sativa variegata, or variegated Pine Apple, in fruit, (see frontispiece); and also call attention to a dish of fine Figs from Jas. Matheson, gardener to F. Yarnall.

The Committee on Vegetables awarded:—For the best Cucumbers to Thomas Meghran. Rhubarb—best to James Jones, gardener to Girard College; second best to A. Felten, gardener to Henry Duhring. Beets—best to Thomas Meghran. Potatoes—best to A. Felten; second best to Thomas Meghran. Asparagus—best to Jas. Matheson; second best to Wm. Joyce, and a special premium to same for fine Cauliflower.

The relative merits of white and green Asparagus excited some discussion, and was referred to a special committee, to report at the next meeting.

The death of one of the founders of the society, Mr. Alexander Parker, was announced, and the usual resolutions passed.

A large number of new members were proposed and some elected.

ANNUAL MEETING OF THE MONTREAL HORTICULTURAL SOCIETY.

The annual meeting of the Montreal Horticultural Society took place on Friday evening last, in the Mechanics' Hall. The chair was occupied by J. Ferrier, jr., who after alluding to the long establishment of the society, of its vicissitudes, and of the success which had attended its efforts, spoke of the great advantages which would be afforded in the establishment of the Crystal Palace, where ample space would be provided for an Exhibition of the Industrial Arts, the Agricultural Products, and the fruits, vegetables and flowers of the country. He expressed the hope that every member of the Society would do his utmost to promote the success of this great enterprise, which would no doubt afford the highest gratification to our Royal visitor, and reflect honor upon the country. He then called upon the Secretary to read the

FOURTEENTH ANNUAL REPORT.

From it we learn that the severity of the previous winter destroyed many valuable fruit trees, thus preventing so large an exhibition of fruits as, otherwise, there might have been. The number of competitors for the prize of grapes, is constantly increasing, Of vegetables there was good display, and the same may be said of flowers and designs. Your society was again indebted to their valued friends who, as on former occasions, at great inconvenience and expense, sent them Greenhouse collections to add to the attractions of the Hall. Last year the Greenhouses of Donald Ross, Esq., Jas. Ferrier, Jr., Esq., and J. Torrance, Esq., were open to members several times during the winter, and afforded much gratification.

Your Board have received an invitation from the Board of Arts and Manufactures to assist in the Grand Provincial Exhibition to be held in August, in honor of the visit of H. R. H. the Prince of Wales, and to take charge of the grounds around the Crystal Palace, now in course of erection.

The letter of the Board of Arts having been read, the members expressed their warmest interest in the proposed Exhibition, and their wishes to co-operate in promoting its success. It was then moved by L. N. Duvernay, seconded by J. E. Guilbalt, that the proposition of the Board of Arts and Manufactures, to take charge of the grounds around the Crystal Palace, be accepted, and that the following gentlemen be a Committee to superintend the laying out of the same and to co-operate with the Board of Arts in the embellishment of the grounds, provided the funds of the Society be not taken for that purpose:—the Chairman, J. Lowe, and J. Archibald.

TO THE VINE GROWERS OF THE U. S.

At a late meeting of the "Aiken Horticultural and Vine Growing Association," it was resolved, That a committee of five be appointed to open a correspondence with the various Vine Growing Associations in the United States, and to ascertain the practicability of holding a Vine Growing Convention in Aiken some time next summer; and if found practicable and expedient, that the committee take such measures to secure this object as they may think proper, and that they report the result of their proceedings to this Society at its meeting in May next.

The following gentlemen were appointed the committee: Messrs. A. DeCaradeuc, Chairman; McDonald, Ravenel, Redmond, and Wood.

It is perhaps proper to state the object of the Association in proposing such a Convention, and to point out a few of the advantages to be derived from it. In the first place, it is necessary to come to some understanding about the names of the Grapes now under cultivation, as it is evident that great confusion exists in that respect. Most of the vines being known in different places by different names; the Black July, for instance, having five synonyms. Thus it often happens that a Vine Grower reads or hears great praises of a Grape whose name is unknown to him, and a description of which tallies with none that he has; he procures it at great expense, cultivates it with care for two or three years, and ultimately discovers it is identical with some other he has had a long time. This is discouraging, and has deterred many from procuring new and valuable varieties, which it would have been advantageous to have cultivated more or less extensively. This difficulty can only be obviated by a Convention such as is proposed—the best written description never being so lucid as to convey an exact idea of a fruit.

The meeting will take place at a season when the fruit at the South is ripe; all who attend are invited and requested to bring samples of their Grapes, ripe if possible, and green if otherwise, with a leaf and a piece of the wood, and names and synonyms attached. Those who cannot attend are requested to forward samples as above. Thus if we are assisted by the good will of a majority of Vine Growers, most of the varieties in the States will be represented; their qualities, names, synonyms, sizes, degrees of maturity, etc, will be compared, and a vast amount of invaluable information derived. Names will be agreed upon, accepted or rejected with good authority. Persons will, also, be requested to bring or send samples of the wild grapes from their neighborhood in the same manner, that the different species might be finally determined upon and each grape properly classed under its own head or type—an object of great importance to the Botany of the country and, perhaps, finally to the making wine from them. We are daily getting additions to our list of natives, and unless a correct nomenclature and classification be at once made, we will be thrown into inextricable confusion, expensive and troublesome to the growers. Another object of the Convention is to determine upon some manner of naming the different Wines. The present way of calling them by the name of the grape is in direct contravention to the established rules of wine growing countries. It has always been customary to classify wines by the name of a State, Province or District, with the different brands attached to them, according to the name of the particular locality. Thus the general name "Wines of the Rhine" comprises many particular brands, such as Hockheimer, Johannesberg, etc., etc., Bordeux wines include Chateaux Margaux, St. Julien, La Rose, etc. The reason for this is very obvious. The same grape will make totally different wines in different places. And, again, in most wine countries, (and we will no doubt adopt the same course) the grapes are mixed. A wine made from a mixture of Catawba, Isabella and Warren could not be called by either of those names.

At present we have a hundred different Catawba wines, no two of them alike. Hence, the propriety of rejecting the name of the fruit in favor of the time-honored custom of naming after the State, District or River, with brands of private names or localities. Purchasers will then know at once what they are buying, and will not be prejudiced against Catawba or Warren wine, because they have tasted worthless Catawba or Warren wine.

Independently of the foregoing, the amount of information exchanged by persons meeting in such a Convention as we propose, would be truly worth "Millions to the Nation," and would tend more to develope that rich culture than all that could be written.

We call, then, upon all who cultivate the Grape, whether for the table or for wine, or who take an interest in the success of its culture, to assist the committee in securing their object—a Convention of Delegates from all the Vine Growing Associations in the United States, and of private and separate Vine Growers. Let all who can come, determine at once to meet in Aiken, S. C., on the *Third Tuesday in August next*, (21st) there to assist in the good work—to compare their fruit and exchange their views.

Aiken has been selected as being easy of access from all quarters—North, South, East and West—being, at all times, unexceptionable as to health, and a delightful summer resort for the neighboring cities, and well provided with ample accommodations.

Secretaries of the different Associations connected with the Vine Culture, would confer a favor by forwarding to this office, or to either of the gentleman of the Committee, the names and localities of their Societies, and all other information they may think proper.

A. de Caradeuc, Chairman, Woodward. S. C.
Dr. J. C. W. McDonald, Woodward, S. C.
H. W. Ravenel, Aiken, S. C.
E. J. C. Wood, Aiken, S. C.
D. Redmond, Augusta, Ga.

WIZARD OF THE NORTH

STRAWBERRY

J. N. Rosenthal's Lith. cor. 5th & Chesnut Sts. Philada.

THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, Editor. JULY, 1860. VOL. II.---NO. 7.

Hints for July.

FLOWER GARDEN & PLEASURE GROUND.

In our last we gave a few hints for the management of perpetual Roses so as to secure a good bloom through the fall. Popular as this class of roses has been, it is destined to become still more so, especially as climbing roses. The few past winters—the last especially—have been so very destructive on the Noisette roses, the kind mostly employed as climbers, that a race of good hardy kinds becomes a great desideratum. This will yet be accomplished with the hybrid Perpetual and hybrid Bourbon classes. The new H. P. *Garibaldi* proves quite as rapid a grower as the *Baltimore Belle*, and will no doubt be extensively employed as a climber. Among hybrid Bourbons *Souvenier d'Anselme* proves particularly hardy, and will drive Gloire de Rosamene entirely out of cultivation as a pillar rose. We call attention to this matter at this season because now is the time to take notes of such as grow strong and vigorously.

In many gardens there will be roses of poor and inferior kinds, or of good ones that the owner may desire superseded by better ones. This may be readily accomplished by budding or inoculating, and now and next month is the season to operate.

In almost all works on budding it is recommended to take the wood out of the bud to be inserted. This is necessary in the English climate, but unnecessary here, and never followed by practised hands.

Amateurs may have some rare or choice shrub they may desire to increase. They may now be propagated by layers. This is done by taking a strong and vigorous shoot of the present season's growth, slitting the shoot a few inches from its base, and burying it a few inches under the soil, or into a pot of soil provided for the purpose. The young growing point of the shoot should be taken out in the operation. By the English mode of making the slit, a great number of the shoots will be broken and spoiled. At page 86 of our last volume we described a new process by which injury will be prevented. Any thing can be propagated by layers; and it is an excellent mode of raising rare things that can be but with difficulty increased by any other.

Hollyhocks will be coming into bloom at this season. They have now become so much improved as to be one of the most popular flowers for the summer decoration of the flower garden. If the kinds are kept carefully separate, any particular variety will re-produce itself from seed. They may be more certainly kept pure by cuttings of the flower stem;—each bud will make a plant. The seed should be sown as soon as ripe in a light rich soil, in the open air. If retained till late in the season they will not, probably, flower the next year.

The raising of new varieties of florists' flowers is an interesting occupation to the amateur. The process of hybridization, described in our last number, applies to all plants as well as to grapes; but good improved kinds of some things may be obtained from chance seedlings. The finest and doublest of Roses, Petunias, Dahlias, Carnations, &c., should be selected, and as soon as the petals fade, they should be carefully removed, or they will cause the delicate organs of reproduction to decay before maturity. A flower may be so very double as not to bear seed at all as in, the case of the Gillyflower or Stock; but if the pistil remains perfect, as it usually does, seed will ensue.

Dahlia seed may be preserved till the Spring. Antirrhinum, Rose, Carnation, and such hardy perennials, should be sown soon after ripening.

Dahlias will require watering in hot dry weather, which is done by making a small basin about the plant, filling it with water, and when it has thoroughly soaked away, some hours afterwards, the soil should be drawn back as lightly as possible into the basin. All plants that require watering should be similarly treated.

The Chrysanthemums should be examined, and if the shoots thrown up are thickly together, some of them should be rooted out. If the flower shoots are layered into four or six inch pots, they make very pretty dwarf plants, that are well adapted to neatly

COLOR PHOTO

WIZARD OF THE NORTH STRAWBERRY

THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, Editor. JULY, 1860. VOL. II.---NO. 7.

Hints for July.

FLOWER GARDEN & PLEASURE GROUND.

In our last we gave a few hints for the management of perpetual Roses so as to secure a good bloom through the fall. Popular as this class of roses has been, it is destined to become still more so, especially as climbing roses. The few past winters—the last especially—have been so very destructive on the Noisette roses, the kind mostly employed as climbers, that a race of good hardy kinds becomes a great desideratum. This will yet be accomplished with the hybrid Perpetual and hybrid Bourbon classes. The new H. P. *Garibaldi* proves quite as rapid a grower as the *Baltimore Belle*, and will no doubt be extensively employed as a climber. Among hybrid Bourbons *Souvenier d'Anselme* proves particularly hardy, and will drive Gloire de Rosamene entirely out of cultivation as a pillar rose. We call attention to this matter at this season because now is the time to take notes of such as grow strong and vigorously.

In many gardens there will be roses of poor and inferior kinds, or of good ones that the owner may desire superseded by better ones. This may be readily accomplished by budding or inoculating, and now and next month is the season to operate.

In almost all works on budding it is recommended to take the wood out of the bud to be inserted. This is necessary in the English climate, but unnecessary here, and never followed by practised hands.

Amateurs may have some rare or choice shrub they may desire to increase. They may now be propagated by layers. This is done by taking a strong and vigorous shoot of the present season's growth, slitting the shoot a few inches from its base, and burying it a few inches under the soil, or into a pot of soil provided for the purpose. The young growing point of the shoot should be taken out in the operation. By the English mode of making the slit, a great number of the shoots will be broken and spoiled. At page 86 of our last volume we described a new process by which injury will be prevented. Any thing can be propagated by layers; and it is an excellent mode of raising rare things that can be but with difficulty increased by any other.

Hollyhocks will be coming into bloom at this season. They have now become so much improved as to be one of the most popular flowers for the summer decoration of the flower garden. If the kinds are kept carefully separate, any particular variety will re-produce itself from seed. They may be more certainly kept pure by cuttings of the flower stem;—each bud will make a plant. The seed should be sown as soon as ripe in a light rich soil, in the open air. If retained till late in the season they will not, probably, flower the next year.

The raising of new varieties of florists' flowers is an interesting occupation to the amateur. The process of hybridization, described in our last number, applies to all plants as well as to grapes; but good improved kinds of some things may be obtained from chance seedlings. The finest and doublest of Roses, Petunias, Dahlias, Carnations, &c., should be selected, and as soon as the petals fade, they should be carefully removed, or they will cause the delicate organs of reproduction to decay before maturity. A flower may be so very double as not to bear seed at all as in, the case of the Gillyflower or Stock; but if the pistil remains perfect, as it usually does, seed will ensue.

Dahlia seed may be preserved till the Spring. Antirrhinum, Rose, Carnation, and such hardy perennials, should be sown soon after ripening.

Dahlias will require watering in hot dry weather, which is done by making a small basin about the plant, filling it with water, and when it has thoroughly soaked away, some hours afterwards, the soil should be drawn back as lightly as possible into the basin. All plants that require watering should be similarly treated.

The Chrysanthemums should be examined, and if the shoots thrown up are thickly together, some of them should be rooted out. If the flower shoots are layered into four or six inch pots, they make very pretty dwarf plants, that are well adapted to neatly

INTENTIONAL SECOND EXPOSURE

ornament a room or small conservatory, where larger plants would be objectionable.

Fuchsias in pots should have the coolest position of the flower garden assigned to them. They usually suffer much from Red Spider, which makes their leaves drop. The various remedies we have so often recommended should be applied. Frequent heavy syringings are particularly grateful to the Fuchsia.

The next two months will be the trying time with such plants as Auriculas, Cinerarias, Calceolarias, and others which cannot endure the dry atmosphere of our Summers. When the shaded houses we recommended in our last number shall become more common, they will be grown as easily as weeds. We keep our Auriculas all the year round under glass, with the best results. They would do as well under any light enclosure that would prevent the too rapid escape of moisture. A sunk pit would be an admirable contrivance for them, besides making a good place to store away half hardy plants through the winter.

In most kinds of soil the keeping the surface loose by hoeing and raking in dry weather will be an excellent method of keeping the main body cool and moist,—admitting the air, which is a good non-conductor. In soils, however, which are deficient in loam, and in which sand prevails to a great extent, frequent stirrings have a drying tendency, and a mulching of short grass, or decaying vegetable matter of any kind will be found very useful around transplanted trees, shrubs, and other things.

The summer-pruning of hedges and ornamental trees and shrubs, that require to be brought into particular shape, will be sedulously attended to through the season, according to former directions.

FRUIT GARDEN.

Where new Strawberry beds are required to be made that will bear well the next season, the very first runners of the season should be selected, and layered into small pots. In about three weeks they should be cut from the parent stem, and left to a separate and independent existence for a few days. After preparing the ground properly for their reception, the pots should be well watered and the plants turned out into the spots designed for them. They will then grow finely the present season, and bear surprising crops of fine fruit the next Spring.

A warm sandy loam is the best for a Strawberry bed. A low and damp one, is of all the most objectionable. Though warm and dry in one sense, it should be rendered capable of retaining moisture in the dryest weather, and this can only be perfectly accomplished by draining and subsoiling. If the latter is done three feet deep, all the better.

Unless in a very sandy soil, a very heavy dressing of stable manure is objectionable. Wood ashes, ground bones, and matters of a mineral nature are far more advantageous.

Strawberries for forcing are treated in pots, as we have already described; but instead of being transferred to the open ground, when well rooted in the small pots, are repotted into five or six inch pots, and these latter plunged in the ground to their rims in a spot the most favorable to Strawberry growth.

After having grown well, and when they show signs of having formed a good strong crown, they are to be taken out of the open ground and gradually ripened by withholding water,—taking care that it is not done so suddenly as to make the plants wither, or they will suffer much. Towards winter they can be set in a cold frame and covered with dry leaves for a slight protection from the frost till wanted. Many commence to force at the beginning of the new year, when they are brought into the greenhouse and must be set near the glass. A high temperature is fatal. 45° to 50° is sufficient for a few weeks, and 55° to 60°, when the fruit is fairly set. They love to be frequently syringed, and guarded against Red Spider, which is their greatest pest. Where there is not the convenience of a greenhouse to force Strawberries, they may be had a few weeks earlier than usual by making a piece of ground slope to the south-east, planting out as already described for garden culture, and then setting a glass frame over them. The nearer the frame and glass can be brought to the soil, the better and earlier will the crop be. Protecting from frost in Winter also adds to the earliness of the crop. The earliest variety to be had in the locality should be employed.

The thining of fruit,—watching of insects, especially borers in Dwarf Pears, Quince, Apple and Peach,—and summer-pruning, are the main subjects of attention at this particular season. Where the soil is not very good, as may be noted by a weak growth of the trees, a surface manuring may be yet given with advantage. Every day's experience more decidedly shows the great advantages to the pomologist of this method of applying manure.

VEGETABLE GARDEN.

Beans and Peas may still be sown, if done at once, with a fair chance for a late crop. The earliest kind of corn may also be sown with a chance of its coming into use, if it escape the grub. Drumhead Cabbage and Savoy may also be set out still in good rich soil, where they will yet have time to head before frost in the Middle States.

The main crops requiring attention now will be Celery, Endive for salad, and Turnips. The latter merely to have a few early. August being the season for the chief or staple crop.

So many hints have been given on Celery culture

in our columns that we need not offer any here. A communication at page 70 we may refer to as being of great value to the amateur.

There have been many ways recommended for staking and supporting Tomatoes. The finest fruit, and indeed, the heaviest crops, are obtained by allowing them to trail on the ground. The soil between the rows being first heavily mulched with short grass from the lawn mowings to keep the fruit clean. This method is coming into almost general practice in this neighborhood, through its tested excellence.

Where they grow too rank, and the branches mat too closely, they should be thinned out. Nothing is gained by leaving many shoots grow together, either in this or any crop.

Beets may still be sown for Winter use, if the crops sown last month are likely to be deficient.

Communications.

FERNS.

BY SAMUEL L. BOARDMAN.

These are interesting plants, and I think their culture too much neglected by our amateur florists and gardeners. Shall I call attention to them through the pages of the *Monthly?*

Ferns are flowerless plants, and their beauty and elegance are due to the leaves or fronds, which bear upon their lower face the seeds by which they are propagated. It has not been many years that an interest has been given to the cultivation of plants which have only an ornamental foliage; but since this change has taken place,—to use the language of an intelligent cultivator,—"many a long neglected specimen has been brought forth to add its elegance to our hothouses and conservatories, which formerly occupied a place under the stage, or in any out of the way corner; its very graceful appearance not being considered as an equivalent to a few blooms."

Plants with attractive and beautiful foliage, yet having no flowers, are often of more importance and of greater beauty than such as have pretty flowers with scanty or short-lived foliage.

Ferns (or in common language, *brakes*) are of the former class, and as they can be easily managed, are eminently worthy of all the attention bestowed upon them.

The principal requisites of their culture are shade, shelter and abundance of moisture; with leaf-mould and a few rotten logs; and little else necessary in the way of cultivation to render them an attractive part of ones garden, which perhaps, has before been a waste spot.

I have said above, that "shade, shelter, and moisture," are nearly all that is required for the growth of Ferns, but it must also be remembered that heat is also as important if properly regulated, as the others. To grow them successfully, they should be potted in a soil composed of peat, leaf-mould and loam, with some sand and charcoal. They are not benefitted by manure. In their artificial cultivation, as has already been mentioned, Ferns must not lack moisture, or their fragile texture shrinks as before a burning blast.

Wherever the Ferns appear, whether it is the herbaceous species of temperate latitudes, or the arborescent species of the equatorial regions, or the epiphytal species which clothe the trunks and branches of trees in tropical forests, they add a peculiar and marked character of beauty and luxuriance to the scenery, and that to an extent which is not realized by any other race of plants.

One of the most interesting ways for the amateur to grow Ferns consists in their cultivation in Wardian Cases, as many species are fitted for this purpose.

In the garden, the most appropriate place for Ferns, seems to be in rockwork. A recent writer in giving directions for forming a rockery says: "If the garden contains any slope or shelving bank, where protruding rocks would look *natural*, let such a spot be made use of. Cast in a variety of stones and other massive boulders common to the neighborhood, and arrange them as near as possible as nature does, burying the ends of some in the ground, filling the crevices partly with dirt and rotten sticks, setting plants by the side of them and trailing vines to climber over them. There should be an apparent attempt to *conceal* the rockwork, not to display it."

One argument in favor of cultivating Ferns, is that the enjoyment it affords may be had by the poor as well as the rich; and he who has only a dark shady corner of land, may as successfully grow them as the one who has a magnificent conservatory, with this simple difference, that the former must cultivate hardy varieties, while the other may indulge in exotics.

In "British Ferns and their Allies," a popular hand-book, published by Routeledge & Co., London and New York, the reader will find much that is interesting concerning their botanical structure, manner of propagation, culture, uses, etc. With some allowances in regard to climate, which the intelligent reader can modify, the work will be found a valuable treatise.

Brookdale Farm, Maine.

GRAFTING THE WILD CHERRY.

BY LOUIS BERGMANN, HAMILTON, OHIO.

I believe it is not generally known that the cultivated Cherry can be grafted on the *Prunus padus* successfully. Early this Spring I grafted a very large one with the Early May and Yellow Spanish, and

they have done well so far. There are but three failures amongst fifty grafts. Many of them have now pushed 18 inches. I intend to try many more next season.

[We presume our correspondent alludes to the *Prunus serotina;* the *P. padus* nearly resembles it, but is a native of Europe. If they would do well after uniting, it would make a good hardy and valuable stock. But some species of Cherry live but a short time on another species. We have frequently tried the rare Californian *Cerasus illicifolia* on the Prunus or Cerasus padus. They "take" easily, but invariably after pushing a few inches into growth, they die away entirely to the stock.—Ed.]

PROGRESS OF HORTICULTURE IN HINGHAM, MASS.

BY GEO. LINCOLN.

As your ever welcome *Monthly* brings the latest intelligence relating to the advancement of Horticulture at the North, South, East and West! perhaps a few notes from this section of the old "Bay State" may not be uninteresting to the majority of readers.

This ancient town, famous for its "Old Church," "Bucket Shops," and Summer Residences, is 14 miles South-east from Boston, to which it is connected by railroad and steamboat. With such facilities, it is not strange that some of Boston's prominent business men should select this locality wherein to build themselves homes after their own fancy;—many a rough and rocky situation has thus become smooth; and many a crooked place made straight, and barren spot made fertile—while the eye is gratified by the sight of modern built dwellings from hill-top and valley. The result in part is, that professional gardeners realize an increasing demand for their services; nurserymen are liberally patronized; mammoth vegetables and rare plants are introduced, &c., &c.

An Agricultural and Horticultural Society has recently been formed in this town, with the following list of officers:

President—Hon. Albert Fearing.
Vice-Presidents—Chas. Cushing and David Whiton.
Corresponding Secretary—T. T. Bouve.
Recording Secretary—Edmund Hersey.
Treasurer—Joseph H. French.

This society now numbers about two hundred members, has monthly meetings for display and debate, besides a yearly grand exhibition of stock, fruits, flowers, vegetables, &c.

I was much pleased with a recent visit to the garden and grounds of Mr. Alfred Loring, (within a stones throw of the spot where stood the original Cushing Pear Tree), South Hingham.

Mr. Loring in all his plans combines practice with theory,—is an earnest seeker after knowledge, whether it is derived from experiment or conversation; and further, does not condemn a truth because it happens to be found "in the books. His compost heaps are allowed to remain and pulverize two years before being used—receiving meanwhile much attention, and a liberal supply of soda ash. I noticed some splendid specimens of Apple and Pear trees, in an adjoining field of Carrot, as well as in the vegetable garden, that suggested by their smooth and glossy trunks and beauty of form, all that language could express relating to suitable nourishment and care for the growing tree.

His Currant and Gooseberry bushes, trained in the mode here presented, made quite an attractive ap-

pearance. The canes were neatly secured within hoops, which were fastened to stout stakes, suggesting order and regularity, besides economy of space, and rendering easy access in gathering the fruit.

On the North side of this garden enclosure, and within eight or ten feet of a substantial bank wall, is a row of about fifty Grape vines, consisting of Delawares, Dianas, Concord, Hartford Prolific, Winnie, Jenning's Seedling, Isabellas, Ohios, and Catawbas. The border for these vines was excavated nearly three feet deep, and large stones, brickbats, and old mortar, thrown in for a bottom course; then rubbish, leather parings, horn scrapings, bones, and from 30 to 40 pounds of "old horse," to each vine, filling up with wood mould, well-rotted dung and unctuous loam.

It is with pleasure I notice this advance in our grape culture—formerly an Isabella or Catawba stuck into some corner, or allowed to run at random over the "back room," was the only *collection*, or *system of cultivation*, to be found in this section; but thanks to

the inventor of printer's ink, information is now easily obtained by those who seek instruction through the weekly and monthly journals devoted to rural affairs, &c.

I intended at the commencement to notice other places, but am aware that a communication to prove acceptable, must be brief.

SKETCHES of PHILADELPHIA BOTANISTS

BY L.

I.—PETER COLLINSON.

In your interesting sketch of Nuttall, in a late number of the *Gardener's Monthly*, you remark that "his name will be perpetuated amongst the votaries of science, not only by his labors and discoveries, but also by a beautiful genus of Rosaceæ, called, in honor of him, Nuttallia." On perusing this passage I recalled to mind other devotees of science associated with its advancement among us, all interesting to every one, and especially Philadelphians, who properly esteem the memory of the great and good who have lived and labored for us, whether in our midst or in distant lands, whose names will also be handed down to posterity, embalmed in the amber of botanical nomenclature.

Among the names that deserve to be held in grateful remembrance by Philadelphians, as the earliest patrons and cultivators of the "amiable science," stand those of Collinson and Fothergill, Bartram and Marshall.

Peter Collinson was a merchant of London, of comprehensive mind and of varied and extensive acquirements. Though diligently attentive to the details of business, he found time to cultivate a knowledge of Botany and Antiquities, and to maintain a correspondence on scientific subjects, which embraced every nation in Europe and extended in Asia as far as Pekin. He was an ardent lover of nature in every form. In one of his letters to Sir James Edward Smith, he declares that every living thing called forth his affections.

A genial writer* grows eloquent while sketching the virtues of Peter Collinson. Reciting the characteristics of the Society of Friends in the following strain—"Their quiet virtues, happy amenities, and silent worth, do not attract the gaze of the world. * * Their simple habits, their industry, integrity and thrift; their pleasure in doing good; their intense interest in nature's handywork; their estimate of things conducive to comfort, peace and happiness over things luxurious and things ostentatious; their abhorrence of war; their active sympathy with all in distress, and their preference of the good name, which is better than precious ointment or worldly glory," he adds, "all these peculiarities had a faithful representative in Peter Collinson."

He continues with the opinion which many will incline to doubt, that, "In their full representation we do not think the Society has produced his superior." One who understands the character of Peter Collinson as well as any man living, says "he was one of the earliest and most distinguished patrons of the Natural Sciences in the Society of Friends; and at the same time an honor and an ornament to the sect."

Doctor John Fothergill was a patron of Botany and most extraordinary man, whether we regard the remarkable success with which he practised his profession, or the unwearied benevolence with which he distributed the fruits of his labors in his generous patronage of every good word and work. Endowed by nature with a comprehensive intellect, improved by a sound and liberal education, he may safely be regarded as the most accomplished Quaker that ever lived, whether considered as a man of science or as a philanthropist. The writer to whom we have above referred, adds,—"While the Society of Friends may ever be proud of their great lawgiver Penn, the lovers of nature among them may boast of a Logan, a Collinson, a Fothergill and a Marshall; to each of whom a *genus* has been dedicated, that will preserve the memory of their worth and services as long as the plants which bear their names shall continue to grow."

Though to Dr. Fothergill is assigned pre-eminence in science and philanthropy, "as a practical utilitarian, a helper of others to do good to their fellowmen, by enlarging the domains of science, to push their research through difficulties and dangers to earth's remotest bounds, and perhaps in some other characteristic excellencies, Peter Collinson surpassed him. Could we ask Dr. Franklin, 'who of all men best deserved a statue in commemoration of active, disinterested and valuable services in building up the Philadelphia Library,' he would say, 'Peter Collinson.' Ask Franklin again, 'from whom he derived the information, and who furnished him with the hints, and put into his hands the actual means whereby he made his splendid discovery of the identity of lightning and electricity,' and he will tell you, 'Peter Collinson.' He was the only man in the Royal Society at London, who appreciated Franklin's letters announcing his discovery, which, when first communicated, was frowned down, sneered at, and refused a place in their published transactions. Peter Collinson had them published, drew the attention of intelligent men to them, excited admiration of the wonderful secret disclosed, and was among the very first to forsee and proclaim Franklin's undying renown."

* Wm. H. Dillingham, In "A Tribute to the Memory of Peter Collinson, &c. &c. Philadelphia, 1852.

The patronage extended by Peter Collinson to John Bartram, greatly enlarged the field of labor of that great natural botanist, and enriched England with many trees and shrubs, which remain monuments of his taste and liberality. At Collinson's garden, at Mill Hill, the *Periploca græca* and numerous other trees and shrubs flowered for the first time in England. The place was kept up for some years by his son, afterwards it changed hands and fell into the possession of the Protestant dissenters, who established there a Grammar-school. A new house has since been built. In 1835 there stood in the grounds a Cedar, 60 feet high, its lowest branches reclining on the ground, and covering a space of 70 feet in diameter. Two *Pinus cembra*, with trunks nearly two feet in diameter, and from 50 to 60 feet high—the finest specimens of this tree in England. These are probably the plants presented to him by the Duke of Argyle; one brought from Siberia, 1753, the other from the Alps, 1761. There was also, in 1835, near his former residence, a Hemlock Spruce, 50 feet high, extending 40 feet in diameter. A cone of *Laurustinus* 20 feet in diameter at the base, besides several other trees and shrubs, evidently as old as the time of Collinson. To the credit of the proprietors of the school, these fine specimens are carefully preserved and the name of Collinson respected as it ought to be. Many of the rarest plants had, through mere ignorance, been rooted out by a former owner; trees scarcely to be found in perfection anywhere else in the kingdom at the time, and to contemplate which good old Peter wrote, in one of his copies of *Miller's Gardener's Dictionary*, at the age of 68, furnished his greatest source of happiness.

Peter Collinson was an intimate and valued friend of Linnæus, who conferred the name of "Collinsonia" on a genus of labiate plants, the horse-balm of the fields. In several text-books it is said to have been named in honor of "*John* Collinson, an English botanist." !

WINE MAKING AROUND CINCINNATI.

BY MESSRS. HASELTINE, BUCHANAN AND MOTTIER.

Feeling the importance of the Wine making interest to the community, we have engaged some of our Cincinnati friends to inform us as to the condition and improvements that are made, from time to time, in the head-quarters of Vine culture and Wine making. Messrs. Haseltine, Buchanan and Mottier, deserve the thanks of our readers for their kind responses to our inquiries.

The first letter is from Mr. Haseltine. He says:

"I have collected these few facts for your *Monthly*, from Mr. Buchanan, a very successful practical man, and favorably known to the country; also Mr. Mottier, who is a very enthusiastic cultivator, of thirty years' experience in America. Mr. Mottier's wine has taken several premiums and stands at the head of the list. He also has put in an acre of *Delaware Grapes* and speaks of them in the highest praise. You shall hear from him again on the Delaware, Herbemont and Cape. The drawings sent are from Mr. Buchanan's wine cellar, by an artist from the office of the *Scientific Artizan*. The numerous casks are arranged on a rack for the purpose, at such a distance from the wall as that a person can pass entirely around, to see that all is tight and no leakage, or for repairs. The communications sent will explain the use of the different drawings. The vintage of 1859, within twenty miles of Cincinnati, Mr. Buchanan estimates at 2,000 acres, averaging 350 gallons per acre. This at $1 per gallon, nets an income of seven hundred thousand dollars; but much is sold at $1 50 per gallon by the barrel or keg, so that the product of the vine here may safely be estimated at between 8 and 900,000 dollars. The many thousand vines and cuttings sold in this city this Spring, attest the progress that is going on. Our association will be able to test fairly this fall the following wines produced here, viz.: Catawba, Herbemont, Isabella, Delaware, Cape, Norton's Virgin, and probably several others. So soon we shall be able to suit the tastes of all in our own native wine, pure and good, then it will supplant whiskey and brandy—nothing else can. Many see this in the wine districts of Europe, and my own observations there confirm this belief. I should perhaps say that our best vineyards produced from six to eight hundred gallons per acre last year. The vines now look well, and the promise of an abundant crop is very flattering. We think our vines have now outgrown the effects of the cold winter of '56, and that the crops will be more uniform hereafter. Besides the wine made here last year, an enormous amount of Grapes was shipped all over the country. I sold all mine in baskets, and disposed of many of my neighbors in the same way. I hope we shall be able to get at the statistics this season, of what is doing in this way.

Three dollars per bushel was the market price. What can be more delicious than a plate of good ripe grapes for dessert, and as we may have them by the different varieties so long, it is another encouraging reason for all to plant. But I am writing too long an article, and will close for the present.

Respectfully yours, S. W. HASELTINE,

Secretary of Am. Wine Growers Association."

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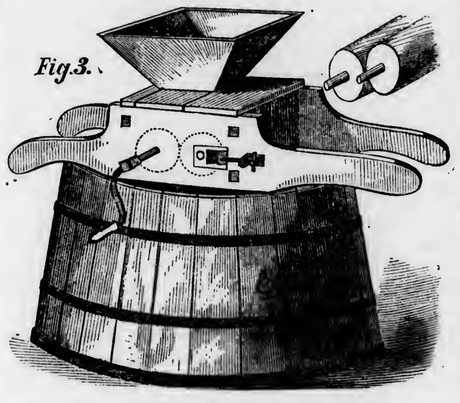
The next article is from the pen of Mr. Mottier, whose reputation as a first class manufacturer, the reports of the Cincinnati Horticultural Society so fully attest:

"To make good wine it is necessary to have a good cellar, clean casks, press, &c.

First of all have your grapes well ripened,—gather in dry weather, and pick carefully all the unripe berries, and all the dried and damaged ones from each bunch; then mash or grind them with a mill, if you have a proper mill for it. The annexed drawing Fig. 3, is of a kind much used here:

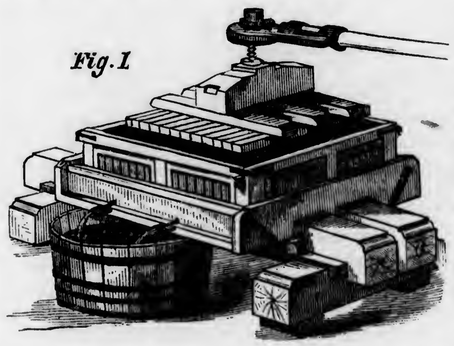
Fig. 3.



Be careful not to set your mill so close as to mash the seed up, or they would give a bad taste to the wine. If you wish to have wine of a rose color let the grapes remain in a large tub a few hours before pressing. The longer time you leave the grapes before pressing after they are mashed, the more color the wine will have.

For pressing the grape any press will answer, provided it is kept clean and sweet, but Fig. 1 is the kind most used here.

Fig. I



After you have collected the must in a clean tub from the press, have it transferred into the cask in the cellar. Fill the cask (see *C.* Fig. 2) within 10

Fig. 2.

inches of the bung, then place one end of a syphon (see *A.* and *B.* Fig. 2) made for that purpose, in the bung, and fixed air tight; the other end in a bucket containing cool water, the gas then passes off from the cask without the air coming in contact with the wine, which would destroy that fine grape flavor which makes our Catawba wine so celebrated. When properly made the must will undergo fermentation. Keep the end of the siphon that is in the water fully four inches deep, so as to exclude the air from the wine. When it has fermented, which will be in about fifteen days, fill the cask with the same kind of wine, and bung it loosely for one week, then make it tight, nothing more is needed till it is clear, which if all is right, will be in January or February next, then if perfectly clear, rack off in another clean cask, bung it up tightly until wanted. If the wine remain in the cask till Fall, about November it will improve by racking it again, and be sure to always have sweet clean casks. Do not burn too much brimstone in the cask. I have seen much wine injured by excessive use of brimstone, generally by new beginners. For my part I make little use of it. You can make different qualities of wine with the same grape, by separating the different run of the same pressing; the first run is the finest, if you want to make use of it the first season; but it will not keep long without losing its fine quality. To make good sound wine improve by age, the plan is to mix all up together. The very last run will make it rough, but will have better body and better flavor when two or three years old, and will improve for a number of years. The first run will not be good after two or three years old. I have fully tested the different ways of making and keeping wine this last twenty-five years.

Respectfully, JOHN E. MOTTIER.

Mr. Buchanan's article in the main gives the same information as that detailed by the other two gentlemen,—but the other items we shall insert in our

next. The cut of his wine press, however, we give above, and are much obliged by his permission to have the drawing taken for us.

POPULAR GRAPES—REBECCA.

BY A NEW YORK FRUIT GROWER.

The sweetest and richest of all grapes that I know, it being a compound of honey and refined sugar, and no one will need more than a bunch or two of it at a time, before he will find his appetite fully satisfied. We have several years' experience with it, and are willing to impart all we know about it to your readers, in hopes that some of them who have grown it will reciprocate, and we then can learn what localities are most congenial to it. Unfortunately it is rather delicate and sensitive, and apt to suffer from the sudden changes of temperature incident to our climate, and should be planted in a sheltered place, receive generous treatment and by no means be allowed to overbear, as that would be ruinous to it. I fear it will never become popular in the vineyard, as it is not as strong or hardy as the Isabella or Catawba, and more subject to mildew than either of those varieties, but in *every well kept garden* it certainly is *indispensable*. It is easy to propagate either from cuttings or layers, and in a few years it will be sold cheaply enough to be within the reach of even the poorest person in the land.

Wm. R. Prince's Descriptive Catalogue of Native Grapes, so fully and truly describes it, that I am induced to quote his description.

"Rebecca, an estimable seedling of the Golden Chasselas; medium size, amber, round, thin skin, juicy sweet, same flavor as its parent, more hardness of pulp than the European varieties; cluster medium, compact. It forms extensive shoots, but of slender growth. Its habit, sensitiveness, and proneness to mildew, accord precisely with the foreign Chasselas varieties."

"It ripens middle of September, but can never be adopted in vineyard culture."

SKETCHES OF SOUTHERN GARDENS.

BY J. W. JONES, CHARLESTON, S. C.

No. I.

Garden of the Rev. J. G. Drayton, at Magnolia, St. Andrew's Parish, twelve miles from Charleston, S. C., April 14th.

Having arranged to visit this place while yet in its beauty, I started off this pleasant Spring morning when every thing looks bright and gay, and nature is putting on her Summer dress. Over the long bridge across the dark Ashley, and we are fairly in the country. How warm and pure the air! How exhilirating to the poor pent up dweller in the city. Even Rozinante, poor hack, pricks up her ears, whisks her "fly brush," and seems half inclined for a gallop. The pines look dark and sombre now among the fresh green leaves of the deciduous trees. The morning is warm, almost sultry; great coppery hued banks of clouds seem to promise the much wanted rain, for the dry sand is six inches deep in the road. A snug looking cotton plantation on the right, and a "farm" (in Charleston parlance) or, as you at the North would call it, a market garden or "truckery" (a vile word) on the left, with its acres of Peas, Potatoes and other vegetables coming on for the Northern market.

A ride of a mile and we turn to the right, taking what is called the River road. We are in the forest now where the trees arch over the road, and the atmosphere is cool. Wayside flowers are scarce yet. The yellow Jasmine, (*Gelsemium nitidum,*) is waving its few last scattered flowers; its reign is over for the season. The modest little *Sisyrinchium Bermudianum* spreads its blue stars abroad, courting the admiration it so well deserves. The gay Atamasco Lily (*Zephyranthes* or *Amaryllis Atamasco*) is holding up its silvery cups to catch the rain which comes not. The Dogwoods flit like pale ghosts through the forest as we trot cheerily along. A few stray Honeysuckles (*Caprifolium sempervirens*), a few blue *Iris* in a ditch, and, more gay than all, the wild Azaleas (*A. nudiflora*), stand out conspicuously, decking the more open places with their beautiful flowers of all shades of pink.

Open country again. Polite negroes—some planting cotton, some plowing, some dropping guano or other fertilizers in the rows—all busy. Dark forests again. Everywhere Pines, Gums (*Liquidambar*), here and there a Tulip Tree (*Liriodendron*), Water Oaks (*Quercus laurifolia*), and occasionally a live Oak (*Q. virens*), spreads abroad its tortuous arms, clothed with the long pendant gray moss (*Tillandsia usneoides*) waving mournfully to and fro in the wind. Here is a whole avenue of these oaks, fine, majestic old fellows, how venerable they look in their long grey beards!

Entrance gates dotted along this dull road every mile or two, but alas! not a lodge to one of them. Scarcely a building in sight anywhere, yet I am passing through a populous neighborhood, but the houses and settlements are buried away in the woods. Now were there a lodge to each of these entrances the aspect of the road would be entirely changed; its dullness would disappear, for there would, ever and anon, be some new object to attract attention. There would be some signs of life. We should feel that we were in a cultivated country, and not in a wild forest. An entrance lodge, in some simple style, in an open sunny space, with a little shrubbery and flowers around, and tenanted by a pair of those old faithful

superannuated servants that are found on every plantation would form, as it were, an out post of the place—the connecting link between the plantation and the outer world.

But here I am at the entrance gate to Magnolia, my place of destination; and a noble entrance it is, though minus the lodge. Here is a fine avenue, sweeping down in a long descending vista. No underbrush, dead sticks, fallen trees or rank weeds,—I feel at once I am in a place where an eye is had to order. Down this long avenue, now spreading out into open park like scenery, a sweep round to the right and I am in front of the mansion. Before it a wide spreading grassy lawn, margined by wood and water, and by far the handsomest lawn I have seen in the South, composed chiefly of *Rottboellia dimidiata*, a low growing coarse grass, but forming a tolerable turf when well pastured.

The house stands on a bluff, overlooking the river Ashley, distant about 120 yards. In the space between the river and the house, but extending a considerable distance on each side, is the garden, about ten acres in extent, with (for this part of the country) a somewhat diversified surface. Some years ago the Reverend proprietor, driven by ill health from the study to the garden,—driven from man's highest occupation in his present cultivated state, back to his primitive business in the garden, "to dress and to keep it,"—he found not only renovated health but an enthusiastic love for all of nature's beautiful productions in trees and flowers.

Here was an old rectangular garden, with broad walks and narrow beds down each side, that had probably been planted with a few old fashioned trees and shrubs, the centres of the squares being used for vegetables. But at the time Mr. Drayton commenced operations, scarcely a vestige of the old garden remained, except a few old plants of *Illicium floridanum*. Without experience, and without an adviser, seeking rather health by active exercise than to make a fine garden, he buys his experience, rather dearly sometimes no doubt. Much that had been done was to do over again, and even a third time? but every year adds something to the garden, something to the stock of experience, and, as the results develope themselves, what was perhaps at first a toil became a labor of love.

As you stand here now at the head of this broad central walk, you look down an avenue of fine *Magnolia grandifloras*, some of them seventy feet high, making a noble back-ground. In between, and in front of these noblest of evergreen trees, *Camellia japonicas*, *Chinese Azaleas*, and great variety of other evergreen ornamental shrubs are planted. These are not those scraggy looking drawn up things we are accustomed to see in pots. The Camellias are more or less conical in form, branched and leafy to the ground, six, eight and even twelve feet high. But they are mere infants yet; they are only just beginning to put forth their strength. Here is a *Carswelliana*, which last season made numerous shoots, some of them two feet nine inches, and others *three feet five* inches in length; not in a few long watery shoots, but stout and well ripened, and now bursting a bud at almost every leaf for extended growth. Notwithstanding their vigorous growth these plants bloom abundantly; the wonder really is how they can perfect such a mass of flowers. Many of them begin blooming in October, and now, in the middle of April, they are but just passing away. When I say the collection of Camellias embraces 150 choice varieties, it will be seen that it is a good one; it includes, perhaps nearly all the fine newer varieties and a great many magnificent old ones—varieties that have gone out of fashion among pot cultivators simply because they are not regularly formed flowers. Place Sarah Frost here beside this great bush of Greville's Red. Sarah is very symmetrical, no doubt, very prim and of faultless form; but look at the great fiery globes of this rough old fellow. Stand off twenty yards and see the effect of each—one is a refined polished lady, fitted for the boudoir or conservatory; the other a rough old soldier, good in all weathers.

There are, perhaps, but few persons in this country who know Camellias better than Mr. Drayton. Here is a list of a few he particularly recommends:

IMBRICATED VARIETIES.

Alba pleno, Amabile, ALEXINA, *Candidissima*, *Ellen*, Fordii, Frankfurtensis, Gen. Wayne, Henri le Favre, INCARNATA, *Dunlop's Imbricata*, Miniata, Myrtifolia, Mrs. Fetters, *Prattii*, Pictorum roseum, REINE DES FLEURS, Rosea sinensis, *Saccoi*, Serratifolia, *Spineo*, *Sweeti-vera*, William IV., *Duc d' Orleans.*

IRREGULAR VARIETIES.

Albertus, Chandleri, Versicolor, Conspicua, COLLETII, Concinna, EMILY, Eclipse, GILESII, Marchioness of Exeter, *Mammoth*, Variegata, WELBANKIANA, GREVILLE'S RED; and of single varieties, DONCKLAARII and Tricolor.

Those in *italics* are considered beautiful, those in SMALL CAPITALS the very *creme de la creme* for outdoor planting; hardy, prolific, showy and blooming, as Mr. D. says, "almost with the ice upon them," but all are good. No doubt many others might be added, it being rather a nice matter to settle which to exclude. There can, however, be no doubt about the following *black list*, viz.:—Martha, Duchesse d'Orleans, Elata, Gen. Washington, Picturata, Queen of Whites, and Sherwoodii; the first two and the fifth rarely open, the rest are utterly worthless and unsatisfactory. No doubt a few more might be added to this list also.

It must be remembered I am writing of Camellias in the open air; in pots, or in a greenhouse, one or two varieties on the black list are *sometimes* pretty good.

Of the above list, short as it is, there are some that would be rejected by pot cultivators, because they do not come up to the standard of perfect flowers; but wherever the Camellia is cultivated as a hardy evergreen shrub, all those varieties recommended above are indispensable. Here, where the plants are scattered over so many acres, the eye does not pause to examine particular flowers. Each flower, though a beautiful object in itself, is lost in the mass, it is but an atom in a grand combination. It is the plants only that stand out as separate and distinct objects, forming masses of color, clearly defined and thrown out by the dark green of the foliage.

When we look down on a well arranged flower garden, where each bed is a mass of one color, if these masses are harmoniously arranged, we look to the effect produced as a whole; we do not examine it analytically flower by flower, but rather mass by mass, for each mass stands out and forms but one object though made up of thousands of separate flowers. And so it is with these gorgeously colored flowers, it is the effect they produce when seen in masses, and not to the individual flowers we look. When these trees of which I am writing have attained a height of 20 or 30 feet, which they will do in a few years; when they have lost the conical and taken the spherical form, which they will do ultimately; when all these acres are studded over with such trees, each producing its thousands upon thousands of flowers, then it will be seen that color, not form, ought to be matter of first consideration.

In the greenhouse it is quite a different matter, there the eye is prepared to go into detail, and finely formed flowers may be the most desirable. Mr. Drayton does not reject these finely formed flowers, he plants and admires them much; but it is a matter of regret to him that so many of the finer old varieties are now so difficult to obtain.

I was much pleased with two or three flowers of a Camellia called Low's Sovereign, a double white with, occasionally, a single dash of rose. It is a fine bold looking flower, with broad, almost circular petals, quite distinct.

The Camellia bears seed freely in this climate, and I have no doubt were pains taken in hybridizing scientifically, that an abundance of varieties might be raised. Mr. Drayton has numerous seedlings, some of them large bushes bearing irregular flowers, and not named. There is one, however, called Mrs. Drayton, that seems well worthy of propagation, being a beautiful pink, of perfect form. Something in the way of Henri le Favre or Saccoi, as well as I could make out from the few half withered flowers that remained. Here too is a large bush that has been raised from a sporting branch of Feastii, quite as distinct and superior to its parent; that has been named Julia Drayton, in compliment to a beloved daughter.

I was much too late for the Camellias and fully two weeks too late to see the Azaleas in perfection. The collection contains nearly 100 varieties. Though past the best, some of them are still very beautiful. Here is a magnificent plant of *Phœnecia*, nine feet high and nine feet in diameter; a *coccinea*, eight feet high and twelve feet across; a *Majestica*, seven feet high and twelve feet through. Huge plants of *Specisissima, Williamsii, alba, Ascendens, Conqueror, Formosa, Van Houttii, Excelsa, Indica, Iveryana, Magnifica, Triumphans, Van Gertiana, Vittata, Variegata*, and others of the older varieties. Though the effect was somewhat marred by the withered and drooping flowers, these plants were still masses of flowers spreading out in large sheets. There were so many fine objects, so much to see and to talk about, that the note book was forgotten. So many new sorts to examine, and their merits to be canvassed, that to describe all would be to write a book. It is enough to say that the cultivation of Chinese Azaleas is here a decided success, and of all hardy, evergreen flowering shrubs, next the Camellia, the Azalea must rank the highest. Like the Camellias they are planted about everywhere, in lines, in groups and in single specimens; the greater part of both being planted in the full open sun.

At the north end of the grounds; and shut in entirely by trees, is a pretty little flower garden of half an acre or more, evidently a pet affair. On the west side is a pretty ornamental sheet* of water, fringed with *Cupressus disticha* and other trees. In this garden is a small collection of Rhododendrons, which look very well, but the climate does not seem to suit them exactly. They grow freely and form plenty of flower buds; but, unfortunately, the greater part of the buds burst into flower in the autumn instead of in Spring. The fact is with these, as with many other plants from colder climates, our long hot summers act upon them like the winters of colder climates; they remain in a dormant state, and as soon as colder weather sets in, they begin to grow. I may here remark that plants from higher latitudes or colder climates are often killed here, where plants really less hardy escape uninjured. This is caused by our long hot summers. The plants from cold latitudes take a three month's rest in Summer, and begin growing again in October, so that they are caught in a growing state by frosts in November or December. After a time most plants become used to the climate, and this may be case with Rhododendrons. I think if they were planted more in the shade, and in a damp peaty soil, they may yet rival their relatives the Azaleas. Much has yet to be done in crossing these two genera (Don will have it they are not botanically distinct).

* I use this word "sheet" as preferable to *pond*, which is a word ignored amongst landscape gardeners. To call a small *piece* of water a *lake* is, I think, equally a misnomer. *Lakelet* is, perhaps, the proper and most expressive term.

I shall not dwell on the contents of this little garden, it is a sweet spot, filled with "flowers of all hue." Roses, Verbenas, Tulips, Pæonies, Gladioli, Oxalis and a score of other things all in full bloom.

Though the Camellia and Azalea are the chief attractions at Magnolia Hall, the admirer of fine evergreens will here find abundant objects to attract attention. Beautiful specimens of *Cedrus Deodara* and *Cryptomeria* fifteen to twenty feet high, drooping, graceful plants, in high health. *Cupressus funebris*, an elegant specimen, eight or ten feet high, being planted but five years, is beginning to show its beautiful weeping habit. *C. Corneyana* promises to be a beautiful thing, having, so far, a weeping habit.

There are fifteen other species of Cypress, they are, however, to small as yet to make a show, or even to indicate what they will be. There are about a dozen species of Juniper out for trial, and doing very well so far; the same may be said of as many Pines. *Taxodium sempervirens* will soon be a tree, it seems to be quite at home; and the finest plant I have seen of *Taxus japonica* is here. There is also *T. Canadensis*, four or five feet high, and looking as handsome as if amongst its native snows, these with four others complete the list of Yews. Amongst the rare *Thuyas* are *gigantea, plicata, Warreana, Ægyptica, aspleniifolia, aurea* and others. The two *Libocedrus decurrens* and *Chilœnsis, Cephalotaxus Fortunii*, five species of *Abies, Cunninghamia sinensis* and *Araucaria Braziliensis*, and many more with "hard" names, but doing well notwithstanding. The Japan Plum, *Eriobotrya (Mespilus) japonica, Podocarpuses* and *Raphiolepises, Illicium anisatum, I. floridanum and religiosum.* I noted the Norway Spruce, a rare tree with us in the low country. Some of the specimens are ten feet high, in perfect health and growing freely, still the plants have that sparse meagre look which they have at the North, when in extremely unsuitable soil; they live and grow, but evidently are not at home here. The Hemlock Spruce looks pretty well in a partially shaded position. Mr. Drayton pointed out a new variety or, as some say, a new undescribed species of the Hemlock. The foliage is not arranged in straight lines on each side of the twigs, like the common one, but in whorls partly, in some places spirally and in others in pairs. It is certainly distinct. The plants are about six feet high. They are the common Hemlock in every respect except in the position of the foliage. It is possible, however, that the full grown trees may show other differences. The plants are from the mountains of North Carolina.

From the first of May until the first of November the dread of malarious fever drives the planters to the city, to the high, dry, healthy pine barrens, or healthy neighboring villages. This fact has, in some measure, influenced Mr. Drayton's selection of flowering shrubs and plants. His object is to collect together such plants as bloom only when they can be seen and enjoyed, in winter and early spring. No gardener is employed, nor does there seem much need of one. The keeping of the place is perfect, not a weed, hardly a dead leaf to be seen. I do not see how things could be much better managed. Even your critical eye, Mr. Editor, would see few incongruities. No doubt if the whole had to be done over again, and done in one or two seasons, great improvements might be made in the arrangement of the plants and other thing. It must be remembered, however, that we have not your fine green turf for a ground work. We cannot have those open grass spaces in our gardens which are such a relief and a repose to the eye. I am in hopes the *Spergula* may succeed with us; it is doing well so far in two or three places; should it succeed it will be an acquisition indeed to us. All our open spaces must be filled up with trees or plants of some kind, hence our gardens must, to a stranger from the north, look like wildernesses of trees and shrubs. There are difficulties and disadvantages to contend with here that are never felt in more healthy climates. But the day will come when the immense "material" that can be brought together, to assist in landscape gardening or in garden adornment, will be put to its proper use. When it is remembered that almost all the plants and trees of the world, that are not intertropical, can be grown here, it will be seen we have plenty of material to work upon. Our own noble Oaks, Magnolias, Palmettos, &c., are a host in themselves; but they are nothing to the vast array produced by other countries, which could be brought together. Some wise man has said that no one has such magnificent visions as the poor man. I often feel its truth while thinking of what *might* be done here in the way of landscape gardening.

Mr. Drayton is a Pear culturist, too. He has some seventy or eighty varieties on his list. He has experienced no difficulty with dwarf Pears, they bear regularly and finely. The soil of the place is a sandy loam on a stiff marly subsoil.

After all, I fear I have given your readers but a poor idea of the place. What I have written is rather a dissertation on gardening than a description of what I saw. I have, in fact, but a very confused idea of the place myself, for I paid little attention to its

form or general appearance, I was so much attracted by the different beautiful plants in all directions, and wheeled and turned hither and thither so much, that I have no idea of the ground I walked over.

I have headed this sketch No. 1; should I continue to send you further numbers I will be more brief and merciful of your space, and try to be a little more clear in my descriptions.

LAWNS.

BY K.

I read with much pleasure your admirable remarks on lawns, but there is one point you have omitted to notice which I think has a great tendency to improve a lawn,—I mean the new idea of mowing often, and leaving the mowings to lie on where it falls. By this nothing is taken away to impoverish the soil, and the double labor avoided of having to take up and carry away the mowings. I have not seen it practised myself, but am credibly informed by those who have, that it answers admirably, and that the littery appearance one would suppose such a lawn to present, is in reality but imaginary. It seems to me so reasonable that I could not avoid suggesting it to you as an additional hint for your interesting editorial.

[We are much obliged to K. for the hint. We saw it practised at Wodenethe when we were there last Summer, and so can "speak by the card" as to its good results. It should be stated however that the lawn is there mowed by a machine, and we doubt whether any but a very expert hand mower could do much with a common scythe, going over the lawn every week or ten days. In fact there is this difference,—the scythe works easiest with the grass long, when it will not do to neglect the mowings, while the machine will work *only* in lawns kept closely shaved.—Ed.]

RUSHES *vs.* STRAW, FOR THATCHING.

BY J. W. J.

You had two or three communications on thatching in last year's *Monthly*, but none of the writers mention rushes as being used. They are, however, neater and make a much more compact and durable thatch than straw of any kind. They should be cut in the fall, bundled, dried and used in all respects like straw. After some years, when the ends of the rushes begin to decay, the thatch should be beaten, and all broken fragments swept off with a stiff broom; otherwise a vegetable mould is formed, and grass or weeds of some kind take possession and soon cause the thatch to rot through. Thatched buildings do not last long except where fully exposed to the sun and air.

PEARS IN THE SOUTH-WEST.

BY THOS. AFFLECK, WASHINGTON, ADAMS CO., MISS.

April 6th, 1860.

The numbers preceding each of the following notes are those of my private catalogue. It is quite possible, though by no means probable, that an error or two may have crept in, as to sorts. The bulk of the varieties were received direct from Rivers. I have yet quite a number of the original imported trees—some on quince, some on pear—but, though treated with tenfold the care of any of those propagated from them, and growing in good soil, they have made no growth worth noting. I do not remember one of them that now exceeds 6 or 7 feet in height; and all have a shrivelled, sickly, dried-up appearance. I am not aware that any one of them ever bore more than a few indifferent specimens. There is one instance worthy of mention, that of a *Passan's du Portugal* on pear; the original tree is such an one as I describe, whilst my specimen tree, the result of a bud from that original, inserted in a fine native seedling, is now a tree of some 18 or 20 feet, a most noble pyramid, branched to the ground, and which has borne several heavy crops of this, not No. 1, yet very marketable fruit. Coming very early into bearing, and being so very productive and vigorous, it is a desirable sort.

But to the promised notes. Much repetition of description is inevitable; and that you and your readers must put up with.

No. 1. *Adele de St. Denis.* A handsome pyramid, about ten feet high, 4½ inches through at ten inches above ground; bears freely; now full of blossom, but foliage yet scanty. Here I may remark that there is a vast difference in the several varieties in these respects, and in the persistence of foliage in the fall. Many sorts are now in full leaf, with fruit set as large as a damson plum; whilst others have not yet opened a bud. And I have noted, I think, that those which leaf out earliest, also retain their leaves to the latest. This tree of *Adele* has been remarkably healthy until last Summer, when a scabbed appearance of the bark, with dead twigs and spurs, denoted disease. Close pruning may save it.

No. 2. *Alexandrine Helie, V. M.* A straggling, thinly branched tree, of rather slow growth, but healthy; about 8 feet high, 3 inches in diameter. Bore a fair crop last year. As yet foliage scant, blossoms do.

No. 5. *Arbre Courbé.* Handsome, healthy tree; and by judicious use of the knife, a free pyramid. Its habit is not nearly so *Courbé* as when on pear—*twisting, sprawling*, would suit fully as well as *crooked*, by way of translation. Tolerably productive. Not a leaf yet, some blossoms, buds swelling.

No. 6. *Archduke Charles.* Almost as upright in growth as the Lombardy Poplar; a healthy, beautiful tree, about 10 feet high, and fully five inches through. Has been quite productive, and is now covered with blossoms, foliage scant.

No. 7. *Augustine Lelieur.* A handsome tree, and hitherto healthy and thrifty. But now shows some signs of a diseased condition, in the *leprous* state of the bark of the trunk. No dead twigs, however, and is now in full leaf, with a heavy crop of fruit fully set. Bore and ripened a large crop last year; too large, I suspect. Ten feet high and five inches in diameter.

No. 8. *Baronne de Mello.* Had been, until last year, a thrifty, vigorous, handsome tree, but is decidedly diseased and cannot last long. Bore a heavy crop last year, and shows some few blossoms now; foliage scanty. One dislikes to see a tree like this die: now some 12 feet high, 5 inches in diameter and handsomely branched. But, in experimental grounds, this is at times unavoidable.

No. 9. *Beau present d'Artois.* A "handsome gift" it is indeed. No more beautiful object on my ground than this tree; some 10 or 11 feet high, and 5 inches through, perfectly pyramidal and somewhat compact in habit, now in full leaf and with a heavy crop of fruit fully set. It has been quite productive, last year especially, of its enormously large and fine fruit, ripening through October, and keeping through November, in a cool, dry cellar, if suspended by the stem.

No. 10. *Belle Apres Noel.* The description of No. 9 suits for this to a T, and need not be repeated.

No. 12. *Bellissime d'Hiver.* A healthy, thrifty, tree, but quite a slow grower. Only some 8 feet high and 4 inches through. An abundant bearer, now full of foliage and with a heavy crop of fruit set.

No. 13. *Benoist.* Of a singular upright, fastigate habit; not very thrifty, yet bears well. 8 feet high, 4 inches in diameter; now full of leaf and with some fruit set.

No. 14. *Autumn Bergamot.* In many respects ditto to the last. Not productive. In fact, do not remember of ever seeing a fruit. Foliage yet scanty and only one bunch of blossom.

No. 141. *Winter Nelis.* This is a tree some 9 or 10 feet high, and 5 inches through, which was removed some fifteen months ago, to fill up a vacancy, yet bore some fine fruit last year, and has now a tremendously heavy crop set. It is one of several fine pyramids I have of this sort, both on pear and quince, and on both it is always productive at an early age, and fruit large and exquisite. There is no Pear I value more highly, and especially as a dwarf. For though of slow and straggling growth, it is hardy and productive, and fruit not to be surpassed. It ripens here through October, and even November.

No. 18. *March Bergamot.* I doubt the correctness of this tree, though the original came to me so labelled. It is one of the finest and most productive of large and excellent fruit on my grounds. As yet I have not identified it. The habit of the tree is that of *d'Angoulême*; fruit not so large, and finer in all respects. It has now a heavy crop set.

That is one of the greatest troubles we have here; the difficulty of identifying, having so few to compare notes with; and difference of time of ripening as compared with your seasons and those of Europe; as also that the fruit has, almost always, a higher color and richer flavor.

No. 19. *Bergamotte Lesible.*

No. 20. *B. de Parthenay.*

No. 21. *Burgermeister.*

These three are total failures on quince.

No. 24. *Beurré d'Amanlis.*

No. 25. *B. d'Anjou.*

No. 26. *B. d'Aremberg.*

These are all successful on quince, *d'Amanlis* especially, though I do not rank the fruit as high as some do here.

No. 27. *Beurre Bosc.* Although a tree of 12 feet in height, and 5 inches diameter, is not healthy looking; do not remember of its ever having perfected a fruit. Open, straggling growth.

No. 28. *Brown Beurre.* Ditto, ditto; but not of so strong a growth; 8 feet high, 3 inches through. Foliage scanty as yet; white with blossom, and much fruit set.

No. 32. *Beurré de Capaumont.* Fine thrifty trees of this sort; now full of foliage and much fruit set.

No. 35. *Beurré Diel.* Is here an excellent sort on quince. Tree quite a favorite with the late Doctor Jenkins. Grows thriftily and bears well; fruit large and fine.

No. 37. *Easter Beurre.* Am inclined to think this will prove one of our best varieties grown as a dwarf, From some oversight, had not tried it until lately. Grows well, making a handsome and healthy tree.

No. 38. *Beurre Giffard.* Of queer straggling growth; 12 feet high and 5 inches through. Foliage yet scanty; blossoms abundant. Bears heavy crops annually.

No. 39. *Beurré Goubalt.* Also an open growth and straggling but noble tree; some 10 feet high and stem 5 inches thick; an abundant bearer; an enormous crop now set; foliage yet scant.

No. 41. *Beurre Langelier.* A thrifty, compact handsome tree, 9 feet high and 5 inches in diameter; full of foliage, but scanty crop of fruit set.

[So little is yet known in the South of the newer kinds of Pears or of Pear growing, that Mr. Affleck's notes will make a valuable contribution to Southern pomology. We shall continue them in our next.—Ed.]

NEW MODE OF PROPAGATING.

BY JOHN WATSON, ROCHESTER, N. Y.

"STRIKING CUTTINGS.—Some seven or eight years ago, I sent you some little plants grown in nutshells, of which you gave a wood cut representation in your columns. I now beg to inform you that I have discovered a means by which I am enabled to strike and grow an almost incalculable number of plants in a very small space, without an atom of soil of any kind. I herewith send you a few bedding plants as an illustration. Not only may plants of this description be struck and grown, but Roses of all kinds, from the hard-wooded crested Moss to the most delicate China; and not only may they be grown as isolated plants, but by dozens in bundles, so that Roses may now be propagated annually and bedded-out like Scarlet Geraniums, Lantanas, &c. I also enclose a bundle of Roses, which you perceive are making roots, and will be ready to send out with the usual stock of plants. But my system is not confined to this tribe, for I am prepared to show that Apples, Pears, Plums, indeed any deciduous plants whatever, can be propagated by cuttings in the same manner, namely, without soil. Nor has age of cuttings any thing hardly to do with the process, for all kinds will strike and grow, almost at any age, at least from one to ten years' old wood.

I am not aware that this mode of propagation has ever been made known by any other person, so that, if you think it worthy of notice, you will do me a favor if you will give it publication. I also further beg to state, that my striking apparatus is simple, portable and my own invention; and I need not explain to you that it is on strictly scientific principles, founded on the organic structure of plants. After the cuttings are probably struck, a little moss is tied round them; they will keep for a month in that state.—W. PRESTOE, *Hackwood Park*."

The above, from the *Gardener's Chronicle* of the 12th of May, will probably attract the attention of the gardening world more than any thing connected with horticultural progress that has transpired for many a day. It is, in fact, the beginning of the end of all the ordinary and time-honored modes of propagation, and will doubtless prove as great a bug-bear to the Cunninghams of our large establishments, as was the introduction of the sewing and other labor-saving machines to the parties who were likely to be affected by their use. Nor is this a mere "hyperbolical exaggeration," founded simply on the testimony of others. The writer of this has long ago satisfied himself, and hopes very soon to be able to convince the public at large, that a complete revolution in the art of plant-propagating will speedily occur. Neither the excessive care and vigilance, nor the great amount of skill which is at present essential to success shall then be required; simplicity will be the order of the day, and plants that are now propagated in a mysterious and specific manner, will be made to succumb to the one simple and general rule.

It may, perhaps, interest the readers of the *Monthly* to know that during the past few months I have been experimenting in this department of the trade with a view to discover that simple and natural mode of propagation, which my ideas led me to suppose must necessarily lay beyond all our little tiny tricks and mystifying notions, and which I fondly hoped would be applicable to vegetation generally. In this I was not disappointed;—indeed my success has been most complete. I can now take hold of my cuttings—no matter of what description; green-wood or grey wood, old or young, deciduous or evergreen, leaves on or leaves off, in bundles or any other way you choose to arrange them—and propagate them with a degree of certainty seldom or never before attained. Besides, all this can be done without a tithe of the labor and expense usually expended in such cases; my apparatus is portable or not, just as you please; it is simple and would be laughed at so I shall not expose it; it can be filled to repletion, and it may be extended, purse permitting, *ad infinitum*. I shall not enter more into detail, but may simply remark that my success rests entirely on two very simple matters, the first of which is to *find out the very best medium for the development of the callus*; and the second point is *never to plant a cutting until the callus is fully formed*; then you may "tie on a bit of moss," or, what is much better, plant out in sand or sandy soil, with bottom heat. I may further observe that by this mode we get rid of a great and growing evil, the "fungus of the cutting bench." It is equally obvious, that by keeping up a supply of calloused cuttings, ready to pop in as soon as the others are rooted, "an almost incalculable number" of plants may be struck, and grown in a "very small space." It will do away, in a great measure with some kinds of grafting and budding; and I feel confident that I can "put Pear buds on quince cuttings, either in Summer or in Winter," and "put life and mettle i' their heels," with much more certainty than your correspondent ever dreamed of. I will not trespass any more on your valuable space. My best wishes for the success of the *Monthly*.

[In a private note, our correspondent refers us to responsible parties in "case we doubt his veracity." This we do not require, as no one who has read the *Monthly* in the past could fail to come to the conclusion that the success our correspondent details is not only possible, but has in a great measure become a "thing accomplished."

In one of our first numbers, the secret came out that there was no more difficulty in striking eyes of Native than of Foreign Grapes, *provided*, after they were cut ready for planting, they were suffered to lie mixed with damp moss for two weeks in a place secure from drying. Here they form a slight callousity, and when planted *all* grow. This hint we have reason to know has been extensively acted on, and thousands of dollars have been made through the information thus given. The hint, also, given by other of our correspondents, about leaving cuttings of such things as Cotoneasters, Prunuses, &c., in dark cellars in dry moss, when they would push roots freely, —the accounts of striking in Sphagnum moss, and many other details of practice and observation, have all pointed conclusively to one great principle, namely, that a "*callus can be formed in any cutting before being put into the soil*, and where that is effected, it can readily be made to root.

It is, in fact, now become well-known to some—we may say many—of our most skilled propagators, that all cuttings can be made to callous, and then be made to grow. *Apples*, *Peaches*, *Cherries* and *Plums*, are now freely struck by several in our immediate vicinity from cuttings, and many kinds of trees once thought impossible to propagate in that way, are now raised so very freely.

In our own experiments, we have found a common preserving bottle excellent for callousing hard cuttings. A sponge is pushed tightly into the bottom of the bottle, and water poured on. Then all the water is drained out that will go out by inverting the bottle, and the cuttings placed loosely in. No cork is placed in the bottle, and evaporation takes place slowly and the cutting soon forms the desired callus.

The whole secret, in fact, is in allowing free access of air to all parts of the cutting, at the same time taking care that *evaporation shall not be so excessive as to dry up the cutting*.

We have no doubt that all sorts of useful apparatus will be originated for rendering the process simple and easy; and the best thanks of our readers are due to Mr. Watson, for bringing it thus prominently forward. As he says, it will work the greatest revolution ever experienced in gardening.—ED.]

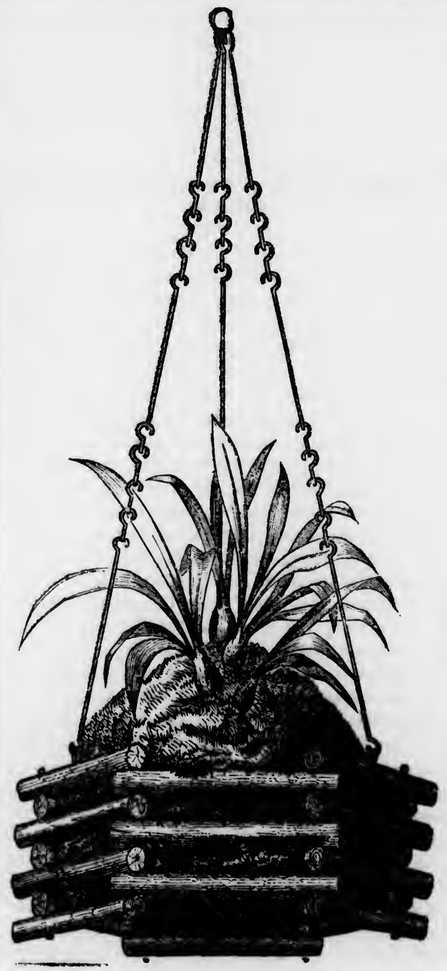
ORCHID CULTURE.

BY AN OLD GARDENER.

Mr. Editor: I enclose you a drawing of a basket used for Epiphytal orchid growing. This is constructed of white oak, rods of one inch to one inch and a half in diameter, cut in lengths of ten inches. Eighteen of these sticks are bored one inch and a half from the end, the hole being large enough to admit the passage of a strong copper wire, which is made fast at the bottom. At the top of the basket a ring is turned to admit the chain. The bottom is made of two lengths of the same rods, make in the form of a cross, and nailed with copper nails to the bottom rods of the basket. The openings between the rods are stuffed with Sphagnum, rather lightly dressed on the outside with a pair of shears. This basket has six sides, suspended by three lengths of chain, and is, I think, more suitable than green painted baskets made on the square by a carpenter, at least for all such having pendant flower stems, such as as Stanhopeas, Gongoras, Acroperas, &c.

I have baskets forming eight sides, made on the same principle, which are neat, requiring four chains.

Brass wire will not stand the continued moisture of the Orchid house, as recommended by some. I use the following compost in baskets, or if grown in pots, the same for the species that grow upon trees. Leaves not completely reduced, but what have been heated and are still adhering together in lumps, half rotten wood, Sphagnum in equal portions, and add to this a little white sand. In the bottom of the basket



I add the understratum of charcoal broken small, and when planting keep the plant well up in the centre of the basket, finishing off with clean Sphagnum. In this light, open compost they will thrive and root freely. When planting in pots, I invert a small pot within, filling around with broken charcoal, and

using the above compost.

There is nothing new in all this, but how seldom do you see it practised in this country. I know the most successful practical growers in Europe adopt the same treatment, and consider it better than the Lyon's system of using lumps of peat.

There is no class of plants grown, that have made such rapid improvement in cultivation, within this last few years, as the genus Orchid.

I may, at some future time trouble you with remarks on the cultivation of terrestrial species, if acceptable.

[We shall at all times be pleased to have the result of our correspondent's extensive experience on this or *any* subject.—Ed.]

CONSERVATORY AT THE PRESIDENT'S HOUSE.

BY J. WATT.

At page 174 of *Gardener's Monthly*, a correspondent, K. R. D., says of the conservatory under my charge, "I do not know even the name of the gardener, but candour compels me to say that the condition of these houses was either a disgrace to him or to the nation, in not providing him with sufficient help to keep them in order, &c." If the writer had such a desire of being candid, he should have been equally anxious to be just, and should have thoroughly examined the place under my charge—other houses as well as the one noticed—before hurrying into print. Had he passed into the Kitchen-Garden close to this large house, he would have found some low structures, better adapted to the culture of plants and fruit. Among other things grown in the latter, at that time, were Grapes in pots, at the time ripe, and which, without egotism, I may say were the best ever seen in Washington,—these your candid correspondent may contrast, if he chooses, with those seen at any other establishment here. In another house, at the East of the President's mansion, may be found a collection of Geraniums, Fuchsias, and similar things,—your correspondent may on these pass his opinion. This house was specially constructed for plant and fruit growing, hence the results. But to return to the "noble double pitch house." Your correspondent has not informed you of its elevated position, its not being properly provided with shading, and above all, and before all the impossibility of keeping a properly humid atmosphere The house connects with the mansion, and on reception days is used as a promenade; on such days we are strictly forbidden from using water about the house until quite late. Gardeners can, therefore, judge how plants must suffer in a house like this during a hot day in May or June. These plants I am not at liberty to move from the house when I may deem necessary, as they are wanted for decoration. The choicest specimens are taken into the heated air of the reception rooms, several days in each week, and however beautiful when they enter, I need not inform plant growers the figure they cut when brought out; of course many of them irreparably ruined. To expect plants in a promenade house like this to be in every particular equal to those grown in a house where every thing is brought to bear for the well-being of the plants, is sheer nonsense. That the house may have been in dishabille at the time of your correspondent's visit, is more than probable, but that either "dirt, decayed leaves or disorder," met him at every turn, is certainly not true. Neither have we any of the "under potted half starved plants" that he speaks about. If he wished to look at plants properly grown, he should have looked into the other houses.

[We cheerfully insert Mr. Watt's communication, which furnishes some reasons for the want of health in his plants. Where a conservatory adjoins a dwelling, it appears to us that it would be better to allow the plants to remain in it, than to have them introduced into the dry and over-heated apartments.

We never admit criticisms of this kind on private establishments, but we consider the President's House and grounds as public property, and therefore legitimate subject for criticism.—Ed.]

SHALLOW VINERY TANKS.

BY NOVICE.

In a flattering note to my article on "Pruning Fruit Trees," in your June number, you inquire the results of the operation of my Vinery tank, which has already been well described by Mr. Bright, in a late number of the *Horticulturist*.

The objects sought to be attained by its introduction were three:—

First, a supply of water, for irrigation, warmed to nearly the temperature of the house by solar heat.—

Second, an equable and abundant moisture, by the exposure of a broad surface and shallow body of water to the sun's rays.

Third, to form, by means of slats nailed across the top, an open platform, on which to place my fruiting pot vines, during their early growth and period of blooming, when a high degree of humidity is requisite.—

The tank has fulfilled all my expectations; the water, during warm, sunny days, frequently attains a temperature of 95°, diminishing, during cool nights to about 80°, and thus supplies the means of *warm* irrigation without trouble or expense. I am often enabled to syringe the vines, in the morning, with water 10° to 15° warmer than the air of the house. The grateful influence of such an application you may well imagine.

The atmosphere of the house is maintained, in all ordinary weather, at a genial humidity by the surface evaporation of the tank alone, and although, on account of my very warm exposure, the mercury often rises to 120° or 125°, requiring frequent sprinkling of the floor to maintain the high dew point required by my young vines, growing this year from the eye, yet I am sure that, in an old house, where the early foliage partly shades it, no other appliance than the tank will ever be requisite.

The Vinery is a cold one, (constructed, throughout, upon Mr. Bright's plan, of "Inside, Detached and Divided Borders,") 45 feet long; the tank is of the same length, made of two inch pine plank, put together with grooved joints and white lead, and painted white,—2 feet in width, and in depth 7 inches at the centre, and 6 inches at either end, so as to allow of cleaning the tank whenever needful, and drawing off the water, through an orifice in the bottom, and a pipe leading to a waste well outside.

Water is pumped in, from a rain water cistern underground, in the morning; during the day all sediment deposits, and at evening we have a full supply of warm, limpid water, for watering the pots and borders, and syringing the vines, which I do, not by forcing the stream directly against the leaves, but by throwing it up into the body of the house, whence it falls upon the plants in a fine mist, like a gentle summer shower.

Should any of your correspondents or readers adopt this feature in their vineries or plant houses, I hope they will report their experience. I would suggest the following improvements; let the centre of the tank, for a length of two feet, be about 18 inches deep, so as to allow of dipping out with the watering-pot, and at the end opposite the door let a similar depression be made, of sufficient length and depth for a liquid manure tank, to be covered with a lid, and partitioned from the main tank, so that water, either warm or cold, could be let into it or drawn off at pleasure.

In a greenhouse or plant-house, where fire can be applied, a very desirable and useful addition could be made by attaching the heating apparatus which you, Mr. Editor, have so successfully employed, (and of which I trust you will furnish your readers with a detailed description), which would require the tank to be about 2½ feet wide, one half the width to be covered, to form a propagating bench, the other half left open. This arrangement would combine, at a very moderate cost, a Warming, Evaporating, Propagating and Fertilizing Tank, of general utility, and in the most compact possible form.

Insect Trap.—Dr. Joseph Heard of Mississippi, has invented a simple trap, consisting of a tin plate to hold molasses, and a cone shaped centre piece, with flat cap. The flat sided cone stands in the centre of the dish of molasses or sweet stuff, and is rubbed on the sides with a paste of phosphorescent stuff, that shines in the dark, and thus attracts the insects within the influence of the bait in which they are to be drowned. It is calculated that two of these to an acre will be a great help to destroy the insects that lay the eggs which produce the caterpillars that are so destructive. The theory is, destroy the egg producers and there will be fewer grubs and caterpillars. —*Michigan Farmer.*

Artificial Breeding of Fish.—In these days of aquariums, we wonder that more attention is not paid to this interesting occupation. It is easy for ladies to get the water-plants, but not so easy to get at the fish. The few who have tried hatching the spawn have been very successful. We paid a visit recently to the fine country seat of R. P. Desilver, Esq., who, recently returning from China, has purchased the fine estate on the Delaware river, at Tacony, recently owned by Mr. W. E. Bowen. The fish pond has recently been stocked with 1500 brook trout, all raised the past winter, artificially, by a gentleman at Yonkers, N. Y.

Saw Dust Mulching.—An Iowa correspondent of *Rural New Yorker*, has found saw dust a good mulch for the strawberry.

Dirca palustris.—The *Homestead* recommends as a good plant for low ornamental hedges, which we think a very good idea. It is known as the "Leatherwood" in some localities.

A New Thermometer.—Has been invented by M. Victor Beaumont, which is said to be far superior to the mercurial thermometer. It consists of a strip of steel and one of brass soldered together, and bent in the form of a segment of a circle. Brass is affected twice as much as steel by the temperature, and hence, by graduating the movements at the end of the compound strip, the variations of temperature are recorded.

The Diana Grape.—Has been sixteen years working its way to the eminent position it now enjoys.

A New Potato.—The Algiers got the gold medal in the Paris Exhibition of 1856, and the Ten Dollar Premium in the Berlin Exhibition of 1858. Ripe in six weeks from planting, weighing from 8 to 12 ounces each, as large as a "big fist," and so mealy that they fall to pieces when boiled. Ready to be dug by end of June (in Germany,) and yields sixty fold.

The Gardener's Monthly.

PHILADELPHIA, JULY 1, 1860.

☞ All Communications for the Editor should be addressed, "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

NOTICE TO CORRESPONDENTS.

In consequence of the heavy increase in the circulation of the *Monthly*, and the consequent necessity of going to press earlier in order to issue the Magazine punctually to all our subscribers by the 1st of each month, it is desirable that communications requiring immediate attention, should reach the Editor before the 10th of each month.

SUBURBAN GARDENING.

That thousands of dollars are annually wasted in "fixing up" the grounds around rural residences, no one who has so freely shed the auriferous stream under the operation need be told. The thousands who annually bleed in the cause, can testify to their dearly bought enjoyments. No one with a mind for the beautiful, and a heart that sympathizes with the yearnings of his fellow men in their efforts to secure rural enjoyments, can look upon the showy and expensive follies called gardening in the suburbs of our large cities, without pain for the proprietor, and disgust at the result.

The real Landscape Gardener becomes annoyed at the associations in which he finds himself placed. He blushes at the thought of being considered a "Landscape Gardener," when such productions are called Landscape Gardening; and he looks about him for some more distinctive name. Hence we have "Garden Architects," and "Rural Designers," "Horticultural Engineers," and numerous other *sobriquets*, all preferred to the genuine term of Landscape Gardener.

We have said that the proprietor of such an establishment is to be pitied. After a lifetime of sacrifice to the ledger, in the hope of receiving that reward in his old age which the golden goddess so capriciously bestows, he finds the fruits like Dead Sea Apples, turn to ashes on his lips, ere he has barely had a taste of their sweetness. The thousand dollar note he took for the principal sum in his prospective account, proves but the interest of the account current,—and as to the place when finished, could he not derive more pleasure for nothing by a run to the nearest wilderness?

While pitying the owner of such costly nothingness, we must not blame the innocent instruments—the "Landscapers." They owe their existence to the ignorance of those who employ them. They obey the common law of demand and supply. There is a market for their services, and they offer the wares.

If the rich man, about to "settle" in the country, is anxious to get the worth of his money,—both in the work done, and in the beauty of the results, he must first educate his own taste. He will soon learn to distinguish between a genuine Landscape Gardener and an empirical professor of the art; and he would as soon think of being "his own poet," or his own "Portrait painter," as his own layer out of his garden and grounds.

The real master of his profession will prevent him from spoiling beauties that already exists—beauties that only require to be touched up, added to, or subtracted from, in order to render them perfect to the senses. And not only will he teach him how to make the most of materials already in hand, he will also prevent him from attempting objects that cannot be accomplished. He not only possesses the faculty of being able to plan out his ideas so that his employer can see the results before he commences; but he is also a practical gardener, and knows where every thing can be best placed for the best advantage. In short, not a tithe of the many ways in which he can save money and add beauty, can be told in short chapter like this.

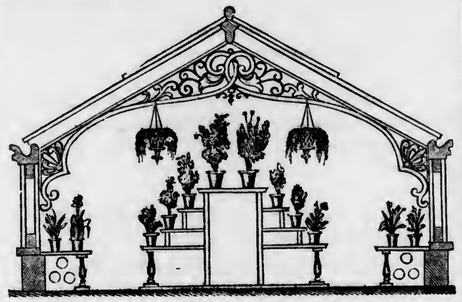
The great difficulty always has been that good practical gardener's are not often possessed of the requisite knowledge in the higher branches such as surveying, drawing, mathematical calculations, hydrostatics, and the many kindred arts and sciences,—while on the other hand those who have had a good education in this respect, and may add to it a rare eye for the beautiful, are amongst the most impracticable of all the practitioners of the art.

Real Landscape Gardeners are not numerous; but they are now to be found in most of our principal cities; and they will increase as the popular taste becomes educated to their merits, both as savers of temper and cash, and artists who can produce the most durable and enjoyable of all pleasures to a cultivated mind, a garden of real beauty and taste.

The easiness with which ignorance and pretension find patronage and encouragement with those of our wealthy men, who with a love for natural beauty, have not had the opportunity of cultivating a close acquaintance with its details, checks the ambition of many a young gardener, in striving to distinguish himself as an ornament in his profession. But the number capable of appreciating sound talents is greater than is generally believed, and is constantly and now rapidly increasing,—and the young gardener of the present day could not enter a field of study in which wealth and fame more certainly awaits him, than that of the several branches that go to make up a complete Landscape Gardener.

HANDSOME GREENHOUSES.

The annexed cut is taken from the Catalogue of Messrs. Weeks & Co., the celebrated English Hothouse builders.



We introduce it here to give some of our readers an idea how pretty these often very common-place looking affairs may be made to look by the exercise of a little ingenuity and taste.

PRUNING TREES AT TRANSPLANTING.

An animated discussion is going on in the French and German periodicals, as to the propriety of this practice. Very few of the disputants appeal to facts, but to the "principles of vegetable Physiology," which is being drawn in by the ears by them, in much about the same way that poor "nature" is with us.

"To prune a tree at transplanting," says one of the leading German spirits, "is opposed to the recognized theory of the sap's descent, without which there can be no extension of root growth; and therefore the more branches left on a tree at its removal, the more roots will be the result."

It is said of some French philosopher, that, when told that facts opposed his theory, he replied, "so much the worse for the facts."

In this instance we can truly say, that if the practice is opposed to the theory, so much the worse for the theory; for experience on this continent has now established the rule that all trees should be more or less pruned at transplanting.

It is singular how men will argue for years, and dispute for ages on topics, which they could test and decide in a very short time. A few months ago a dispute arose in one of our popular Horticultural Societies about the merits of some asparagus exhibited. One bunch contained stalks of an immense size, and *beautifully blanched*, so much so that there was but the bare effort of a steely blueness at the narrow end. This had the premium. The opposing bunch was equally as fine, but not so admirable a white the full length of each stalk. A stormy dispute arose. Each party had its advocates. At length a wag, considering that the discussion was in effect an inquiry as to which was the proper end to eat asparagus, the green or the white, moved that a committee be appointed to carry home, cook, and test the question; and report at the next meeting—which was wisely carried, and at once the subject dropped.

We hope our learned controversialists will adopt the Solomonian wisdom displayed by this distinguished body of savans, and when such questions as the proper end of the asparagus to eat; which particular end of an egg should be broken, in order to get the most easily at its contents; whether to prune a tree or not at transplanting,—or any other that may threaten to rend asunder the harmony of our relations, occurs,—why let a committee be appointed to carry home the subject, and test it by experience.

LONDON HORTICULTURAL SOCIETY.

We are indebted to the publishers of the *Gardener's Chronicle* for a colored lithograph of the proposed new Geometric Gardens, in the new undertaking.

The gardens are now in active progress, and promise to be the finest work of the kind ever undertaken. The council have already advertised for collectors to explore those parts of the globe as yet little known' for novelties. South America being yet comparatively unexplored.

EASY MODE OF MAKING CURRANT JELLY.

As the season has arrived for the ripening of currants, our lady readers will be pleased to know of a *certain* and easy mode of making jelly without the vexation of having, after all their trouble, only a soft and molasses-looking *syrup*, instead of a firm and elastic jelly. It has been fully tested, by several lady friends, in whose judgment we have full confidence, and it can, therefore, be relied on:—

Squeeze the juice out of the currants; strain and measure it. Put it in a copper or brass kettle, and boil it until the scum ceases to rise; then, without taking the juice off the fire, stir in one pound of well refined sugar to every pint of juice; and as soon as the sugar is fully dissolved—which will be in less than a minute—take it off and pour it into the vessels prepared to receive it. This jelly retains the beautiful crimson color of the currant, much better than the old mode.

INTERESTING RELICS.—The Old Hall of the Massachusetts Horticultural Society was recently demolished, and the documents, magazines, and other matters, deposited in the corner stone, by President Wilder, in 1844, were found uninjured by the tooth of time. Did we live in an age of signs, this would be considered a happy augury of the permanence of the institution.

Questions and Answers.

Strawberry Seedlings.—From Mr. Churchman, Burlington, New Jersey:—One a long ovate, medium sized berry, very firm in texture; said to be a very good preserving Strawberry, that can be put up whole without any liability to break. Another is a very large berry, four inches and a half in circumference, conical, and having large leafy calices, which gives them a very distinct appearance.

They are not, we think, better than others that we have seen and tasted, but they are very good, and well worthy of further trial.

From Mr. Saul, Washington, D. C.:—A box of Foreign kinds—River's Eliza, Trollope's Victoria, Vicomptesse Hericaut de Theury, and Count of Flanders—all very fine, and fully equal to kinds of American origin.

Grapes for California—*I.*—Will you give us through your valuable "*Monthly*," your views on the utility of the Cow Pea vine, as a *mulch* for the small fruits? (1)

Can you inform me what kinds of fruits (besides the Grape,) succeeds well in Southern California, (Los Angelos Co.) (2), and are the fruit crops ever cut off by frost there?

Is the Angers Quince worth raising for its fruit? (3)

[1. Our views on mulching are given by the writer of the "hints," this month. The Pea Vines will make a good mulch.

2. The European grapes do well in Southern California. A variety called the "Los Angelos," or "Mission" grape, is in extensive cultivation there, it was first introduced by the old Jesuit Missionaries from Europe. We know little of other fruits there tried.

3. Yes, but the Apple and Pear varieties are the best.]

Corrections.—In V. V.'s article on Grape culture, in our May number, "sulphur sown broadcast through the border," should read through the house.

40 pounds of grapes should read 400.

In ventilation "are allowed to raise to the end of the border," should read to the *level* of the border.

There are a few other minor errors, which the good sense of the reader will detect.

Grape Vine Beetle—*R. C. Arsenal, Pa.*—The beetle of a steel blue color, and about the eighth of an inch long, which you send, and describe as eating out the buds of your grape vine before they push, is the *Haltica chalybea*, allied to the turnip fly. The larvæ that succeeds,—small slugs, about one-fourth of an inch long,—are very destructive to the foliage. Hot water will effectually destroy them.

Gordon's Pinetum—*B., Lexington, Ky.*—This is not a description of Pines merely; but of the whole tribe of hardy Coniferæ.

Lady or Calavan Pea—*J. J. F.*—The pea you send is the Japan pea, or *Soja hispida*, a popular *bean* with the Japanese, of which the celebrated *Soy* soup is made.

Rhubarb from Seed.—Does the true Linnæus Rhubarb produce seed? (1)

Will peas Planted close together mix? (2)

What is supposed to be the best variety of English Gooseberry for our climate? (3)

Do you know of a variety of Rhubarb called the Mammoth Turkey, that reproduces itself from seed? (4)

Will the Chinese Chrysanthemums stand the winter in the open ground as far North as this? (5)

Crescent City Iowa, H. A. T.

[1 and 4. No kind of Rhubarb will certainly reproduce the variety from seed.

2. They will not mix.

3 None of them do well. The Whitesmith is one of the best.

5. With dry leaves kept over them as a slight protection, they will.

Buffalo Berry—*I.*—This is not Elæagnus argentea, but Shepherdia argentea, two plants as nearly allied botanically as they seem in name. The first family has, however, perfect and pretty flowers, as well as showy fruit. Shepherdia has male and female flowers, on separate plants, and very insignificant ones at that. Both genera have silvery foliage, and handsome fruit. Shepherdia canadensis is also often called Buffalo berry at times. It has yellowish berries. The other species has them scarlet. Both and the Elæagnus grow wild, we believe, in Northern Canada.

Pinus insignis—*H. Rochester, N. Y.*, inquires whether this "has been tried so far north as Philadelphia, and if so, whether it is likely to do well in Western New York." It lives out here, *sometimes*, but is usually so injured, as to be worthless. *Pinus radiata* is but a slight variety of *P. insignis*.

Variegated Plants—*L. Menand, Albany, N. Y.* puts the following:—"Allow me to ask you a silly question. Is *Dracæna indivisa* a variegated plant? Against the evidences of my own eyes, the Brooklyn Horticultural Society have decided that it is so. If you say it is, add in a note where I can procure a pair of spectacles adapted to my unfortunate condition."

[Committees often make some curious decisions; but we have to bear with them on account of the good they generally do. We recently heard of another committee that, in an offered premium for "new plants exhibited for the first time," rejected two beautifully variegated plants, "because they were not in bloom!"

Of course *Dracæna indivisa* is not a "variegated" plant. In a class of "plants with striking foliage," it would come in all right.

Delaware Grape—*Amicus.*—We are not complimented by your communication, and certainly shall not insert it. We do not "allow anonymous attacks" on any one, or on any grape or thing.

"Fruit-Grower's" article on the Delaware is not "anonymous," for we know the writer, and it is not an "attack," for it simply details the experience of a careful grower, on whom the public can rely so far as his experience goes. Singularly enough "Amicus" sends no name with his own very *un*amicable letter.

We differ from "Fruit-Grower" ourselves in some of his conclusions; but have to say once for all, that the *Monthly* shall always be open for the free expression of any ones experience, facts and observations—we do not say mere opinions and "amicable" (?) insinuations of interested motives—and it matters not to us which way such experience leads, so that it leads aright.

If "immense interests" can be so easily affected by "Fruit-Grower's" article, they must be "immensely" rotten, and the public "interest" will be in their downfall.

The Delaware Grape gives great satisfaction in this neighborhood. Vines loaded with delicious grapes, well rewarded their owners last year; but it may not be so well adapted to other localities, and this is just what we want to know.

Non-Flowering of Grapes—*A. B. C., Bedford, Pa.*—"The vines in my neighbors cold Grapery having failed to bloom this season, except one—White Syrian,—I will thank you to inform me of the cause. They were lifted during the warm weather, last February. Very severe weather followed, and they were not protected afterwards. My own were lifted about same the period, but again protected—which vines, though young, give promise of a good crop."

[The *embryo's* of the flower-buds are formed the season previous. When they do not flower as they ought to do, the evil lies at the door of some circumstance that occurred during growth at that time. These circumstances are so numerous, that we could not particularize any one without all the facts. The embryos might be killed in the winter by the lack of protection you describe, but we never knew a decided instance of it in the grape vine. It often occurs with the peach, and other buds that are not so well protected by nature.—Ed.]

Seeds—*W. M. Gill.*—Much obliged by the seeds sent. They belong to the different species of Guava fruit.

New Method of Grafting—*D. B.*—The method you describe, of "planting a cutting near the base of a stock, and then proceeding with it as in inarching," is not new, though your authority is the *Gardener's Chronicle*. We have seen imported plants, both French and English, on which it has been employed for years past, and it is, moreover, fully described in our last volume. We look on the *Gardener's Chronicle* as excellent authority in scientific affairs; but in practical matters it is not up to the times. Though thus differing with you, that "its insertion will be of novel interest to our readers," we are much obliged by your kind intentions in sending us the slip. As to the "impossibility of striking the Apple, Pear and Peach, from cuttings," that is sheer nonsense. There is nothing that will not strike, when the peculiar requirements of the particular subject are understood. If you think it worth while, in order to satisfy your "friend, the professor," we will send you some Peach cuttings with roots a yard long that we happen to have by us just now.

Pruning Roses—*G. W. R., Baldwinsville, N. Y.*—It would seem that the Rose requires close pruning and liberal manuring to enable it to make new wood, on which alone the bloom is found. Yet, strange to say, I know of a rose cultivated by a lady, without any pruning and without any manure, in winter in pot, and in summer in the border, that is a profuse bloomer, far exceeding those under my care, which, as I thought, were receiving all proper attention. This rose, I think, is a China. Now, dear sir, can you or any of the correspondents of the *Gardener's Monthly* give us practical directions, from experience only, in the pruning and other cultivation of the Tea, China, Noisette and Bourbon Roses? If so, you will have the hearty thanks of all the numerous lovers of this charming flower.

[The Hybrid China, Provence, Hybrid Perpetual, strong-growing Bourbons, and vigorous Noisettes will not flower well if closely pruned. The proper way is to thin out all weak and sickly shoots at the winter pruning, and barely take off the points of the strong ones. Tea, China, and the weaker growing Bourbons and Noisettes, flower mainly from the new growth. Strength and vigor of growth, either by ma-

nuring or pruning is, therefore an advantage to them.]

Curculio—*R. D., East Hamburg.*—There is no decided remedy against the Curculio. The jarring process is the best yet discovered, and when persevered in, generally preserves a good portion of the crop.

Hybridizing Fruits.—An article from the pen of Dr. Wylie, of South Carolina, whose remarkable success in hybridizing fruits have excited such general attention, will appear in our next. The Doctor corrects the statement going the "rounds of the papers," that he has succeeded in hybridizing the Peach with the Plum."

We are greatly obliged to our kind friend, Dr. G., for his very complimentary letter. He will, however, have to live to a "ripe old age," to see "an Agricultural Department," attached to the *Monthly*. When a gardener undertakes to manage the farm also, one or other of the departments is neglected, and he finds what he was bound before to believe, that "he cannot serve two masters." Besides, with such sterling Agricultural journals, as the "*Country Gentleman*," and others in the field, such a department would be totally uncalled for, and entirely unnecessary. Our motto is, "One thing at a time, and do it well."

Books, Catalogues, &c.

The Agricultural Journals.—It is gratifying to note the increased importance given to Horticulture by our Agricultural journals. There is no surer indication of a nation's refinement and general prosperity, than the extent to which the love of horticulture exists. We look to the Agricultural press as the pioneers of gardening taste in our country,—making way for the higher aims of the purely Horticultural journal; and laying the foundation of that species of taste which it is our own peculiar object to intensify and refine.

With this view we neglect no opportunity of making their existence and merits known. Our standing list, we are pleased to learn, has been the means of posting many of our readers up to the existence of papers to which they have become subscribers; and the advertising patronage of others has been largely increased, by our readers being thus continually reminded of the advertising mediums of those special localities in which they may particularly wish to sell their goods. Anxious to increase our usefulness in this respect, we should be much obliged to our correspondents, if they will enable us to revise our list by sending us the names of such as may not now be included, or that have ceased to exist, of which, by no copies being received at the office, we suspect there are several.

Of the more recent additions to the Agricultural press, the *Southern Field and Fireside*, of Augusta, Ga., is a valuable one. It is of the size and character of the *Rural New Yorker*, and promises to become as popular as that valuable journal. Mr. W. N. White, the distinguished horticultural author, has charge of that department.

The *Illinois Farmer* has been under the whole charge of Hon. M. L. Dunlap, for the past few months. It is thus needless to speak of the excellency of the Horticultural matter.

Of the newer projects. The *Farmer and Gardener* of this city, will start under a new form the present month, and with its Horticultural Department under the control of Mr. Saunders, who will add much to its past usefulness.

It is often a source of gratification to us that the peculiar field we have chosen for our labors, and the rules we have adopted for our course, place us beyond the reach of any rivalry, except in acts of generosity and good feeling; and that we can cordially aid in advancing the interest of our co-laborers in the cause, without doing any injustice to ourselves.

Both Sides of the Grape Question; Together with a Classification of Species and varieties of the Grape Vine. Philadelphia: J. B. Lippincott & Co. and A. M. Spangler, &c.

This is a small duodecimo pamphlet of 96 pages, and comprises three essays: One by Mr. W. Saunders, one by Mr. F. J. Cope, and the other by Mr. McMinn.

The first will be read with most interest, being from the pen of one already well-known to the horticultural community. The author styles it "a brief detail of general routine management," and we may add that he has been remarkably successful in the attempt. In the 54 pages devoted to his essay, he has briefly, yet clearly and comprehensively, gone over the whole ground of Grape culture, and in a plain, unpretending style, left no one of the many points of good Grape culture untouched. No one who wishes to obtain a knowledge of the principles of Grape culture, could lay down the work uninstructed. There are some things in the essay with which we do not agree, as we usually find in all works of a practical kind. This is all natural and to be expected. The results of practice, depending as they do on a multitude of contingencies, never permit parties to see things exactly in the same light. We should not, however, feel that we have any right to find fault with, or speak contemptuously of others because they happen to differ from us.

Mr. Saunders seems to take a different view. He takes occasion to advocate the bringing up of the subsoil to the surface in Trenching,—the ill effects of which, except in worn out surface soils, the majority of our best cultivators are but too well acquainted with. This is all very well. But when he goes further, and insinuates that they "who strenuously advise not to bring the subsoil to the surface," are persons who have "buried four inches of subsoil beneath eighteen inches of brick clay," and then characterizes parties who disagree with him as "the victims of their own folly and awkwardness, who condemn a system they do not understand," he assumes a standard of infallibility we should be sorry to see often imitated in Horticultural essays.

In trenching and subsoiling, it is impossible *not* to mix some of the surface soil with the subsoil, and the whole becomes gradually ameliorated without any of the loss to a few season's crops, that follows the inverting process. But we are forgetting that we "do not understand the subject."

The second part, by Mr. Cope, is evidently a maiden effort, by one young in Grape growing experience. The main part of the essay goes to show that the major part of the evils the Grape vine is heir to, arises from pruning it. He thinks they ought to be raised from seeds. "Nature is man's teacher;" "she never propagates by scions or cuttings," &c., &c., &c.

All this is true,—none the less so for being repeated for the thousandth time—and the fact, that the nearer we leave things to a state of nature the more healthy they will be, need not be disputed. Nature does not clothe men with hat, coat or breeches; but leaves them to run wild, with a profusion of rough shaggy hair, the reverse of fashionable. With civilization comes a train of diseases and disorders the hardy children of the forest are exempt from. But we are willing to accept them with our refinement, rather than relapse into barbarism without them. And, when by pruning, we can get large, early, luscious grapes; tractable vines; and many other advantages, "too numerous to mention;" cultivators will be willing to accept the evils that accompany them, rather than to fall back on the scanty supply of "the saccharine," nature affords us by "her method."

Altogether this chapter is in strange contrast with the essay of Mr. Saunders. The one detailing the noble results of his triumph over nature, in which pruning bears no inconspicuous a part; the other following by an earnest attempt to show that "the whole system is based upon incorrect principles, and is, therefore, erroneous."

The combination reminds us of a Cactus, in which it seems to us that "nature" took a notion to make the most grotesque looking object possible in the vegetable kingdom, and then to show her wonderful power in extremes—though Darwin says "nature takes no leaps"—she here places on her grostesque productions, the handsomest flowers in the floral world.

It is, no doubt, from this Cactus-like view of making extremes meet in one work, that induced the publisher to christen the book "Both Sides of the Grape Question,"—a title we were at first at a loss to account for, as every cultivator has usually a side of his own.

The remaining essay by Mr. M'Minn, is an excellent contribution to the scientific classification and popular history of the Grape Vine.

Some other books and periodicals are on hand, notices of which we reserve for our next.

New or Rare Plants.

Abies inverta.—While our amateurs are waiting for the beautiful Weeping Spruce of Mr. Wales, (see page 135, vol. I.), the English nurserymen are out with another beautiful variety, which they call *Abies*

inverta. In habit it assumes the curved form of the

Kilmarnock Weeping Willow, but the leader straightens itself as it grows, as the common Weeping Willow does.

Dianthus Chinensis lacinatus.—At page 174 of our first volume, we first called attention to the beautiful *D. Heddewigii*, which has since become so popular. We now present our subscribers with a new and improved double variety of the same species, which we have engraved from the *London Weekly Maga-*

zine. The whole section is becoming very popular as a hardy border flower, and will probably produce many new forms yet.

Vacinium rugosum.—A beautiful shrub exhibited the other day to the Floral Committee of the Horticultural Society as a Thibaudia, by Messrs. Veitch and Son, who received it from Khasya Hills through Mr. Lobb. Drs. Hooker and Thomas found it in the same country at an elevation of from 4—5000 feet, and also in Sikkim, where it occupied stations a thousand feet higher.

It forms an evergreen bush, with light green narrow leaves and little umbells of flowers, white at first but changing to deep red, with cross markings of a triangular form like those of *Thibaudia macrantha* of the Botanical Magazine, t. 4566, which is also a Vaccinium, as is the *Thibaudia pulcherrima* of the same work. At least such is the opinion of Wight, Hooker, and Thompson, with whom we concur; for no intelligible character to distinguish these plants from Vaccinum has been pointed out. It is true that the name Agapetes has been been applied to the Thibaudias of of East Indian Botanists, but a change of name does not constitute a distinction.—*Gardener's Chronicle.*

Double Fuchsia.—"Marquis of Bath" is said to be the best double now out.

Delphiniums.—The introduction of *formosum* has given an impetus to this tribe, and it will soon be raised to the rank of a florists' flower. Many new varieties are now advertised.

New Celery.—Ivery's "Nonsuch" is highly spoken of in the English papers.

Alyssum saxatile.—This is a hardy and very handsome early Spring blooming perennial fruticose plant, which should be in every garden; but a very worthless weed, *Alyssum argenteum*, is universally sold in the Seed-stores for the true Yellow Alyssum

New Scarlet Geranium.—"The Beacon" has just been announced, as "like Tom Thumb," but having a white eye. "Sheen Rival" and "Christina," by the reliable raiser, Kinghorn, are also praised.

New Dahlias.—M. Seikman, famous in Germany as the raiser of "Deutsches Sonne," and other fine Dahlias, has recently sent out

Deutsches Grossmeister, brilliant shaded scarlet; large showy blossom.

Teutonia, pale pink or blush,—becoming darker as it opens,—changing to lilac Pink.

Kleiner Hermann, pale crimson, tipped with white—a Lilliputian.

Nacht en Rhein, black brown, watered with crimson, outer row of petals lilac. Said to be the grandest Dahlia ever raised.

Price, *only* Seven dollars and Fifty cents the four in American currency.

New Hardy Shrub—*Elæagnus parvifolia*.—We have recently seen a specimen of this charming plant, which has been out in the open air near Philadelphia, two years without the slightest injury. When we saw it in May, it was about four feet high, forming a dense bush with silvery Buffalo-berry like leaves, and covered with thousands of white blossoms, as fragrant as the sweetest Jasmine. We were informed that these are succeeded by large scarlet berries in August, and must have a delightful effect.

It has been but comparatively recently introduced into England from Nepal,—the figure being given in *Lindley's Botanical Register*, in 1843, and is yet in few collections there.

In France it goes under the name of *E. reflera*, and we believe in some of the German Gardens it is called *E. umbellata*. It will be well for our friends, who may think of importing it, to remember these synonyms.

Twelve First-rate Tree Carnations.—

Amazon—yellow, with deep border of lilac.
Black Prince—deep maroon claret self, distinct.
Clara Novello—yellow margined and flaked with lilac and scarlet.
Flora McIvor—white, edged with rose.
Henriette Chauviere—white picotee, edged purple.
Jaques d'Aragon—brilliant crimson, clove scented.
Madonna—blush, striped and spotted crimson.
Reine de Blanches—large white.
Souvenir—pale yellow, pure self color, distinct.
Tricolor—white ground, with rose and carmine flakes, fine.
Clio—bright rose, in some flowers flaked with slate.
Emperor—yellow, with rosy scarlet margin, distinct.

Best Chrysanthemums.—The *London Weekly Gardener* gives as the best varieties grown for exhibition, the following, viz:

Themis, Nonpareil, Vesta, Anato, Beauty, Plutus, Yellow Perfection, Novelty, Arthur Wortley, Dupont de l'Eure, Golden Queen, Queen of England, Alfred Salter, Stellaris, Globosa, Marshal Duroc, Christophe Colombe, Goliath, Leon Lequay, Madame Andry, Formosum, Cassy Albin, Rosa Mystica, Hermione, Aimée Ferrière.

As the leading varieties:—

Cedo Nulli, Golden Cedo Nulli, Mustapha, Sainte Thais, Bob, Brilliant, Helene, Aurora Boreale, Bijou, Bijou de la Horticulture, General Canrobert, Drin Drin, Madame Rousselon, Durufflat, Requiqui, La Vouge, Graziella, Salamon, and Adonis.

New and Rare Fruits.

Wizard of the North Strawberry.—(*See Frontispiece.*)—We give this month a lithograph of this popular new English Strawberry, not so much because we think it will be well adopted to our climate, but to show the size the Strawberry has attained in England.

It is said to be the largest variety ever grown, and was raised from seed by John Robertson, of Linside, in 1853; first fruited in 1855, and exhibited before the Paisly Horticultural Society, July 16th, 1857, where it was awarded the first prize. A single plant shown at that time, yielded 70 berries, many of them of mammoth size, the largest being 9⅛ inches in circumference, though planted only fifteen months.

It is rather acid, very much resembling Wilson's Albany in this respect.

We are indebted to our friend E. Y. Teas, Richmond, Indiana, for the original plate from which our drawing was made.

We have given it in colors, the better to show its

character and to render the illustration itself of more value. As our paper increases in circulation by the efforts of our friends, we hope occasionally to be able to give other colored drawings of fruits or flowers.

New Foreign Grapes.—The London Horticultural Society have fruited a number of new grapes the past year. The following appears to have favorable notices given them:—

Burchardt's Amber Cluster, received as Burchardt's No. 10, from M. Burchardt, of Landsberg, on the Warta.—This Grape, which was sent to the Society without name, resembles the Muscadines in quality, but has oval berries like the Clusters. Berries middle-sized, decidedly oval, amber-colored, or yellowish-white; skin moderately thin; flesh very sugary and rich. Leaves roundish, dying off green and pale yellow, like those of Reeves' Muscadine: in the latter, however, they are very pubescent or woolly; while in Burchardt's they are but slightly downy, with tufts of bristly pubescence in the axils of the veins. It is earlier than the Royal Muscadine, and this property, combined with its good quality, will render it a first-rate early white Grape. It appears to be well deserving of trial for early forcing purposes.

Bidwell's Seedling, from Mr. Pince, of Exeter.—Bunches and berries nearly as large as those of the Black Prince; berries small, round, bluish-black with a fine bloom; skin rather thin; flesh tender, melting, and very juicy, but somewhat acid, and having a disagreeable earthy flavor. Leaves resembling in form those of the Black Hamburg, but with a lengthened terminal lobe, and differing from that variety and from the Black Prince in being quite smooth above and below.

Fleming's Prince, from Mr. Fleming of Trentham.—Bunch large, loose, long, slightly shouldered; berries oval, larger than those of the Black Prince, to which they bear considerable resemblance; skin very thin, bluish-black, with a copious bloom; flesh tender, juicy, remarkably rich, and very sugary. An excellent Grape, but requires a little more vinous piquancy and firmness.

Morocco Prince, a seedling between the Black Prince and Black Morocco, received from Mr. Buck, of Elford, near Lichfield.—Bunches about the size and form of those of the Black Prince; berries also similar in size, oval, but with a thinner skin, which is tough and membraneous, reddish-black, with a thin bloom; flesh firm, juicy and melting, rich, sugary, and vinous. Leaves very deeply-lobed, open at the base, rather sharply and deeply serated, pubescent beneath, slightly so above. A useful late Grape and hangs well, but in this instance has apparently not had sufficient heat.

Sideritis, from J. R. Neame, Esq.—Bunches very large; berries of the largest size, roundish-oval or oval, frequently with a sutural depression, reddish-black, unequally colored; flesh firm, but hollow around the seeds, and with a deficiency of juice and flavor. Leaves large, sharply serrated, smooth above and below; shoots, red. A very strong grower.

Brindle Grape.—We find the following on our table, without any remark as to where the credit ought to belong, and we know nothing of it personally, but as we like to give our readers all the "intelligence" current, we insert it:—

Brindle—A black grape of very rich flavor, bunches resembling Black Hamburg, but not so compact; ripens from two to three weeks earlier than Isabella, and is a first-rate table grape. A free bearer.

English "Black" Raspberry.—This is a hybrid between the Blackberry and the Raspberry, and is the parent of all the black autumn-bearing varieties, although itself a summer-bearer. It has long dark-colored canes, and small purple fruit, with much of the Blackberry flavor. This variety was obtained at Wethersfield, in Essex, upwards of forty years ago, and has since been cultivated by Mr. Rivers, who has succeeded in obtaining from it his new race of autumn-bearing varieties.—*Cottage Gardener.*

Townshend or Seager Apple.—Tree vigorous, and produces good crops. Fruit large, roundish-oblate. Skin smooth, waxen, greenish-yellow, much shaded with brownish-red. Stalk slender, about an inch long, set in a smooth, deep cavity. Calyx small, closed, set in a moderately deep basin. Flesh white, tender, and juicy, with a rich and pleasant flavor. Maturity 10th of August to beginning of September.

The following is Mr. Sitgreave's sketch of its history:

The original tree grew on a tract of land owned by Indians near Lumberville, in Bucks County, Pennsylvania, and was of enormous size anterior to the Revolutionary war, when the tract of land was sold by the Indians, with a reservation "that the fruit of this tree should be free to all, as it had been to them and to their fathers."—*Horticulturist.*

Domestic Intelligence.

The Camellia Japonica a Hardy Plant in California.—This gorgeous blooming evergreen, that so many people nurse so very tenderly, and keep housed with so much care, fearing that "the winds of heaven may visit it too roughly" is a perfectly hardy plant in all this section of our State. We publish this fact after having seen the many successful experiments which have been tried with it. The Camellias at Smith's gardens, Sacramento, stand out in his garden openly and bloom well. Mr. Smith has quite a large collection in the open borders, and they bloom well. We have also seen them in various parts of this section of our State, and we urge those who love this very beautiful plant to try them. They should be planted, however, on the south-eastern exposure, to catch the morning sun; and they will do best if planted just under the edge of some fine large shrub, so that the foliage of the shrub or small tree may protect the *flowers while in bloom*, they being so perfect and so delicate that the sun and rains and dust would injure them; these do more injury than anything else. Care should be taken not to have them much exposed to the *hot sun* in our summers, as the sun *burns* the leaves of the Camellia; shield them from this exposure and all will be well, and these rare plants will be as bright gems in your garden parterre. The Camellia, the Magnolia, the Rhododendron, and Azalea, will form a galaxy of rare beauties that will gladden the eye and taste of the best connoisseur of floral beauties; and each and all of these can be easily and successfully grown in all our gardens.—*Cal. Farmer.*

An Oregonian Orchard.—The Portland (Oregon) Advocate, referring to Meek and Eddy's orchard, at that place, says: "There are fifty acres of orchard and nursery grounds. Forty thousand feet of lumber was used last year for making fruit boxes. This at $20 per M., would cost $1800. This year their business will require sixty thousand feet of lumber. From thirty-six to thirty-eight thousand bushels of fruit were cherries, pears and plums. The gross sales last year, above all freights and commissions, after the fruit left Portland, were $30,000. The year before they were $20,000.

A Permanent Writing Fluid.—Dilute sulphuric acid and sugar, with a little sulphate of indigo and gum, is found to make a permanent writing-ink, proof against fading and erasure. By holding the writing to the fire the characters are converted into a jet black by the carbonization of the sugar.—*Scientific Artisan.*

Opium for Squash Bugs.—A decoction of Poppy-heads has been found useful in preventing their ravages.—*Cor. Country Gentleman*

Mr. Longworth's Vineyards.—Within the last twelve years, have been remunerative. This season they paid him a rental of about $15,000—last year less than $2,000. The income varies, with good or bad seasons. These vineyards are cultivated by tenants, who give half the product for the rent, and they differ in size, from five to ten acres each, or small tracts of land of fifteen or twenty acres. His first vineyards were planted forty-one years ago, with the Cape or Schuylkill grape; but in 1823 he introduced the famous Catawba grape into notice in the West, and it is now *the* great wine grape of the country.—*Ohio Valley Farmer.*

The following beautiful lines are from the pen of Mr. Sprague, the well-known Banker and poet, Boston, and originally appeared in *Putnam's Monthly*:—

To my Herbarium.

Ye dry and dead remains!
Poor, wrinkled remnants of a beauteous prime!
Why, from your final doom, should I take pains
To stay the hand of time?

The world would pass you by;
For beauty, grace and fragrance all are gone.
Your age is homeliness to every eye,
And prized by me alone.

Not beautiful, but dear,
Your wrecks recall to me the happy past.
Wandlike, your stems can summon to appear
The days that could not last.

I breathe the summer air!
I wander in the woodland paths once more!
Again the copse, the dell, the meadow, wear
The loveliness of yore.

Turned to the God of day,
Your little lips come, prayerfully apart.
With the soft breeze your leaves, reviving play
Sweet music to my heart.

The friend who in those years
Shared warmly in my rambles far and wide,
Back, with the same old fondness reappears,
And trudges at my side.

These are your charms to me!
While such dear recollections ye awake,
Your ruins, blackened, crumbling though they be,
I treasure for their sake.

May I, like you, dry flowers,
When in young life I can no more engage,
A dear memento be of happy hours
To those who tend my age.

Ventilating Hot Houses.—Mr. Chorlton says in the *Horticulturist*:—"A house where stove plants are grown ought never to have a front ventilator opened, nor yet a door, excepting while it is necessary to pass through, such has always been his most successful practice." Believing firmally in this doctrine ourselves, we introduce it to our amateur plant growers attention.

Gardener's Monthly Tomatoes.—At the autumn exhibition of the Massachusetts Horticultural Society, Mr. T. T. Clark presented for exhibition *one bunch* of Tomatoes which contained over fifty, and weighed ten pounds, and the single vine bore one hundred Tomatoes of large size, which splendid specimens, the Society honored by awarding the skillful grower a copy of the *Gardener's Monthly*, for one year, which was a hint, as we take it, that they expect him even to beat this another season, and send us the particulars of his practice for publication.

OBITUARY.

G. W. Carpenter.—Though not distinguished in Botany or Horticulture, his eminent knowledge of Mineralogy, Chemistry, and the kindred Sciences, joined with his liberal patronage of Horticulture, his recent decease, in his fifty eighth year of his age, demands a notice in our columns. His magnificent establishment at Germantown is well known all over the Union, and the collection of large specimens of Australian and Cape plants is, perhaps, the finest in this country.

Mr. Carpenter's career is a standing rebuke to the doctrine that an ardent love of natural Sciences starves its enthusiasts. He was born of poor parents, in the then village of Germantown, in 1802, and received his education in the village school, still used for that purpose, on School Lane. After attending a lecture by the late Mr. Nuttall, he entered the Mineralogical class, formed under the guidance of that distinguished Naturalist, and went into the study with the greatest enthusiasm. He was at this time engaged as an assistant in a drug store in Philadelphia, but his whole time, from day-light in the morning till the hour of business, was spent in collecting material for his cabinets, and his evenings till bedtime were spent in studying and arranging them. Such was his assiduity that in his twenty-fifth year he sold his collection to a distinguished Philadelphian for twelve hundred dollars, and with the money started into the drug business on his own account the year following. Some years afterwards, at the death of the owner, Mr. Carpenter repurchased the collection at public sale, for six hundred dollars, and with it laid the foundation of perhaps one of the best private museums in existence. He was one of the most active of the original little band, who, under the greatest discouragements, succeeded in giving to the Philadelphia Academy of Natural Sciences, its present distinguished position, distinguished now both in the number of its members, and their learning and influence, and from 1828 to the present time, has been annually elected its Treasurer. Mr. Carpenter's love of Science, and assiduous attention to business, has been so well rewarded, that his capital of $1200 in 1828, to the present time, 32 years, has so far increased that, at the last valuation by the city authorities, his tax assessment was but little short of half a million of dollars, and his actual wealth could scarcely be estimated. Mr. C., was never celebrated for ostentatious charities, a system by which the lazy and the indolent too often receive what the really deserving who suffer in silence need. His maxim was, that in the spread of knowledge and science lay the chief foundation of human improvement, and to this was his chief energy turned. In this one line no one sought his assistance in vain. The writer of this notice is himself one amongst hundreds, who feel that in the death of Mr. Carpenter they have lost one whose aid and sympathy had no mean influence on their successful entry into business life.

Foreign Intelligence.

Hollyhock Culture.—Chater, the celebrated improver, thus writes to the *Florist*:—

They may be propagated by single eyes in July and August, also by cuttings in the spring, placed on a slight bottom heat. Plants raised in summer are best preserved by re-potting them in October into large pots—the larger the better, in light sandy earth, and placed in a cold frame or greenhouse, giving plenty of air on all favorable occasions; they will then grow during the winter. In March or April turn them out into the open ground, and they will bloom as fine and as early as if planted in the autumn. Plants even put out in May will flower the same year. Plant them not less than four feet from row to row, and three feet apart in the row. If grouped in beds, not nearer than three feet each way. They will grow well in the shade of distant trees, but by no means must the roots interfere. In May or June, when the spikes have grown a foot high, thin them out according to the strength of the plant; if well established, and very strong, leave four spikes; if weak, two or three; when they are required for exhibition, only one must be left.

Foreign Correspondence.

From our Paris Correspondent.

PARIS HORTICULTURAL EXHIBITION.

Mr. Editor—Dear Sir: Our present show is but a poor one in every respect; neither quantity nor quality are remarkable. But the way to show the show is remarkable, and deserves notice. The building, to begin with, is no less than our *Palais de l'industrie*, alias Crystal Palace, the middle of which, an oblong square, has been set apart for the show. You enter this square, and a garden is before you. Lawns, flower borders, a rivulet, fountains, a rustic bridge, and all the garden paraphernalia. The whole difference between this and another garden, being the uniform flat level, the glass roof above instead of the naked sky, and the character of the flowers and plants. How much pleasanter that is than a close room or tent, a crowd, and a vicious atmosphere, you may fancy. The beds are masses of a kind, or of a variety of kinds; a bed to each exhibitor. Pansies, Pelargonia, Erica, Gerania and Pæonia, in great variety and beauty. A word about the latter. Pæonias are neglected in your—our—country; why, is perhaps hard to tell. Here they are so much in demand, that there exists no less than about one hundred and fifty varieties of either P. sinensis and arborea. There is one bed of Begonias. I notice B. urania, leaves as if powdered, B. Madame Gruntberger, small and *serrated* leaves, and B. picturata, not hairy, no border round the margin on the leaf, but a painted leaf indeed; a description of it would not paint it. There is also a large bed of Canna Warcewiczii, of which I was glad to remember your success in the United States with them. They are not less liked here, and deserve their popularity fully. It is just such a thing as the Tritoma and similar plants, which our gardens want, to get rid of monotony. Cyanophyllum magnificum is here, and for one I am disappointed. I heard too much of it before I saw it. Attacea cistata, an orchid, insect flower, struck me as deserving notice. Still more so the Strelitzia regina, with a flower like the head of an angry peacock. Phyllocactus crenatus, four feet high, in full bloom, flowers resembling the Passion-flower, is a sight for a *Cactarian*, as I know you are. No other Cactus exhibited but this one.

Azaleas, but not in great variety, are here; but not a single Rhododendron.

Vegetables but a very limited show. In our markets, however, we have had, for the last fortnight, Potatoes, Carrots, etc., in abundance; also green Peas, Cauliflower, Strawberries, Artichokes, plenty but not yet cheap. The Southern part of France brings the first weeks' of supply to Paris.

Returning to the Exhibition, the visitor must notice the lawn trees, and amongst them a beautiful Abies nobilis, 12 feet high, so beautiful that the owner, Mr. Jointer, offered it to the Empress when she expressed her admiration, and that the Empress accepted it as a present; leaves very compact.

A beauty of a different character—a female beauty—full of grace and tenderness, is Araucaria excelsa, so entirely at variance with the general rugged stiff, and cold aspect of Conifers.

Cedrus deodara *viridis*, a very fine and green var.

Abies Pindrow, heavy. A. Douglassii. A. Nordmanniana, my favorite fir. A Norway Spruce, pinched against its grain into the shape of a barrel. Sequoia or Wellingtonia. Thuja and Biota. All of them specimen trees, 12 feet high and less, thus enabling the beholder to form an idea of the real character of the rarer kinds, which he otherwise cannot see in the small sized plants.

I must not forget a Salisburia pendula, 16 feet high, very interesting, very pendulous and very spreading.

The exhibitors of garden fixtures, etc., are ranged round the borders of the garden. To cut it short, I will say that all the glass houses seemed to me on the Crystal Palace model,—that is iron and glass; of a few I shall send you drawings. That artificial fountains, wire-work, bird-cages, trellisses, and all that description of goods, seemed to be in as large and varied supply as the French garden taste requires. And that I am yours, truly, M.

Paris, May 14, 1860.

Horticultural Societies.

LIST OF OFFICERS OF HORTICULTURAL AND POMOLOGICAL SOCIETIES.

For the information of those who wish to correspond with the different societies, we furnish a list of the Officers of as many of them as we have been able to procure, and hope to be furnished with any that are omitted. We insert only those societies of a strictly horticultural or pomological, and not of an agricultural character.

HORTICULTURAL SOCIETIES.

Name of Society.	*President.*	*Cor. Secretary.*
Pennsylvania, Phila.	M. W. Baldwin,	William Saunders.
Massachusetts, Boston,	Joseph Breck, Brighton.	Eben. Wright, of Dedham.
Hingham, Mass.,	Hon. Albert Fearing,	T. T. Bouve.
Maury County, Columbia, Tenn.	M. S. Frierson.	
Chicago Gardener's.		
Chester County, W. Chester, Pa.	J. K. Eshleman,	Josiah Hoopes.
Buffalo, N. Y.,	Jason Sexton,	William Coleman.
Poughkeepsie, N. Y.		
New York, (City)	John Groshon,	Thomas Hogg.
Cincinnati, Ohio,	William Orange,	E. P. Cranch,
Montreal, Canada,	Jas. Ferrier, jr.,	L. N. Duvernay,
St. Louis, Mo.	William Glasgow, Jr.	Carew Sanders.
Cleveland, Ohio,	Dr. Edward Taylor.	
Genessee Valley, Rochester, N.Y.,	Joseph Harris,	C. W. Seelye.
Brooklyn, N. Y.,	Jno. W. Degrauw,	Edwin Scott.
Portland, Maine,	T. C. Hersey,	John W. Dana.
Kentucky. Louisville,	Thos. S. Kennedy,	Ormsby Hite.
St. Catharines, C. W.,	James Taylor,	Thomas Shaw.
Richmond, Indiana,	John H. Hutton,	W. R. Smith.
Keokuk, Iowa,	A. Bridgeman,	J. L. Tewksbury.
Fort Wayne, Indiana.	J. D. G. Nelson,	H. C. Grey.
College Hill, Ohio,	Jacob Tuckerman,	D. B. Pierson.
Workingmen's, Frankford, Philadelphia,		Thomas Hargreaves.
Progressive Gardener's Society, Philada,	W. Saunders,	R. Robinson Scott,
Meramac, Mo.,	Dr. A. W. McPherson,	Edward Vaughan.
St. Paul's, Minnesota,	Alexander Buchanan,	L. M. Ford,
St. Anthony's Falls,	A. E. Ames,	J. S. Williams.
Pittsburg, Penna.,	J. Knox, Pittsburg,	Thomas L. Shields.
York County, Pa.,	E. Chapin,	Edward J. Evans.
Toronto, Canada,	Hon. G. W. Allan.	
Hamilton, Canada,	(?)	
Cobourg, Canada,	(?)	

FRUIT GROWERS' SOCIETIES.

Name of Society,	*President.*	*Cor. Secretary.*
Western New York,	B. Hodge, Buffalo,	C. P. Bissell, Roch'r.
East'n Pennsylvania,	Dr. J. K. Eshleman, Downingtown, Pa.,	Thomas N Harvey, Jennersville, Pa.
Missouri,	Norman J. Coleman,	Dr. L D. Morse, Allentown, Missouri.
Anna, Union Co., Ill.,	E. Harwood,	A. Babcock,
Georgia Pomological Society,	L. Berckmann, Augusta.	W. N. White, Athens.
Ohio Pomological,	A. H. Ernst, Cincinnati, Ohio.	M. B. Bateman, Columbus, Ohio.
Am. Pomological,	Marshall P. Wilder, Dorchester, Mass.	Meets in Philad'a, September 11th.
Conn. Grape Grow's',	Col. D. S. Dewey, Hartford, Conn.	M. C. Weld, Hartford, Conn.
Wilmington, Del.,	H. F. Askew,	Dr. G. Pepper Norris.
Am Wine Grow's Asso. Cincinnati, Ohio.	Dr. N. B. Shaler,	S. W. Haseltine.

NOTICES of HORTICULTURAL SOCIETIES.

As the season is approaching for Fairs and Festivals, we should be obliged by reports of their proceedings in as condensed a form as possible. Our reports of the New Haven Lectures, and the Pomological Societies of Western New York and Eastern Pennsylvania, will give an idea,—that of New York, which was furnished the readers of the *Monthly* by Mr. Bissell, of Rochester, being a particularly excellent specimen of brevity combined with completeness. In the award of premiums the first prizes will usually be given; but, for the benefit of the reader, the NAMES OF THE WINNING VARIETIES must accompany the report. We have had to decline inserting several reports kindly sent to us recently, through this omission.

HINTS FOR HORTICULTURAL SOCIETIES.

BY GEORGE GLENNY.

We clip the following from an English exchange:

"The numerous questions put to us about the management of shows, of which there will be many new ones, must be answered by a sort of running article upon what has been done, and answered well. In the first place, judges should be from a distance, and not nurserymen or dealers who supply any of the exhibitors. These in general cost a guinea and their travelling expenses; but it is money well laid out. Secondly, they should be persons who have not been turned out for, or detected in, fraudulently showing themselves.

"Next, if the society is rich enough, buy the required tents, because hiring is expensive, and if you have a good one it may be made to bring its cost back by letting it out for fetes, etc. We, however, should go to such a man as Benjamin Edglugton, and buy just as long a tent as was required at first, but so planned that it could be added to any time without a stitch. If made to lace in the middle, any additional length can be put in, just as another flap could be put to dining-room table. We have had one of these tents 400 feet long, and it could be had, for that matter, a mile long. Tables are found by tent makers, and all can be had on hire.

"With regard to music, if there be any thing to take at the doors or gates and attraction is wanted, a military band will do more than all the hundred that form the orchestra at the opera. In out-door fetes nothing is more effective than a good brass band. With regard to prizes, let there be few classes, but many prizes in each; for if there be only two or three, all small growers are deterred from showing, because the case to them would be hopeless. With regard to balloons, fireworks, etc., they must form the subject of another article.

"Country shows, well conducted, are the most perfect holidays for the whole district; and when a band is had from a distance, there should be a concert in the evening; it generally pays the expenses of the band."

FRUIT GROWERS' SOCIETY OF EASTERN PENNSYLVANIA.

The Semi-annual meeting of this Society was held at West Chester, on the 13th and 14th of June.

The large attendance and great number of new members enrolled, fully attested the importance attached to the proceedings.

The President, Dr. Eshleman, took the chair. Mr. Hines was appointed Secretary to the Publication Committee; and the usual general business of the society transacted.

The report of the Chairman of the Fruit Committee being called, Mr. Rutter responded by saying, that no reports had been received from the County Committees; which he attributed to the fact that they possibly understood that they were to be sent in at the annual meeting instead of the present, and the calling of the report was therefore laid over till the next meeting.

The want of the reports, furnishing no material for debate, a committee to draft a new subject for discussion, was appointed.

In the meantime, the committee to whom was entrusted Mr. Riegart's secret method of preventing the ravages of the Curculio, reported, that the material sent by the proprietor for the experiment; failed to reach them through the express, until too late for trial. Some experiments had however been made on other insects, with no beneficial effects resulting. The committee had little faith therefore in its success, but did not yet feel warranted in reporting against it until further trial.

Mr. Bull described his process of employing aloes, as translated by Dr. Uhler from Raspail's works, for the *Monthly*. The result was unsatisfactory. A friend had a Plum tree near a gas apparatus, that bore well. Gas tar, however, hung about the trees had no effect. Gas lime sprinkled over the Plum trees had proved valuable.

Mr. Hines recommended diluted Sulphuric acid to destroy the larvæ under the trees.

Mr. R. R. Scott said corrosive sublimate, stronger than sulphuric acid, had been unsuccessfully tried.

Dr. Eshleman thought Hot-water, at 212 deg., might destroy the larvæ under the tree, but not prevent them from coming from a distance. The Curculio had wings, and knew how to use them.

Mr. Rutter coincided with Dr. Eshleman, and yet thought that he had seen beneficial results arise from paving under trees. He supposed the instinct of the insect prevented it from depositing its eggs in fruit, which, when it fell, had not soft ground beneath for the properly maturing of the larvæ. Paved trees over water, had at any rate been noticed as often free from their attacks. Had noticed that vigorous healthy growth in Plum trees, enabled the fruit often to recover and perfect itself in spite of the puncture of the insect.

Mr. R. R. Scott said, paving deprived the roots of air, and would render the trees unhealthy.

Mr. Pierce had seen fine healthy shade trees under brick pavements in side-walks.

Mr. Parry's faith was in shaking, and in shaking alone. It costs little, and was effective. A neighbor of his had a fine crop in his Plum orchard by its practice. He shook the trees every morning for five days,—put a sheet under the tree, whereon to catch and destroy the insects. Collected 300 Curculio from one tree the first morning, and fewer and fewer each succeeding day. The fifth day there were very few left to kill.

Mr. R. R. Scott thought five days too little. Ellwanger & Barry continue the process for some weeks; a man is employed specially to jar the trees. They have fine crops.

Dr. Eshleman thought they never flew far after once having selected their breeding ground, and a few days would accomplish much.

S. W. Noble had partial success by shaking. All fruits were more or less punctured with curculio with him.

Mr. Baldwin and other gentlemen made further remarks; but the above is all the main points elicited.

Mr. A. W. Corson then suggested that there were some soils on which kinds continued to mature fruit, in spite of the punctures of the curculio,—or a healthy kind might have something to do with it. In a soil having a substratum of brick clay, had seen the Richland Plum bear a fine crop five times out of six, though the fruit were freely punctured. The Richland Plum was a pretty good fruit to eat, though not of first-rate quality. It was sometimes called the Copper Plum.

Mr. Rutter also said that in the northern part of Chester County plums were raised by the hundred bushels, in spite of the curculio; but they could not be in West Chester.

Mr. Bull said that he had the same kind of plum, but they suffered from the curculio.

Many other gentlemen participated in the discussion. The fact that in some soils and with some kinds the curculio is defied, and that shaking is the cheapest and best remedy, were the chief points of interest.

STRAWBERRIES.

Mr. Rutter thought the strawberry one of our most variable fruits in its choice of soil, but believed much of the success depended on adapting the variety to the soil. He advocated stable manure as the best for general purposes.

Mr. Dingee, as to kind, preferred the Albany Seedling for general purposes,—the Hovey nearly as good.

Mr. T. M. Harvey asked for information as to the transmutation of hermaphrodites to pistillates; which, however, was not responded to.

Mr. Harrison gave an interesting account of his mode of culture, which was so very concise, and yet so full and valuable, that a brief notice would do it injustice, and our space will not admit of its full insertion. Its appearance in the regular proceedings will be looked for with interest. He spoke in high praise of the Peabody's Seedling, which under his system of good garden management, was not only a superior table fruit, but equal in productiveness, or nearly so, to any other.

Mr. Parry found an old clover sod the very best strawberry soil; but the cost of keeping such clear of weeds was three-fold that of a lot previously cultivated, and a great objection. He had, however, obtained 1600 quarts from half an acre of such land. Albany was a good fruit when left on the vine till fully ripe, but in that state would not carry to market. Kinds that could be gathered before fully ripe, and would ripen on the way, were preferable.—As a compost he mixed stable-manure and muck and left it together till the weeds and all were destroyed. Mr. Parry's remarks were also replete with interest, and will add much value to the Society's transactions.

A long discussion then ensued on the merits of the different strawberries. Each seemed to have his favorite, though most seemed to think that if confined to one, they would have Albany Seedling. On a vote there were—

For Albany	25
" Hovey	10
" Triomphe de Gand	7
" McAvoy's Superior	7
" Iowa	6
" Cushing	6
And for other scattering kinds	some 25

Many members abstained, however, from voting at all, through a difference of opinion as to the propriety of making a distinction between "amateur cultivation" and "market purposes." Nevertheless, a vote was taken also on the former, and Triomphe de Gaud obtained the highest number of votes, Vicomptesse Hericart de Theury being only one behind.

The strawberry discussion closed, and Mr. Saunders, of the *Farmer and Gardener*, read from the last transactions the resolution adopting the *Gardener's Monthly* as the organ of the Society. He had some resolutions to offer on the subject. He thought the more organs the more music.

Mr. R. R. Scott, of the *Weekly Pennsylvanian*, agreed with Mr. Saunders. If the Society sent their proceedings to one paper, the others would have sufficient respect for themselves not to copy them.

Mr. J. Jay Libhart explained that the *Gardener's Monthly* was the only Horticultural or Agricultural journal that aided in the initiatory steps that resulted in the establishment of the Society, and was the only paper represented at its first regular meeting. The Society considered it useful to itself to have some medium by which any particular announcement it might wish to make authoritatively might appear; and, under the circumstances above named, the *Gardener's Monthly* was applied to, and it consented.

Mr. Saunders said he was not satisfied with the explanation.

A motion was made to adjourn till the next day, which was carried.

JUNE 14th.

Mr. S. S. Rathvon read an interesting essay on the Insects injurious and beneficial to the pomologist,—a long, but highly valuable document, which will be published in full in the Society's proceedings. In the course of his remarks, he alluded to the observations of Mr. Saunders the preceding evening, and stated that he had not written his essay with any view to its publication.

Mr. Thomas Meehan said, in reference to the remarks of Mr. Saunders and Mr. Scott, that he regretted extremely that any thing should occur to mar the harmony or disturb the good feeling that should characterize such an association. He had from the first opposed the project of making the *Monthly* the Society's organ, because he foresaw the possibility of jealousy arising, and he was opposed to all that had a tendency to make the peaceful pursuit of horticulture a bone of contention, or any thing but a source of pleasure and good will to all. It was only at the urgent request of the Society—which represented that it would thereby be doing the Society a good service—that he consented to permit it. He now moved that the resolution constituting the *Gardener's Monthly* as the organ of the Society, be rescinded. He wished further to say, that if any jealousy existed such as Mr. Scott spoke of, it was all on one side. He himself had moved, at the last meeting, the vote of thanks which had been awarded to the *Farmer and Gardener* and *Germantown Telegraph*, and had handed his own notes to the former paper before they had appeared in his own. He hoped the Society would adopt his motion. In whatever paper the Society's transactions might appear, he should still do his best to study the Society's interests, and those of the *Monthly's* readers, by copying from any source, whatever might be of value to the readers of his paper, without allowing any feeling of rivalry or jealousy to actuate him.

The motion was not agreed to.

Mr. Meehan thanked the Society for their consideration, but regretted the action they had taken. He thought it important to their success to sacrifice a little to ensure harmony of action between all their members. He begged, therefore, to say, that after what had passed, he could not allow the *Gardener's Monthly* to be considered the official organ of the Society; yet, as an independent member of the press, he would render them all the aid he could in their valuable efforts in the cause of the fruit grower.

THE GOOSEBERRY.

Mr. Josiah Hoopes said there were two kinds called Houghton's Seedling. The real one had a drooping habit. The upright kind, he thought, was, more properly, the Cluster.

Messrs. Harrison, Marshall, Tatnall, Scott, Baldwin, Bull, Corson, Saunders, and others participated. All of their remarks tended to show that the gooseberry required a moist atmosphere, which in some instances had been effected by allowing the bushes to trail on the damp ground; growing them in the shade, even of weeds; or, which most members thought best, by sprinkling salt hay under the bushes. It was even recommended by some to grow them under glass, in order to obtain this moist atmosphere

We have seldom listened to a more interesting discussion, and in which so many men seemed to agree as to the cause of trouble.

RASPBERRIES.

Mr. R. R. Scott gave a history of the Allen Raspberry, as he had seen it at Buffalo.

Mr. Harrison had seen a spurious kind in cultivation; but the genuine Allen—now generally known simply as the Allen Raspberry—was a good kind under proper culture.

A long discussion ensued on the profits of raspberry cultivation.

Mr. Marshall stated that the smaller size, and greater labor of gathering, and the fact that but half the measurement of raspberries, compared to strawberries to the acre, could be obtained, it required considerable higher prices than strawberries to make it a profitable crop.

The members generally thought attention should be given to raising larger varieties.

YELLOWS IN THE PEACH.

Mr. Rutter thought the real cause yet unknown. He, however, gave his experience, showing that it can be communicated to healthy trees by inoculation.

Mr. Harrison had had a healthy tree side by side with one with yellows for several seasons without its catching it. Thought it was caused by want of proper elements in the soil. Had some experiments under progress to endeavor to test it.

Mr. Harrison was unanimously invited to prepare an essay on this and the Gooseberry for the next meeting.

Mr. Saunders thought it was caused by vitiated sap, sometimes caused by the freezing of unripe wood. Had never noticed the yellows in the peach-houses where severe frost did not enter.

APPLES.

The time had nearly arrived for an adjournment, and many of the members were absent. Some attempts were made to prepare a list worthy of general cultivation in the region represented by the Society; and after several unsatisfactory attempts, in the absence of the reports of the sub-committees, it was decided to adjourn to meet in Philadelphia in September, the date of which will be duly announced in time.

PENNSYLVANIA HORTICULTURAL SOCIETY.

The display at the last stated meeting was, without exaggeration, one of the most brilliant that has been before the Society for a long time. The great extent of tables in Concert Hall being filled to their utmost capacity with very beautiful and well-grown plants, fruits and vegetables. The rain which was falling, accompanied by lightning and thunder, at and previous to the hour of the meeting, prevented many from attending.

Plants and flowers were exhibited by John Pollock, gardener to James Dundas; George Penn; James Eadie, gardener to Dr. Rush; John Gray; John A. Gœhring; Peter Mackenzie & Son; Thomas Meehan; Henry A. Dreer; John Joyce, gardener to B. P. Hutchinson; William Joyce, gardener to M. W. Baldwin; Robert Kilvington; Charles H. Miller, gardener to D. Rodney King.

Fruit, by John Landers, gardener to S. T. Altemus; William Joyce, gardener to M. W. Baldwin; John Gray; Thos. Mehgran; G. Wenckler, gardener to J. F. Stœver; A. L. Felten; William Parry; A. Felton, gardener to Henry Duhring; George W. Earl; Mr. Lenfestey.

Vegetables, by A. L. Felton; William Joyce, gardener to M. W. Baldwin; Thomas Meehan; James Matheson, gardener to F. Yarnall; R. G. Swift, and Thomas Meghran.

The following awards of premiums were made by the several committees:

For Fuchsias, the best to Wm. Joyce, gardener to M. W. Baldwin; second best to George Penn; third best to John Pollock, gardener to James Dundas.

Gloxineas, best to James Eadie, gardener to Dr. James Rush; second best to John Pollock.

Carnations, second best to John A. Gœhring.

Petunias, best to Henry A. Dreer; second best to John A. Gœhring.

Verbenas, best to John Gray.

Roses—Hybrid Perpetual, best to Henry A. Dreer.
Tea, best to the same.
Bourbon, best to the same.

Herbaceous Cut Flowers, best to Thomas Meehan.

Collections of Ten Plants—best to John Pollock.
" " Six Plants—best to James Eadie; second best to George Penn.

Specimen Plant—best to John Pollock; second best to Jas. Eadie.

Specimen Plants, One Pair—best to John Pollock; second best to James Eadie.

Table Designs—best to John A. Gœhring; second best to Robert Kilvington.

Baskets — best to Henry A. Dreer; second best to John A. Gœhring.

Bouquets—best to Henry A. Dreer.

Special Premiums to John Joyce, gardener to B. P. Hutchinson, for a collection of beautiful seedling Gloxineas. Also to John Pollock, for a collection of fine Gloxineas. Also to William Joyce, for a general collection of plants. Also to James Eadie, for a large collection of very beautiful variegated plants.

The Committee also called the particular attention of the Society to the following new plants:

Lobelia gracilis variegata, exhibited by George Penn.
Seedling Petunia fragraut, " " John A. Gœhring.
Dianthus, " " Peter Mackenzie.
Seedling Carnations, " " John A. Gœhring.

The Committee on Fruits report the following awards, having, as they conceive, given very deliberate consideration to the various varieties of strawberries brought before them on the present occasion:

Black Grapes—Black Hamburg, best to John Landers, gardener to S. T. Altemus. Best light colored to the same.

Strawberries—Hovey's, best to A. L. Felton; second best to Thomas Meghran. Albany Seedling, best to G. Markler, gardener to J. F. Stœver; second best to Thomas Meghran. Any other variety, best Victoria, to G. Markler; second best, Keen's Seedling, A. Felton, gardener to Henry Duhring.

Cherries—best May Duke to William Joyce; second best, Black Tartarian, to A. L. Felton.

Special Premium to A. L. Felton for Strawberry named Felton's Great Seedling. Your Committee cannot see, however, any difference in color, size or flavor, from the Albany Seedling. They also beg to say that they cannot see any difference in color or flavor between the Victoria and Boyden's Mammoth.

Special Premium to William Joyce, for four splendid specimens of Pine Apples, in pots. They also call attention to a native Raspberry, of a bright red color and of fair flavor exhibited by J. F. Stœver. They also notice dishes of Mulberries, Raspberries, Currants and Gooseberries, by various contributors. They also call attention to two dishes of Seedling Strawberries, named No. 1 and No. 2, both of red color and heart-shaped, of excellent flavor, and they specially solicit its exhibition again before they are entitled to a premium.

The Committee on Vegetables awarded for Potatoes, best to Jas. Matheson, gardener to F. Yarnall. Peas, best to Thomas Meghran; second best to Anthony Felton. Beets, best to Anthony Felton; second best to James Matheson. Also, Special Premiums to Anthony Felton and A. L. Felton, for Potatoes, too small in quantity to compete for the premiums. Also to R. G. Swift, for six superior heads of Crystal Cos Lettuce. They also call attention to a specimen of Rhubarb, Early Prince Imperial, exhibited by Thomas Meehan, and grown by Barnes & Washburn, Dorchester, Mass.

Mr. G. W. Earl brought in, too late to be laid before the proper Committee, some fine Amber Cherries, grown on standard, dwarf and plum stock.

A number of new members were elected, and a number more proposed.

The next exhibition before the Society will be in September, when one of the finest displays may be fairly expected, if those of the past few months form any criterion by which to judge.

HENRY HAY, *Secretary.*

BROOKLYN HORTICULTURAL SOCIETY.

A friend has sent us an account of the June Exhibition, from which we extract the following:

The June Exhibition of the Brooklyn Horticultural Society was held at the Athæneum. The display, all things considered, was very good, in some departments particularly so.

There was a magnificent collection of Roses, and some very fine fruit and vegetables. The Fuchsias were also numerous and good. In the department of plants, Mr. Louis Menand, of Albany, was, as usual, one of the largest contributors. An old and welcome contributor to the previous exhibitions of the Society—Ex-Mayor Van Voorst, of Jersey City—did not exhibit any thing.

Mr. Langley's garden was well represented in the department of plants.

In Cut Roses, Messrs. Dailledouze & Zeler and Mr. Humphries, of Hall Street, Brooklyn, made a fine display.

Mr. Reddy exhibited a dish of Gooseberries, which, appropriately to the prominent idea of the day, he calls "Tycoon Goose Eggs."

The Grapes of the several varieties were uncommonly good, and the Strawberries excellent. Of the latter, Mr. Edward Decker, Florist, of New Brighton, R. I., had some wonderful specimens for size and productiveness. The variety he exhibited is called "Chorlton's Prolific," and they need to be seen to be appreciated.

There were some immense sticks of Rhubarb; but of Peas, Currants or Cherries, there was nothing remarkable.

The three Floral Designs that drew prizes were very large and elaborately finished. That which drew the second prize was very tastefully executed.

We regret to find, from our friend's account, that the Exhibition was not very successful, either in interest or in a pecuniary point of view, no doubt partly caused by the unfavorable weather.

REPORTS OF MASSACHUSETTS HORTICULTURAL SOCIETY FOR 1859

Are filled with much interesting matter. Dr. Asa Gray contributes a paper on The New Plants of the United States, first introduced by the Cambridge Botanic Garden since it has been under his charge, of floricultural interest. They are: Tacsonia lævis, Berberis trifoliata, Erisymum Arkansanum, Viscaria Engelmannii, Callirhoe pedata, C. digitata, C. involucrata, Pavonia Wrightii, Malvaviscus Drummondii, Ungnadia speciosa, Sophora speciosa, Nevinsia Alabamensis (a beautiful shrub, of which we have an engraving in progress for our next), Œnothera Jamesii, Gaura Lindheimerii, Mentzelia or Bartonia ornata, Cucurbita perennis, C. digitata, Megacystis californica, Cereus giganteus, Eupatorium Berlandierii, Aphanostephus ramosissimus, Gutierresia gymnospermoides, Lindheimera texana, Coreopsis coronata, Palafoxia Hookeriana, Gaillardia amblyodon, Agassiria suavis, Amblyolepis setigera, Pentstemon Torreyi, P. Wrightii, P. baccharifolius, P. grandiflorus, Salvia Rœmeriana, Macromeria viridiflora, Datura meteloides.

Many of these plants are now in all good collections; but it is not the less interesting on that account to know that we are indebted to one of our own institutions for their introduction.

KENTUCKY HORTICULTURAL SOCIETY.

HELD AT LOUISVILLE 24th, 25th and 26th of MAY.

The Spring Exhibition of the Kentucky Horticultural Society closed with a magnificent distribution of the premium fruits and flowers to the many charming ladies present. Each bore home a splendid bouquet or a basket of magnificent berries.

List of Premiums Awarded at the Fair of the Kentucky Horticultural Society, May 24th and 25th, 1860.

FRUITS.

Cherries—For the best quart to Judge John G. Taylor, Henry County, Ky.
" For the best display, six varieties, same.
Strawberries—For the best display, three varieties, to A. Hoke.

FLOWERS.

Hand Bouquets—First premium to Henry Nanz,
Table Bouquets—First premium to Moore & Serb.
Floral Designs—First premium Moore & Serb.
Roses—Best fifty varieties, E. Wilson.
" " thirty-five varieties, to Ellwanger & Fox.
" " fifty varieties, to E. Wilson.
Verbenas—Best twenty-four varieties, to Moore & Serb.
Fuchsias—Best twelve varieties to E. Wilson.
Scarlet Geraniums—Best three varieties to E. Wilson.
Pelargoniums—Best twelve varieties to Moore & Serb.
" " six varieties to E. Wilson.
Bedding-out Plants—Best thirty plants to E. Wilson.
" " twenty plants to Moore & Serb.
Greenhouse Plants—Best collection to Ellwanger & Fox.
Best Fifty Plants—Healthiest and best shaped to Henry Nanz.

It would be impossible to specify all the articles exhibited. The cherries that secured the premium were raised by that genial gentleman, Judge Taylor, of Henry County. They are called the Barbour. Mr. B. in the latter part of the last century having brought the seed from Virginia and planted them on his farm in Oldham County. They are the most delicious we have ever tasted.

We are pleased to learn that the Society intends to hold its weekly meetings and exhibitions in the Masonic Temple every Saturday during the season.

AMERICAN POMOLOGICAL SOCIETY.

As we go to press we are in receipt of the Circular calling the Society together in Philadelphia on the 11th of September. We will insert it in full next month, and make room for the following extract now:

"The various State Committees of this Society are expected to submit accurate and full reports of the condition and progress of fruit culture within their limits, together with definite answers to each of the following questions. These reports, it is desirable, should be forwarded to the Chairman of the General Fruit Committee, Hon. Samuel Walker, Roxbury, Mass., if possible, as early as the 1st of September, or to Thomas W. Field, Esq., Secretary, Brooklyn, N. Y.

"What *six*, *twelve* and *twenty* varieties of the APPLE are best adapted to an orchard of *one hundred* trees, for family use, and how many of each sort should it contain? What varieties, and how many of each, are best for an orchard of *one thousand* trees, designed to bear fruit for the market?

What *six* and *twelve* varieties of the PEAR are best for family use on the Pear stock? What varieties on the Quince stock? What varieties, and how many of each of these are best adapted to a Pear orchard of *one hundred* or of *one thousand* trees?

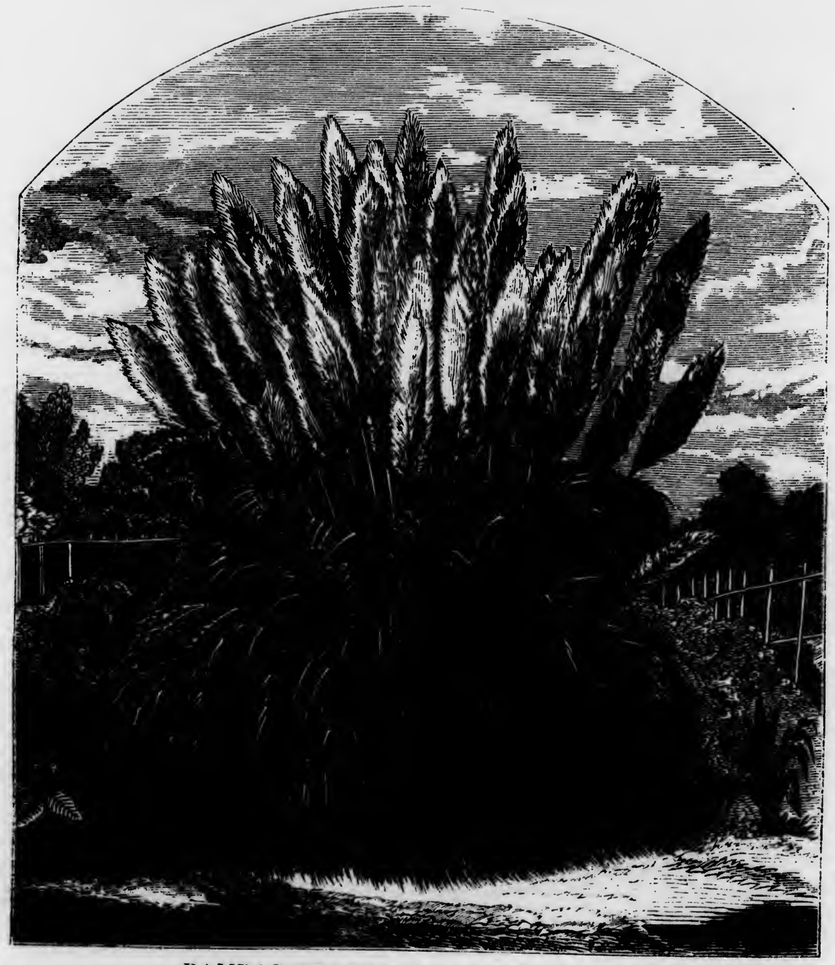
"What are the *six* and *twelve* best varieties of the PEACH? What are the best varieties, and how many of each, are best adapted to a Peach orchard of *one hundred* or of *one thousand* trees?

"Answers to these questions should be made from reliable experience, and with reference to the proximity or remoteness of the market."

SOCIETE ROYALE DE FLORE DE BRUXELLES.

The Exhibition held in March at the Botanic Garden is said to have been one of the finest in the world for the season.

Amongst the novelties exhibited we notice that M. Linden, of that place, the celebrated plant collector, had a new variegated leaf Begonia, said to be the finest yet raised, called B. "Duchesse de Brabant."



PAMPAS GRASS, (*Gynerium Argenteum*).

THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, Editor. AUGUST, 1860. VOL. II.---NO. 8.

Hints for August.

FLOWER GARDEN & PLEASURE GROUND.

At this season of the year many things that may have been transplanted the past Spring, may suffer from drought. This will be observed by the foliage having a withery look. Even plants that have been growing some years will at times present this moisture-asking appearance, especially if growing under the shade of walls or trees, or on terraces or embankments. They must have water—but a "little" is worse than useless, making the ground hard on the surface, and the little moisture in the soil therefore dries out the easier. A basin should be formed of the soil around the tree or plants, and several buckets full of water poured in, and suffered to soak away, after which the soil should be drawn back to its former position, lightly around the plants; moss or litter may then be placed on as a mulch, and nothing more will be required for the season.

We said last month that seeds of Hollyhocks should be sown as soon as ripe—this also applies to seeds of all hardy perennial plants, such as Daisies, Carnations, Polyanthus, Pansy, Phloxes, &c.

When White Lilies, or any other spring-flowered bulbous plants have done flowering, and the stems died away, they should be taken up and reset; the disease in lilies often met with is probably caused by their being too long in one place. Much of what we wrote of last month is still applicable to this, and will bear a reperusal.

FRUIT GARDEN.

As soon as the Raspberry crop is over the shoots that bore the fruit should at once be cut out, and all the suckers not wanted for fruit the next season thinned out and taken away. These two points are very important in Raspberry culture. When rightly managed in this respect, very few crops are more reliable or more satisfactory to the grower than this.

In earlier hints for this department we have written of the importance of pinching off any strong shoots that may appear at the top of young fruit trees, and which if left would render the weaker ones at the base still weaker.

Since that early pinching, in very vigorous trees, a new crop of strong young shoots may have appeared at the top of the tree, which should again be taken off, and the lower branches will be much benefitted thereby.

This matter of pinching out strong growing shoots to strengthen those which we wish to become strong, is an essential point with those who require handsome shaped trees, and is of course applied in the infancy of the trees, when many hundreds may be gone over in a day. It would be a great expense, besides unnecessary with these objects in view, to go over a large orchard and pinch out the shoots. These remarks apply to the Grape vine, as well as to the Pear, and indeed, to all kinds of fruit trees.

In the vinery many parties commence to force grapes at the end of this month, but those who attempt this branch of the gardening art are already so well skilled in its details as to derive little advantage from any hints we could offer here. In the cold vinery, the vines will now be ripening their crops, and will require little attention beyond stopping laterals, and as much as possible destroying insects that may endanger the health of the foliage.

Communications.

SKETCHES of DISTINGUISHED BOTANISTS

BY L.

II.—DR. FOTHERGILL.

Dr. Fothergill, of whom we have already spoken, rose to the highest eminence in his profession, and acquired a degree of celebrity, at home and abroad, seldom attained by the most ardent cultivators of the medical art. It may be questioned, whether he was most known to fame as a philanthropist or a physician; indeed, the life of this excellent man seemed to flow in one continued stream of fertilizing charity. In 1770 he founded and largely contributed to the

endowment of a Seminary for young Friends, at Ackworth, England. He also printed Penver's translation of the Bible, at a cost of £2000. At his expense, Mr. Bartram made his explorations through the Carolinas, Georgia and Florida, &c., which occupied five years; the fruits of which were given to the world in 1791, and will be noted under Mr. Bartram in this connection.

It is supposed that Dr. Fothergill gave away at least £200,000.

The person of Dr. Fothergill was of a delicate rather than attenuated make. His features were all expressive, and his eye had a peculiar brilliancy. His understanding was quick and comprehensive. There was a charm in his conversation and address, that conciliated the regard and confidence of all who employed him; and so discreet and uniform was his conduct, that he seldom forfeited the esteem he had acquired. He deceased in 1780, in the 69th year of his age.

Dr. Fothergill was an ardent botanist, and received from William Bartram his collections made in the Southern States, which were carefully preserved in his gardens at Upton, near Stratford in Essex. In 1835 the grounds still contained many large and fine specimens, among them *Populus canadensis*, 100 feet high, *P. dilatata*, 120 feet high, two cedars with trunks 9½ feet in diameter at 6 feet from the ground.

Upton House gardens were commenced about 1762, —were sold at Dr. F.'s death, and were recently in possession of the late Samuel Gurney.

Linnæus named the genus "*Fothergilla*," in his honor, plants of the order Hamamelidaceæ, or Witch Hazel.

The following testimony to the worth of this excellent friend of humanity, is by Dr. Franklin, and may not inappropriately conclude our very brief notice of him:—"If we estimate the goodness of a man by his disposition to do good, and his constant endeavors and success in doing it, I can hardly conceive that a better man has ever existed."

PEARS IN THE SOUTH-WEST.

BY THOS. AFFLECK, WASHINGTON, ADAMS CO., MISS.

[Concluded from page 204.]

No. 43. *Beurre Moiré.* A miserable, diseased abortion.

No. 54. *Bonne de Zees.* A year or two ago, this tree seemed to have become diseased, and, from the scabbed condition of the bark, seemed about to die. But it recovered, unaided by man, and is now a compact, handsome tree, 12 feet high and 6 inches through, full of foliage and of fruit.

No. 57. *Bonus Julie.* Only 7 feet high and 2½ inches in diameter; of weakly habit of growth, yet healthy, full of foliage and of fruit.

No. 58. *Bonnissime de la Sarthé.* A vigorous, fine tree, 10 feet high, 5 inches through; fine crop of foliage but not a pear to be seen.

No. 60. *Brougham.* A fine, strong tree, 12 feet high, and with a stem of 6 inches in diameter, yet the bark of the trunk has a rough and rather unhealthy look; foliage scant; fine crop set. My notes say that the fruit occasionally rots badly on the tree.

No. 202. *Vicomte de Spoëlberg.* A replant, and a fine, thrifty young tree, 7 feet high, 2½ inches through; yet I do not like its appearance altogether. Though white with blossom, there is scarcely a leaf out.

No. 116. *Gratioli of Jersey.* Unhealthy looking, yet full of fruit. A young tree.

No. 121. *Inconnue Cheneau.* Also a replant. Fine healthy young tree, full of fruit, and promise of succeeding well on quince.

No. 122. *Inconnue, V.M.* Same as above.

No. 208. *Bartlet.* Here stands four fine trees of this invaluable sort. They are upon common apple-quince, and amongst the oldest trees I have, say fifteen years or thereabouts; do not grow fast; more like large bushes, 7 feet high, stem near the ground about 5 inches through, branches sweeping the ground and extending, from tip to tip, some 8 or 10 feet; trees perfectly healthy and have borne some ten or a dozen successive heavy crops of superb fruit. What think you of Bartlet's ranging from 10 by 15 inches, up to 13½ by 17 and even 18 inches around? Not a leaf or blossom yet expanded. I see, as yet, no evidence of disease in these trees.

No. 124. *Jalvie.* A handsome pyramidal tree, 7 feet high and 4½ inches in diameter. Is now covered with a full crop of leaves, and an almost equally full crop of fruit. Fine crop last season.

No. 125. *Jargonelle.* Well do I remember this in the days of my boyhood, as *the* fine pear of its season. And it is, even now, not to be sneezed at! On quince, though free from disease, the growth is weakly and straggling; and, though covered each Spring with a heavy crop of its beautiful large snowy flowers, I have never seen a fruit matured—rarely one even set. At present there are some of good size. On pear the fruit is fine but not abundant.

No. 126. *Jean de Witte.* A handsome pyramidal tree, about 9 feet high, with scarcely a leaf out yet. Some promise of fruit, but has not been a good bearer.

No. 127. *Josephine de Malines.* A fine, thrifty, dwarfish tree, branched quite low; full of leaf but few blossoms. Do not remember of its ever bearing.

No. 128. *King Edwards.* A fine robust tree, with large rich foliage fully leafed out. About 9 feet high and 5 to 5½ inches diameter. Some few fine branches of fruit set; but has been rather a poor bearer.

No. 129. *Leon le Clerc, V. M.* Good thrifty tree; scarcely a leaf out yet, though good promise of blossom.

No. 131. *Lewis.* Had great difficulty in keeping alive the original imported tree, so weakly is the growth. This tree, on quince, is handsome and vigorous, 9 feet high, 5 inches through, and full of leaf and fruit. Bore a heavy crop last year.

No. 132. *Louise Bonne de Jersey.* Several handsome trees of this noted sort. But not so much so nor so productive, nor fruit so fine, as descriptions had led me to expect. They are healthy, thrifty and bear moderate crops of pretty good fruit; that is all. These trees are 9 to 10 feet high, and fully 5 inches through.

No. 134. *Maria Louise.* Growing upon a very poor spot, and has hardly a fair chance; yet it is a handsome thrifty tree. Few leaves or blossoms as yet. Not a great bearer.

No. 136. *Miel de Waterloo.* A fine, healthy tree, but of very straggling habit; 10 feet high and 4 inches through. Few leaves, but a cloud of blossoms. A very fair fruit and good bearer.

No. 137. *Millot de Nancy.* A handsome little tree, but no bearer. Not very healthy, I fear.

No. 196. *Doyenné Boussock.* A replant. A healthy young tree, of straggling habit. Has not yet borne, but now shows some bloom, with leaves about half out.

No. 130. *Leon le Clerc de Lavel.* Same as above. Fine promise of bloom. If it can *bear up* under such a name, it will do.

No. 148. *Passe Tardive.* A pretty tree, which has borne some very superior fruit, but is not now entirely healthy. In full and fine leaf, but no blossom. Bark of stem and main branches quite scabbed.

No. 151. *Poire de Fer.* One of my favorites on quince, "from pear" though it be. A fine, healthy, hardy, but open-growthed tree; bears well, a nice, sweet fruit, though not very highly flavored; but sound and keeps, and carries well to market. Its large, downy foliage about half out, with a noble crop of fruit setting. This tree is about 10 feet high and 6 inches through.

No. 153. *Princesse Marianne.* A very nice young tree, 10 feet high, 5 inches through. Shows at least 6 inches of the quince stock above ground, yet the pear does not overgrow. Full of leaf, but few bloom. Should be let 7 or 8 inches deeper into the ground. Hitherto overlooked.

No. 154. *Princess Royal* (Groom's). A fine young tree, with an awkward habit of growth; 8 feet high 4½ inches in diameter. About half leafed out; fine crop setting; bears moderate crops.

No. 156. *Ramilies.* In a very poor spot, and yet a handsome tree; scarcely a leaf out; plenty of blossoms opening. Bore a too heavy crop last year for the care bestowed on the tree.

No. 159. *Rousselet de Rheims.* Also in poor, very poor soil; open, straggling habit, yet healthy. Bore a heavy crop last year and promises a fair crop at present.

No. 160. *Saint Denis.* A miserable, sickly little specimen, 6 or 7 feet high and 2 inches through; scurfy and diseased; yet bore some good fruit last year, and promises more now.

No. 161. *Saint Germain.* Was as fine and healthy a looking tree as is on the grounds, always bearing and ripening full crops. Was permitted to mature so heavy a crop last year, under such utter neglect, in my absence, that it is now dead! after having partly leafed out and covered with blossom. A serious loss and inexcusable. The fruit is fine and keeps well. Tree 9 feet high and 5 inches through.

No. 162. *St. Germain, V. M.* Small, but handsome tree. Bore a tremendous crop last year; none this season. Now in full leaf.

No. 163. *Saint Germain,* (Uvedale's). A fine, sturdy but straggling tree, covered with pale, large, rich foliage, and a few large fruit set. Tree 7 feet high and 3½ inches through.

No. 164. *Saint Laurent.* Small, well formed, but not healthy. No leaves yet; white with blossoms.

No. 165. *Saint Lezin.* A pretty tree, in spite of its miserably straggling habit. Full of large, glossy foliage and fine fruit, well set. Quite productive.

But I must hold up for the present; fearing that, after all, I may be giving you too lengthy an article for your magazine. My next will complete it.

GRAPE INSECT.

BY R. A. GRIDER, EASTON, PA.

Mr. Editor:—The Catawba vines in our neighborhood have for several years been suffering—which we attributed to various causes.

This year the same disease appeared, and much more wide-spread than heretofore, destroying all hopes of fruiting,—reducing our Catawbas to a mere wreck or ruin, and to a state of leprosy, fit only to be cut down to sprout anew from the ground.

When the young shoots appear in May and June, when very tender, and the young leaves are about putting forth, an insect deposits its eggs in the shoots. At first the brood is hardly visible to the naked eye; when viewed through a magnifying glass they appear a clear white, and quite transparent; as they grow older they expand, become egg shaped, and change color to yellowish white, and sometimes stand out from the shoot with one of the narrow points to the shoot; the insect still in its enclosed shell or egg appears to feed on the shoots, leaving a wound wherever an egg was deposited. The shoot at first becomes veined and blotched with a beautiful rose color,

then purple and rose, and lastly brown, as if seared with a hot iron. The shoot sickens, the leaves turn brown and shrivel, the blossoms turn brown ere they open, and the vine is a wreck, full of putrifying sores.

The above are facts beyond dispute; we will now state what we deem to be the cause of the mischief; and, although we believe to have discovered the real cause, yet we might be in error:—A small, light green insect, being about one-fourth of an inch in size, (when viewed through a magnifying glass it has four wings, two large eyes, four or more legs, and a sharp pointed body,—with a dark sting, and appears to be of the grasshopper species); appears to be very active morning and evening; during the warm days it hides under the leaves, and is very shy when approached—we take to be the cause. We have mentioned our case to a friend whose attention had not been called thereto this year, but who has suffered by the same cause; he says that he immediately tried Whale-oil Soap and also air slacked lime, both have destroyed the brood.

I have sketched a shoot from nature showing the effects of the attack; if you deem proper to use the same for the benefit of others you are at liberty to do so.

[The drawing sent exhibits the Grape vine thrip, which is so very destructive in greenhouses, where it is destroyed by tobacco smoke; we never knew it to attack out door grapes before, and are unprepared with any remedy.—Ed.]

SUGGESTIONS FOR PEACH GROWING IN OHIO.

BY E. FRYER, DAYTON, OHIO.

The peach buds in this section of Ohio, were all killed by the hard freezing in December last, notwithstanding the wood being well ripened in the fall. At the south of this state—around Cincinnati, they were also killed, with the exception of those planted on high and favorable situations, while at the north, in the neighborhood of the great lakes, they were spared. Why this difference in favor of a higher northern latitude? probably the moisture evaporating from the waters before being frozen was the cause; if there is any other will some person in that region inform us through the *Monthly*. Pears, Cherries and smaller fruits generally, are safe so far, but strong canes of Lawton Blackberry have been killed growing on clay loam underdraining.

The thermometer at Dayton fell to 15 degrees below Zero on the night of the 8th of December last, at Cincinnati on the same night, according to the tables of Professor Wilson, as published in the "*Cincinnatus*," it stood at 40 degrees at 9 o'clock, P. M., and on the following morning it was 4 degrees below Zero; but if we consult the point at which it probably stood at midnight, we have a fall of about 48 degrees in the short space of four hours; the effect of such a sudden and important change seems to have been felt by the peach in particular. I am credibly informed that only once during the last eight years has there been a *general* crop of peaches in this neighborhood. Would it not be worth while to seek a remedy for this state of things; planting on high places, from 200 to 400 feet above the sea level; planting much closer than the ordinary distances; in each case training low bushes, training young plants obliquely, say at an angle of about 30 degrees, (on a single stem or main shaft, keeping side branches small by pruning); the latter could be bent down and covered with earth, this would save the buds while in their dormant state, in any latitude where the wood of the peach would ripen. These remedies or rather suggestions I think would be worth a trial by those who grow this important crop, which, whether for profit or private use, its pecuniary value is the same. *June 5th.*

[In such a precarious locality for a Peach crop, a Peach-house would be a source of *great gratification* to a private horticulturist, and of great profit to a market fruit grower.—Ed.]

GRAPE GROWING.

BY WM. BRIGHT, LOGAN NURSERY, PHILAD'A.

Since the publication of my work on Grape Culture, advocating the use of dwarf vines, or very short canes, in the vineyard, with no arms or upright shoots, a set of writers have sprung up who advocate most strenuously a no-pruning system for the Natives; the wildest and most unrestrained growth of branches and laterals over high trellisses, houses and trees, as the only true and proper system for American Vines.

Mr. McMinn, in an essay recently published, says: "To attempt to confine their growth to mere stakes will prove a failure on all our native species."

I take issue with them all on this point, and assert that the most healthy canes, and the best crops of Grapes can be grown in the vineyard, on native vines, with a single stem not over six feet long: and that I can produce, on such a cane, a crop of fruit having six qualities, required for perfection in Grape growing, viz.:—ripeness, color, flavor, size of berry, size of bunch, and weight, that will excel in all or a majority of these points, any crop that can be obtained from any unpruned cane, of equal age, six hundred feet long, more or less.

The truth is, only those who have worked for years over the Grape vine, can fully understand its nature, requirements, power of endurance, and capacity. When I recently announced that the foreign vine would stand any degree of heat, in the grapery, short of 212° of Fahrenheit, *provided sufficient moisture were present in the house*, many persons stared with incredulity. But such is the fact. There is really no danger in heating a house to a degree which would make any man not accustomed to it, fall dizzy and insensible in fifteen minutes, if the house be very moist.

For the benefit of the incredulous, who may really wish to be convinced of the fact, I will repeat an experiment I have often exhibited to my friends:—I will take one of my houses, over two hundred feet long, with its many hundreds of valuable pot vines, and in their presence shut it up as tight as possible, at noon, in the hottest day in July or August, under a bright blazing sun, and make the hottest fire you can with wood, in the furnace and flue, and carry the heat to 175° or more, without injury to the vines in an hour's time.

Another point. It is commonly supposed that it will not answer to syringe the foliage of growing canes with cold water when the house is much heated, the sun is shining, and the vines are flagging. This is a mistaken notion. I would prefer to wet the border with warm water at such a time, but I have proved by experiment that the foliage will stand a cold dash, under the conditions above named, not only without injury but with decided advantage. With a house at 115°, vines in pots flagging, and a blazing sun, at noon, I have thrown four hundred gallons of cold water, as cold as 50°, over the whole stock of a house 180 feet long, with a forcing-pump syringe, with a most refreshing and invigorating effect. I have myself rode on horseback, at a full gallop, ten miles in the hottest day in July; and coming off the horse, reeking with perspiration, I have taken a cold shower, with water drawn immediately from the bottom of a deep, cold, rocky well, and scarcely felt the shock of it. So I have I gone from the vapor bath, at Sansom Street Hall, out of a current of steam, nearly hot enough to scald the skin, covered with perspiration, and blazing with heat, immediately under the cold shower, not only without a shock, but with the most delightful sensations of dripping coolness. The grape vine can stand the heat better than a human being can, and when so heated I feel convinced that the cold water falling upon its foliage from the syringe, in a sort of shower or mist, in a hot sunlight, gives it no shock, but rather proves refreshing and invigorating to the heated tissues.

If the air of the Grapery be very hot and dry, then flagging and mildew will speedily ensue; but if you have plenty of moisture, no degree of heat that can ever be created, by sunlight or flues, under ordinary circumstances, will ever prove of much injury to grape vines. To maintain a uniform and healthful degree of humidity in the grapery, without constantly syringing and wetting the floors, I have recently introduced into some vineries which I have erected, large shallow *evaporating troughs*, sixteen or eighteen inches wide and four inches deep, running the whole length of the house, so arranged as to be filled with water in hot dry days, or left empty in cold damp days. These troughs also serve an admirable purpose, by keeping a large supply of warm water ready for watering the pots and borders.

I also, in regulating the moisture of the house, make use of the *Hygrometer* to ascertain the precise degree of dryness or moisture existing in the atmosphere, as the temperature changes; for neither the presence of water when no evaporation takes place, nor ones own feelings can form an accurate guide as to the real state of the atmosphere. But this useful little instrument gives you at a glance the precise Hygrometric state of the air, and, by a slight calculation, you may know the number of grains of water held in suspension by each cubic foot of air, or the comparative or absolute dryness or moisture of the house, with mathematical certainty. I have a table prepared which shows all these points, in a moment, without calculation; and a little use of the instrument enables one to judge of the condition of the house before the vines show the effect of excessive dryness or excessive moisture, by flagging or by mildew. It may not be generally known that, under ordinary circumstances, an increase of 21° of heat just doubles the absolute dryness of the atmosphere, unless means be taken to saturate the air with moisture; but fortunately, while the atmosphere, at a temperature of 5° above zero, will hold in suspension only about *one* grain of vapor in a cubic foot of air, at 95° it will hold in suspension *seventeen* grains; and as fast as this is taken up by plants, the air greedily absorbs more moisture. These are important facts.

In my management of grape vines, I admit but little air during the changeable weather of Spring, but I watch the hygrometric condition of the atmosphere with the utmost care. I like to swell out my canes with plenty of moisture during hot days, early in Spring, and stop them in and concentrate their energies upon short canes, and harden them off early in the season, and thus get up a good constitution for future service. Whether all vines will stand heat and cold water, as mine will when properly grown, I cannot say; perhaps it will be well for some people who have rather a weak stock about them, to be cautious in their hydropathic applications; but what I have here stated I will show to anybody worth talking to, any fine day they please, at the Logan Nursery.

[We have no doubt but that had Mr. Bright lived in a more particular age, he would have been burned at the stake, as an heresiarch of the most dangerous kind. Notwithstanding his evident unorthodoxy on

many old fashioned cardinal points, a recent visit to his place satisfies us that he is any thing but a *cheval outré*—a broken-winded horse—on grape growing. A more beautiful sight in that way, we have never seen.

We have struck out a challenge of $200 in favor of his system, from the article, as being unsuited to our columns. A visit to his plants will prove more than his wager.—Ed.]

GRAPE ROT.

BY R. A. GRIDER, BETHLEHEM, PA.

The rotting of green Grapes has been attributed to various causes.

1 To want of proper nourishment in the soil.
2 Excess of moisture.
3 Want of moisture.
4 An insect depositing its brood into the bloom. (See *Scientific American* of May 19th, 1860.)
5 Heat.
6 Cold.
7 Mode of pruning.
8 Exposure to the sun.
9 Bursting of the stems.
10 Want of circulating air.
11 Roots going into the subsoil.

Your *Monthly* being designed to aid gardeners and fruit growers, and as thousands of persons have been losing their grape crops by rot, and as no single cause has yet been described, and no remedy been found, I would ask a place for the above in your magazine, being desirous to gain light on the subject, and believing that its discussion will perhaps benefit great numbers.

Suggesting to all who deem the above worthy of notice, to state in *what kind of soil* their vines are growing—whether moist or dry, underdrained or not? and whether the rot takes place during dry or wet weather?

[All of the causes named will produce the Grape Rot, which is a consequence of previous disease. When by any of the above extremes the sap becomes vitiated, a small species of fungus attacks the berry, and speedily destroys it. The fungus is often supposed to cause the rot. Our own opinion is that it will never attack a perfectly healthy subject; the rule seems to us absolute, that what is favorable to the growth of fungi is unfavorable to the health of vegetation more perfectly organized. We shall, however, be glad to have the views of some of our intelligent corespondents.—Ed.]

TREES OF THE MISSISSIPPI RIVER.

BY D. O. REEDER, OBION CO., TENN.

In front of my present residence there is a yard of perhaps two acres. In this small space I have counted fourteen varieties of trees, constituting a fine miniature park; which trees I will name, to give an idea what a variety of growth there is here on a small space of ground:—Slippery Elm, Swamp Elm (?), Sycamore, Sassafras, Hornbeam, Hackberry, Wild Plum, Boxwood, Swamp Maple, Black Walnut, Red bud, Ash, Cottonwood and Persimmon.

This is on the Mississippi River, and in what is known as Madrid Bend. The surface soil is a clayey loam, mostly; occasionally sandy loam, from a few inches to four or five feet thick, resting on a base of pure sand of unknown depth. In many places this sand crops out—such patches are called "Sand-blows."

In addition to the trees enumerated above, I have noted the following in the country:—Yellow Poplar, Sugar Maple, Hickory, different Oaks, Holly, Chestnut, Swamp Willow, Red and Black Haws, Dogwood, Black Gum, Sweet Gum, Cypress. Catalpa, Kentucky Coffee-tree, Black Locust, Common Thorn, and another tree like it in bark and foliage, but has no *thorns*. I should like to know the true name of this tree. [Send us leaves.—Ed.] It is a very graceful and tall tree. I have noticed but two trees of this variety, of the Mimosa type, in any other State,—Common Beech, and, I think, another variety. One variety of the Cucumber, Wild Cherry, Mulberry and White Walnut.

There is another small tree, with foliage like the Sumac, but has sharp spines on it. Tennesseeans call it "Tare Blanket." [*Xanthoxylon fraxineum*, probably.—Ed.] There are other small trees growing here, the names of which I do not know. The Common Alder often grows to a great size here. One was pointed out to me on the border of Reelfoot Lake, that must be 20 or 30 feet high and 6 or 8 inches in diameter. [Possibly *Alnus glauca*, but we never heard of its growing so far South-west Send us a leaf.—Ed.] Some farmers plant them in their yards. They make a very bushy top tree if not trimmed. If trimmed the branches die.

The Holly, Chestnut, Poplar and Cucumber, do not grow in the "Bend," but grow on the uplands of the country. On the other hand, I find many kinds of vines growing here that are not indigenous to the uplands. The Virginia Creeper, Poison Vine, Trumpet-flowered Vine, Wild Clematis or Virgin's Bower, Wild Grape, and many other vines, climb up every thing they find in their way.

There is one variety of the Trumpet-flower that blooms about the first of May. The flower is pale crimson, with a buff color on the inner walls. I saw one Trumpet-vine, of the scarlet kind, that was one foot in diameter. But this has grown too long. I may give other notes on trees and vines, in another communication.

FOREIGN STRAWBERRIES.

BY JOHN SAUL, WASHINGTON, D. C.

I send you this day, by Express, a small box of Foreign Strawberries, [Noticed in our last.—Ed.]:—

1. Vicomtesse Hericart de Thury. This variety with us is now nearly over, and it has, as on all previous occasions, proved in every respect A1—medium size, bright color, flavor exquisite; whilst it is very productive, and of so robust a constitution that it is proof alike against our most intense cold or fiery heat. Our great Strawberry growers, Messrs. Slater & Cammack, have grown this to great perfection the past Spring. The writers against Foreign Strawberries are already procuring plants; and in the midst of opposition it is working itself into general cultivation.

2 Victoria (Trollope's). This noble berry has come out finely the past season. The two gentlemen already named have brought it into our market in the very highest state of perfection. It is a fine cropper, large, good flavored; but in this latter quality not to compare to Vicomtesse. The color you will observe is bright and good, though writers have abused it on this head; perhaps they had never seen a well ripened berry.

3 Compte de Flandre. Another excellent Strawberry of the same race as Victoria, Alice Maud, &c. Fruit of good size, bright color, high flavor; an abundant bearer, and very hardy, passing unscathed through our hottest and coldest weather.

4 Seedling Eliza. This may probably be set down as our best large Pine Strawberry—belonging to the same class as British Queen, Kirtly's Goliath, &c.—it is much hardier and not inclined to burn,—indeed, will endure any heat or cold that any Native Strawberry will. It is uniformly a good bearer—a heavy bearer—fruit very large, conical; bright color, fine flavor. A superb large reliable variety.

5 La Reine. Belongs to the same family as the preceding; alike hardy and vigorous in growth, with large, firm, enduring foliage, and, like that, forms large crowns, which throw up robust spikes of bloom and fruit. A large fruit, bright color, good cropper; fruit somewhat similar to the preceding, but more globular.

The above are all excellent Foreign sorts. Every amateur who grows a Strawberry should possess them—as well as market gardeners, who will give them ordinary good culture, they will find them more profitable in the end than the little scarlet varieties, so universally grown—as they invariably bring three or four times the price in market.

New Vegetable.—*Deutsches Magazine*, "says Dr. Seibold, has introduced a new and valuable vegetable from Japan, allied to Salsify and Scorzonera. It is called Lappa Edulis, botanically."

HYBRIDIZING THE PEACH WITH THE PLUM.

BY DR. WYLIE, CHESTER, S. C.

It is stated in some of the journals that I exhibited fruit, the result of hybridization between the Peach and Plum, this is a mistake. I did exhibit fruit in 1857, the result of a cross between the Heath Cling Peach, and Columbia Peach, which took the premium at the S. C. fair; and also fruit, the result of a cross between the Blood Cling and Boston and Hardwicke Seedling Nectarines. The mistake has probably originated in this way:—Sometime last winter I was corresponding with Mr. Silas McDowell, of N. C., and spoke of exhibiting a cross-breed between the Heath and Columbia Peach. I may have (in writing hurriedly) not written very legibly, so that Mr. Mc Dowell may have understood me to say that I had succeeded in producing a hybrid between the Heath Cling and Columbia Plum. I have experimented extensively in hybridizing not only fruit but other plants; have tried frequently to cross the Peach and and Apricot, without success; have also tried the Peach and Plum without success.

Some of my crosses between the Peach and Nectarines are very beautiful, but owing to my bad locality my Peaches are cut off almost every Spring. In the Spring of 1859 I commenced hybridizing Grapes, and now have about three hundred plants, some of them two and three feet high, (having been started in pots in a hotbed). I am now inarching some of them with the young shoots of strong stocks, so as, if possible, to make them bear next year. The following are the natives hybridized by me in 1859, with the *best* foreign varieties. Delaware, Herbemont, Lenoir, Catawba, Scuppernong, Bland. The foliage of many of the plants resemble the male parent more than the female; the foliage of two of the Delaware hybrids resemble precisely the White Muscat of Alexandria. I have my Delaware hybrids all inarched, so as if possible to make them bear next year. I have gone into it more extensively this Summer, and have the Delaware, Diana, Anna, Halifax, Negoochee, Pauline, White Fox, Clinton, To Kalon, Scuppernong crossed (some of them *vice versa*,) with B. Hamburg, B. Prince, R. Muscadine, Syrian, &c. In hybridizing I adopt several precautions to attain success, which are not detailed in books, so far as I know. I enclose an exact drawing of one of my cross-breeds.

[On reading in the *Cincinnatus* for May, Mr. McDowell's original article, we understand him to say that he "*saw*" that the Nectarine and Plum had been hybridized by Dr. Wylie, and goes on to describe it as "a fruit of exquisite beauty and taste." We believed it to be impossible; but the positive nature of the statement staggered us a little, and we wrote to

Dr. Wylie for an explanation, which he has above kindly given.

The colored drawing of the hybrid Peach and Nectarine is very beautiful, and we regret that a wood cut will not do it justice. It is smaller than the average of Peaches, with the rich color of the Nectarine. —Ed.]

INSTRUMENT FOR TRIMMING TREES, HEDGES, &C.

BY G. L., PARKERSBURG, VA.

I send you a rough sketch of a little instrument I find convenient in trimming evergreens, hedges, &c., to any desirable shape.

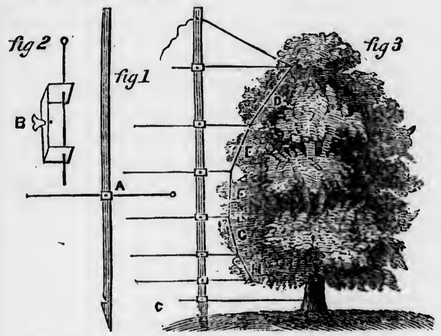


Fig. 1. is a piece of ash 2 inches wide, and 1½ inches thick, and 7 feet long, with an iron point, having a notch on one side in which to place the foot, and press it in the ground. *A.* is a piece of stiff wire about 3 feet long, having a loop or eye at one end. This wire passes through the clasp as shown in fig. 2. This clasp and wire is movable on the staff, and is adjusted to any part of it by means of the thumb-screw *B.* There should be 6 or 7 of these wires thus fixed to the staff. The lower wire *C.* fig 3. when the staff is in use, is made to extend from the staff to the body of the tree. By this means the staff is kept at the same distance from the tree as it is changed from one side to the other. Now pass a string or small pliant wire through the eyes of all the cross pieces, (except the bottom one,) and move the wires to the right and left, up and down, as the size of the tree may require, and screw them to their places. In this way the string is made to form a curve as seen in the figures *D. E. F. G. H.* The surplus string may be wound round a pin near the top of the staff. Having determined on the shape of the curve or outline of the tree as above, plant the staff by the side of the tree, and extend the bottom wire so as to touch the body of the tree; cut off the branches where the string crosses them, and cary your staff around as the trimming proceeds, always keeping the staff at the same distance from the body of the tree by the wire *C.* coming in contact with it. Evergreens, hedges, &c., may be trimmed with the aid of this instrument to any shape, and with great uniformity.

PERPETUAL STRAWBERRIES.

BY W. R. PRINCE, FLUSHING, L. I., N. Y.

Under this head a writer in one of your numbers makes this statement:—"We all know how Mr. Knight's experiments in hybridizing the kinds already supposed to be of European origin, with kinds of American birth, gave to the Horticultural world a race of fruit from which all we now prize have been obtained." Now, in point of fact, we just know no such thing, but we do know the precise contrary to have been the truth. In the first place, there has never been a hybrid produced between any European and American species, and there never will be, this resulting from a natural sexual aversion. Secondly, of the seedlings produced by Mr. Knight, I received the best nine varieties from the London Society, and tested them fully, and rejected the whole; and, but five were deemed worthy of insertion in the Catalogue of the London Horticultural Society, (Edition of 1826), and not even one was thought worthy of retention in their third Edition (1842). And at the present day there does not exist a solitary instance where either an original or a seedling from his varieties has been perpetuated.

[Though thankful for the facts, we do not quite approve Mr. P.'s style of offering them. When we find writers assert that things "never can be," we are reminded of Robert Dale Owen's argument, which, as it was advanced in defence of a favorite hobby of Mr. Prince's, he will certainly not object to, viz., "that when any thing can be proved to exist, it must certainly be possible."

So far as we know, we never heard the facts alluded to (page 40 of our last volume) questioned; and if Mr. Prince is not mistaken in some of his points, his communication furnishes materials for a new chapter in Strawberry history.

We never received the other articles Mr. Prince alludes to in his private note.—Ed.]

CONSERVATORY AT THE PRESIDENT'S HOUSE.

BY D., WASHINGTON, D. C.

Mr. Editor:—In one sense I was glad to read your correspondents remarks on this conservatory. He remarks that "they are a disgrace either to him (Mr. Watt), or to the nation." I fully concur in this, by applying it to the latter part of the sentence. I was, I say, glad, because I concluded Mr. Watt would have an excellent opportunity of clearing his skirts of any responsibility, in what I know to be "a disgrace to the nation." I volunteer to say for Mr. Watt, that a harder working, more attentive gardener does not exist, and one well qualified for the position he fills. I say this for him because I think his modesty has not allowed him to say the half of himself that he merits, and because I know that he has not given you a detail of half the difficulties he has to encounter. Every thing connected with gardening is grudgingly granted by our matter of fact Congressmen, and it takes as much scheming, I had almost said lobbying, to get an appropriation for these purposes, as is required to engineer through a Pacific Railroad. The Conservatory itself, by whomsoever designed, is "a disgrace to the nation," and all who know the circumstances, will not wonder at your correspondents surprise at the bad plants it could not but contain. I write this without the knowledge of Mr. Watt, simply because I think he has not done himself justice. I know his difficulties, and admire the tolerable success which, notwithstanding, attends him, and besides I am desirous of seeing the blame attached where it properly belongs, on the shoulders of "the nation"—or those who are said to represent it.

[The above from the pen of one of our distinguished Washington amateurs, we readily insert. Our correspondent was a stranger in Washington, and stated only what he saw, and what others have seen, and like him wondered where the responsibility belonged. This our present correspondent fixes, and this good will arise that whoever may call and see the "disgrace," will at any rate know what to blame for it. —Ed.]

THE WORM ON THE GRAPE.

BY DR. GEO. PEPPER NORRIS, WILMINGTON, DEL.

Permit me to occupy a few lines of your valuable space for the purpose of calling attention to a pest which has made its appearance, I believe, for the first time, and whose ravages if not arrested bid fair to destroy all our hopes of native Grapes. During the first week in June my attention was directed by my gardener to a small worm that was appearing on the grape leaves. By vigorous application of the syringe and tobacco water, we succeeded in dispelling the intruders, and I thought no more of the matter until one of my neighbors mentioned that his vines were covered with worms. I found them identical with those which I had driven off. I now find that the vines throughout the section in the neighborhood of Jennersville and Westchester, almost entirely devastated. On the road between Wilmington and Westchester I examined several vines, and everywhere found the worm.

How much further the devastation has extended I have not at this writing ascertained, but fear the evil may be wide-spread, and embrace the earliest moment of directing vine growers to examine and clear their vines. The worm is about half an inch in length, and of a black color when first appearing, but changing with his growth, and becoming of a coppery hue. His favorite nest is on the outside of the leaf; the succulent portion of which he consumes, leaving the fibres, and presenting the appearance of a gauzy web. The leaves are thus effectually destroyed, and the new foliage under the hot sun of this period wilts up, and with the bunches drop off. The unusual amount of wet may have had something to do with the appearance of this worm. With all our vigilance, I fear the insects are gaining a march on us. Not a plum tree here is unstung; and now if this formidable enemy destroys the foliage of our grapes just when we were preparing to decide on many of the new natives, it will have the effect of driving many, myself among the number, to glass-roofed sheds for grapes, plums, &c.

[This is the larvæ of the *Haltica chalybæa*, before described. The beetle appears about the time the buds of the grape begin to swell. Their numerous appearance this year is very surprising. On a small scale the larvæ may be readily destroyed by water heated to 130° or more, and it might "pay" better to do it on a large scale, than go to the expense of glass-houses.—Ed.]

CHERRIES ON THE PLUM.

BY W. ADAIR, DETROIT, MICH.

In the garden of Mr. Joseph Jelsch, an enthusiastic amateur pomologist of this city, may be seen a Cherry grafted on the Plum. He cannot tell the varieties of either stock or scion, but says it is a large blue Plum, and the Cherry appears to me like the Black Tartarian. The scion is rather the most rapid grower, still there is but little difference. The tree has been grafted about ten years, bears regularly and well. But little difficulty, apparently, has been experienced in securing a union between the two, as the tree is forked at the top, and both limbs have been worked, and but little difference in their size.

The fact suggests whether the Peach may not be worked on the Cherry? If this could be effected, we might expect to get trees that would be exempt from the attacks of the borer, which is not always the case even with the Plum.

I tried a few buds on the Mahaleb stock last season, which appeared to take well; but as the winter destroyed most all that were worked on the Peach, of course those on the Cherry met no better fate.

It is rather remarkable, that while the winter has been so severe on the Peach trees that many of them with us are killed outright, and all more or less injured, those that have escaped and are large enough to bear, are loaded with fruit.

Two small trees of Downing's Everbearing Mul-

berry that grew well last season, are killed root and branch.

HORTICULTURAL CONSERVATISM—CROCKING.

BY H., NEW YORK.

Mr. Editor:—I hardly expected when I sent you the paper in which this matter was referred to, that it would pass among your thirty thousand readers without some of its assertions being questioned. It is thus where the great utility of a horticultural journal lies, in giving us a medium for exchanging our ideas in matters where personal discussion would be impossible; and also prompting the less experienced to experiment on the matters under discussion.

Fortunately this matter is very easy to get at. It is very simple for any one having a greenhouse to try the growing of a few dozen of plants of the same kind, against a corresponding number—the one lot with, the other without crocks—and note the result. If the experiment be fairly gone into, without prejudice, there is no doubt of the result, if both lots grow alike the "crocking" for the future will be dispensed with by any man having ordinary common sense, as a useless waste of labor.

I. W. C., seems to have very fixed notions in this matter, his experience evidently has only been from one side of the question; it is very doubtful if he ever grew a plant unless it had been "crocked" or "drained;" if such is a fact, his opinions are not of such weight as if he had had experience in both modes, and been able to give us the "disadvantages" of non-crocking in a more lucid manner than he has done. The only argument he attempts in favor of crocking is, that it prevents the roots from getting outside the pot. Does it? It certainly does not if drained with charcoal, as we all know that roots will strike through charcoal as quick as through the soil.

For the information of your correspondent, I will state that all my plants are grown on shelves of wood overlaid with about an inch of saw-dust, sand or sifted ashes, whichever is most convenient; and as a consequence the roots come through the bottom of the pot, but we are not quite slovens enough to leave them undisturbed. The plants are required to be staked, turned, and thinned every few weeks, which effectually prevents them from getting their roots outside to any extent, as to injure the plant.

I. W. C. specifies Fuchsias as one of the plants wherein he thinks crocking indispensable.

I wish in some of his sojourns from the rural district of Westerly, he would take time to make a visit to the establishment of one of my neighbors here, who makes the growing of Fuchsias for the New York market one of his specialities. He has this season grown, and already nearly disposed of ten thousand Fuchsias. They are grown in five inch pots, (of pyramidal form,) averaging two feet in height, by about twelve inches at the base—complete specimens of health and beauty, covered with a perfect shower of buds and blossoms, and in the whole of that number, Mr. Editor, not a crock nor substitute therefor was used. Had it been desirable or profitable so to do, each plant could just as easily been grown six or eight feet with corresponding width, and that too without the "indispensable" crock.

For the better understanding of the position we take in this matter, I will again recapitulate.

First, that the ordinary method of placing a single piece of potsherd in the bottom of the pot does *not* drain it, but simply robs the plant of the amount of soil it displaces—some consideration in a two inch pot—then it becomes "worse than useless."

Second, that draining, even when properly done by charcoal, or other similar modes, adds nothing to the health or growth of the plant; and that all the soft wooded plants commonly grown by florists, will do equally well without it.

These are simply assertions, Mr. Editor, not arguments, and of course carry no more weight than similar assertions to the contrary; all that I advance as argument in favor of them, is the large and successful practice of my own and similar establishments conducted on this plan. There may be some advantage in filling a pot half full of drainage, if that pot is too large for the plant, (which we too often see,) but if the pot is properly adapted to the size and condition of the plant, then I again hazard the assertion that all this practice of by-gone years has been labor lost.

GREENHOUSE PLANTS.

BY ADAM GRAHAM, PHILADELPHIA.

T. M. H. asks for advice in the selection and management of Greenhouse plants. I recommend the following list, and course of treatment for his adoption, which, I think will meet his wants and those of others similarly circumstanced,—presuming at the same time that the house which he proposes to build will be constructed with a due regard for the object in view, viz.: the successful cultivation of plants, in which an abundance of light and proximity of the plants to the glass, are of first importance.

Horticultural prints frequently recommend copious waterings for many varieties of pot plants, which, when wrongly interpreted by amateurs who have not had the experience sufficient to guide them, is often productive of injury. Caution against over-watering is one of the main points of success in plant growing. Water cannot be given to any greenhouse plant without injury, unless that previously in the soil be first absorbed. No one thinks of drinking unless they are thirsty; and water given to plants which do not require it, will remain stagnant in the pot, souring the soil, and destroying the roots and the health of the plant. On the other hand, you may injure a plant by neglecting to water it at the proper time; but the proportion so affected is comparatively small—but large enough, nevertheless, to give a liberal range to the taste in the making of a choice collection.

I will now name a few Greenhouse plants, which have my favor as such, beginning with

Abutilon, a genus which thrives well in soil composed of two parts loam to one of manure and sand—varieties, *striatum* and *insignis*.

Acacia. Plants with showy yellow flowers, blooming from the end of January to the beginning of April, soil should be composed of two parts peat, two of loam, one of well-rotted manure, and one of sand—*A. dealbata, floribunda, graveolens, undulata, undulæfolia, pubescens, platyphylla, eriocarpa, pulchella*, and others, are good.

Amaryllis *bulbosus*, These do best with hothouse cultivation. They may be grown in a greenhouse, however. They should be allowed to go to rest after flowering, by gradually withholding the supply of water. When the leaves decay, place their pots on their sides, beneath the stage, so that drip cannot effect them. After resting three or four months, they will begin to show signs of growth, when they should have the old soil shaken away from the roots, and repotted in fresh soil, composed of two parts loam, one of leaf mould, and one of manure and sand.

Ardisia. The berries of this tribe, which hang in graceful clusters from the side shoots of the plant, are its chief attraction. Pot in loamy soil—*A. crenulata* and *lutea*.

Ageratum *odoratum*, a blue flowering plant. Pot in rich soil.

Azaleas. One of the most useful and beautiful tribes of Greenhouse plants, delighting in soil principally composed of peat,—say two of peat to one of loam and sand; contrary to the theory generally laid down for their cultivation, they will be found to do much better with a tolerable good exposure to the sun, than when shaded. The flowers are larger than when shade grown. When they are in flower they remain in much longer by being shaded. Red Spider and thrip require watching, as they are very destructive,—fumigating with tobacco is the best remedy, though with caution at the growing season: a little and often should be the motto. Syringing and sponging the leaves is good against Mealy-bug and Red Spider. Any of the following named varieties may be ranked as first class:—Admiration, *amœna*, Beauty of Europe, Bride, *crispiflora*, Coronet, Criterion, Duke of Wellington, Eulalie Van Geert, *exquisita*, Glory of Sunning Hill, Lateritia, *superba*, Louis Napoleon, Maitlandia, Murrayana, Narcissiflora, Optima, Pride of Dorking, Prince Albert, *rubra plena*, Symmetry, *variegata*, Vesta, *vittata, punctata, rosea*.

Burchellia capensis, pot in one-half loam, one-fourth leaf mould, and one-fourth sand and manure.

Calceolaria. A beautiful tribe of plants of innumerable varieties, raised from seeds and cuttings. Pot in rich sandy loam; they require to be pinched occasionally while growing.

Cassia, *corymbosa* and *occidentalis*; yellow colored, winter-blooming plants; grow in loamy soil.

Calla Ethiopica—A strong growing, winter-blooming plant; should be dried off in the beginning of Summer, and after resting three or four months, should be shaken out of the old soil, and repotted in strong rich loam.

Camellia Japonica. This family ranks, by common consent, above all other greenhouse plants. Its glossy, dark green foliage, and beautiful wax-like flowers, win the admiration of all. They are likewise much easier of cultivation, than the many sickly specimens often met with in our gardening establishments, would lead us to believe. Pot them in fibry peat and loam, in the proportions of two of the former to one of the latter, with a little sand and leaf mould; syringe them once a day, with the exception of the winter season, when they are in flower. Apply fire-heat only when necessary to exclude frost. Changes in temperature, cause less or more of the flower-buds to drop, of which your correspondent complains. Keep them close and moist while they are in a growing condition, gradually giving more air as their growths are completed. If the plants are strong and robust, it will be necessary to water sparingly to cause them to set their buds; after they have done this, take particular care that none suffer from drought, as it will cause their buds to drop. The following is a list of the best varieties:—*alba plena*, Alexina, A. J. Downing, Amabile, Bealliana, Binneyii, *candidissima*, Duchess of Orleans, Dunlop's White, *imbricata*, Feastii, *fimbriata*, Fordii, Henri Favre, *imbricata*, Hume's Blush, Jeffersonii, Joan of Arc, Lowii, Jenny Lind, Miniata, Mrs. Abby Wilder, Mrs. Cope, Reine des Fleurs, Sacco de Nova, Sarah Frost, Standard, Town's Blush.

Chorozema *varium*, should have partially shaded situation; grow in soil composed of equal parts peat and loam.

Cineraria. Showy class of plants, flowering in the latter part of Winter and early Spring. Their varieties are very numerous, as they are largely grown from seeds. Flourish in rich soil.

Correa. One of the finest of greenhouse plants, but generally considered of difficult cultivation; grows in peaty soil,—Grevillii, Harrisii, *magnifica* and *speciosa*.

Daphne is valued for the fragrance of its bloom, combined with the variegated foliage of some varieties. Pot in loamy soil and water sparingly—Prince Albert, *indica* and Japonica.

Epacris. An invaluable tribe of plants, flowering throughout the Winter. They thrive well in fibry soil, composed of two parts peat to one of loam and sand; require pinching occasionally while growing. They do not like much exposure to the sun, which must be particularly guarded against during the summer season—*coruscans*, *grandiflora*, *paludosa* and *purpurescens*.

Eranthemum. Plants of easy growth; pot in loamy soil—*coccineum*, *pulchellum* and *scabrum*.

Eriostemon. Plants with pretty rose-colored flowers; soil half peat and loam.

Eupatorium. Winter-flowering, and of easy culture. Pot in rich soil—*elegans*.

Fuchsia—require rich loamy soil; leaf mould may also be added with advantage. Whilst they glory in a full exposure to the sun in Winter, they cannot face the strong sun rays of summer, and therefore should be placed in a shady position at this season of the year. Being deciduous the plants lose their leaves towards the fall. Little if any water should be given them until it is desired to start them into growth, which is generally about the latter part of October; at this time the branches should be cut back to within two or three eyes of the main stem. Frequent syringings are also requisite to keep down the Red Spider. The following are few of the best varieties:—Carolina, Duchess of Lancaster, Emperor Napoleon, Fairest of the fair, Glory, Herrii, Mrs. Simpson, Prince Albert, Prince Arthur, Princess Alice, Queen of the Seas, Rose of Castile, Purple, Perfection, Pet, Voltigeurs, Venus de Medici, British Sailor, Catharine Hayes, Governor General, Guiding Star.

Gardenia—rich soil—*camelliaflora* and *multiflora*.

Habrothamnus—*elegans*, and the Heliotrope—require similar soil to the Gardenia, and the warmest part of the greenhouse.

Inga *pulcherrima*, *Jasminum grandiflora*, and *revolutum*; *Justicia*, *carnea* and *speciosa*; all require rich loamy soil.

Kennedyia *expansa*, *Lindleyana*, *ovata* and *racemosa*, soil equal parts peat and loam. Give them frequent syringings.

Lachenalia *pendula*, *quadricolor* and *speciosum*, require rich loamy soil. Flower early in Spring.

Mahernia—*odorata* and *elata*.

Metrosideros—*floribunda* and *semperflorens*.

Grow in fibry soil, composed of about equal parts peat and loam.

Oxalis. Grow the following varieties in any rich soil:—Bowii, *cernua*, *floribunda*, *grandiflora*, *lupiniflora*, *multiflora* and *purpurea*.

Pelargonium. Many varieties easily grown in rich soil. Should be smoked frequently to destroy the Green Fly, which attacks them persistently. The varieties named below hold a high place in public favor—Advancer, Ajax, Bridegroom, Cyrus Superb, Hebe, Jenny Lind, Lord Damier, Mazeppa Superb, Margaret, Vandee, Orion, Rosy Circle, Village Maid. After flowering in the Spring, ripen the wood well by giving plenty of air, and water sparingly; when this has been accomplished, which will generally be about the end of June, cut them back to within two or three eyes of the old wood, and gives scarcely any water until they again push. If an abundance of flowers is wanted, more than strong-wood, give little manure-water until the flower-buds are set; after they have done this, it may be frequently given, as it causes the flowers to become much larger.

Primula. Plants of considerable merit for winter-blooming, raised from the seed,—the double and fringed sorts of the white and rose color, are considered the best. Must be watered cautiously, as they immediately damp off when over-watered,—grow well in drained pots, with sandy loam,—broken charcoal may be mixed in with great advantage.

Rhododendron. A very handsome class of plants, many varieties of which are hardy. The finer kinds, however, require the protection of the greenhouse. They grow luxuriantly in moisture and shade. They should be frequently syringed or hosed, as they are very liable to the attacks of the thrip. Pot in fibry peat and loam—*album fimbriatum*, Standishii, *citatum*.

Roses. T. M. H. complains that they did not flower with him until late in the season. It is probable that they did not have sufficient heat and exposure to the sun; without the latter they will not flower during the winter, and if too much air is given, (although ventilation is necessary to a certain extent,) it will also keep them behind in their blooming. But the great secret in flowering roses in winter is, in having the plants directly facing the sun, otherwise the bloom will be late. Give them good rich soil. The following are some of the best varieties for winter-flowering:—Abbé Moillard, Agrippina, Madame Bosanquet, Camelliaflora, Devoniensis, Empress Eugenia, Goubalt, Hermosa, Triomphe de Luxembourg, Sir Joseph Paxton, Louis Phillippe, Crystal Palace, Queen of Lombardy, Stromboli and Saffrano.

Raphiolepis indica.

Sparmannia Africana.

Both require rich loamy soil, and flower through the greater part of the Winter.

Tetratheca. A beautiful New Holland plant,—grow in peaty soil—*ericifolia*, Hugelia and *verticellata*.

Tropæolum. A handsome free-blooming plant of easy cultivation—may be trained up the rafters of the greenhouse.

Viburnum tinus. Plants bearing broad spikes of white flowers during the winter months. Pot in rich loamy soil.

This, Mr. Editor, completes the list, which, incomplete as it may be, may yet be useful.

[Very much obliged.—Ed.]

LAWNS.

BY A. F. G.

In the June number of the *Monthly* you write of Lawns, in which I fully agree, especially where you object to manuring lawns in the winter with stable manure, which introduces weeds and makes the grass coarse, which is contrary to the intents of a lawn.

Grass will get poor and weak from constant mowing, in which case use wood ashes. There is nothing better as a lawn fertilizer. They should be sifted fine to take out small stones and hard substances that might injure the scythe in mowing. Scatter them evenly over the surface, about a half peck or a little more to the square perch. The best time to apply them is in December or January. Choose a damp day, or, what is better, when there is slight fall of snow on the ground, which enables the operator to see that he is putting them on evenly. One dressing will last three years. I have practised this with satisfaction for several years, as also have some of my acquaintances. As to the new idea hinted by K., I must say I do not like it as a general thing. It may do very well where a mowing machine is used; but it would be next to impossible even for an "expert" to mow a lawn properly with the previous crop (though withered it may be) lying on the ground. It would clog the scythe, and the keenest edge would not cut through it. To have a good lawn, it should be mown at least every two weeks, and the grass swept off clean with a moderately stiff broom, or raked with a grass rake, (daisy rake, the English call them). The roller should be used a day or two previous to each mowing.

[As we before stated, with the machine at Wodenethe, the practice of leaving the grass on the lawn *does* do well. Our correspondent's belief that it may *do well* is therefore "probable." We like his unwillingness to be convinced. There is no use in abandoning an old idea, until the newer one has been turned inside out and examined carefully. However, the mowings clogging the scythe, is more imaginary than real, when the mowing machine is used; and as it has to be, every few days. The "mowings" are invisible in—we had almost said in a few moments—but in a very short time, and they dry up and crumble to powder, before we have time to learn more than that they are there.

"Mowing machines and no clearing up," depend upon it, will yet be the rule. All honor to the genius, whoever he may be, who first hit on the idea.—Ed.]

A CHEAP DIBBLE.

BY J. M. SMITH.

I send you a sketch of a very useful implement, which I made by "saving the pieces" of a broken plow handle. It is the best dibble I think I ever used. It is made by taking a broken plow handle, sharpening the lower end, and in place of the "round" of the handle put in a block (fig. 2.) to rest the foot upon—when you have the finished article (fig. 1.)

fig 1

fig 2

In setting some stakes for Dahlia supports, etc., I found it an excellent tool. With the foot you can sink it into the ground any desired depth.—For any other purpose where a dibble is used, it is unsurpassed.

I am experimenting in striking cuttings of various plants upon a method I never heard of before, and if I succeed will give you my experience.

[Just in time with the last offer. Pray let us have it.–Ed.]

FRUITS OF THE HOURS OF IDLENESS.

BY IDA, COLD SPRING HARBOR, N. Y.

Although I have not made it a practice to employ my pen in the service of periodicals, yet from a conviction that it is the duty of every person to contribute to the general information of man as often as the opportunity presents itself; and from a belief, that every person of ordinary talents and acquirements, by perseverance and reflection, may accumulate a vast amount of information upon important points, which if not new to all, may be to the greater portion of society; from these considerations I say, I have determined to employ my leisure moments in writing down for the columns of the *Monthly*, such reflections as from time to time may arise in my mind on topics which are important to the general welfare, convenience or innocent diversions of its readers. I hope that the same reasons which have influenced me in this attempt, may be impressed upon the minds of others, and lead them to a like endeavor, which if it should result in no more importance than the enlightenment of their own understanding, would be far

from a waste of time or energy. In the first place then, I would desire to call the attention of the readers of the *Gardener's Monthly* to the important fact of the universal desertion by our young men of their homesteads, and employment of their fathers, for the occupation of the desk or counter, within the dark and unwholesome confines of the city. It seems to argue a very great depreciation of agriculture as an employment, and we fear that this false, but nevertheless popular notion, is in very many cases the cause for that desertion of agriculture to which we have referred. After considering the matter attentively over in my own mind, I have arrived at the conclusion that it must arise from one of the four following reasons, namely: a notion that agriculture is a vulgar employment; secondly, the slowness with which a fortune is attained, and the great amount of labor to be expended in procuring it; thirdly, from the idea that a city life presents more enjoyments than a life passed in the country; or, fourthly, from a depreciation of the agricultural classes on account of the deficiency of information existing among them. In regard to first point then, I would say, that no occupation which is honest in itself, and absolutely necessary to the support of the human race, in a civilized state, can be considered as vulgar by any reasonable being. Every art rises in its honorableness in exact proportion as it becomes necessary in the economy of life; using this, therefore, as a standard by which to measure the importance of every occupation exercised by man, we are necessitated to admit at once, that agriculture should be placed at the head. Or in other words, that among all the arts by which man governs the necessaries and conveniences of life, none is so honorable as the profession of the farmer. Were agriculture to be neglected, the decrease of population would be the result, since the necessaries of life would be wanting. Were its supply only equal to the demand of those who are engaged in it, every other art must not only cease to progress, but for a period cease to exist; and the neglect of every science and mental improvement must result from any attempt to render ourselves independent of her aid. In no instance do we find an example in the history of nations, of a people having made any considerable progress in the fine arts and high mental culture, who paid not a great degree of attention to the cultivation of the soil. The Egyptians, the Greeks, the Hebrews, the Persians and Romans, all paid more or less attention to agriculture, and held in high esteem its operators. Among the nations of modern times, we might ennumerate the Mexicans and the Peruvians, the Chinese and the Japanese. We term them modern because, although of ancient origin, the forms have ceased to exist only at a comparatively late period, while the latter still flourish among the powers of the earth. On the other hand, the Tartars, the Goths and Huns, the savages of America, the Sandwich Islands, and the wilds of Africa, as they have never paid any attention to the cultivation of the soil, so have they never arisen above the savage, who trusts to his skill on the chase for a scanty and often pecarious subsistence, and in whose tracks devastation and famine follow, instead of peace and abundance. What is it, I would ask, that has raised this country to the position which she now occupies among the nations of the earth? We may answer that it has been chiefly owing to agriculture, and the impulse which a free constitution has given it. Until only a few years past, nearly all manufactured articles were imported from European countries; nor has the amount of that import been small. And yet this debt has been liquidated by agriculture alone. Had the settlers of this country been less attentive to the cultivation of the soil than they were, our country would never have arisen to the high state of freedom and national power at which we now behold her. The cultivator is virtually fixed to the soil, and has therefore a paramount interest as well as an invincible energy to defend it from the encroachment of a foreign or a domestic foe. I esteem it a happy event for this country that our forefathers were compelled by individual as well as national circumstances, to obtain the manufactures necessary for the comfort and convenience of life from the mother country. It led them to feel their total reliance upon the soil, and to defend the possession of that soil as a part of their civil liberty, with a bravery which the hireling or the landless citizen seldom feels. It led them when they had arrived at a national existence to see the evil of a longer dependence upon others for manufactured articles; and consequently to make effectual efforts to render themselves entirely independent in this respect. It is true that that independence is not yet accomplished which we desire to see; but it is fast approximating to it. Every exertion of the cultivator of the soil has for its aim, the procuration of those necessaries and conveniences which our nature and our happiness require. Manufacture and commerce originally owed and still owe their existence to agriculture. She furnishes, in a great measure, the raw materials for the one, and commodities of exchange and barter for the other. In proportion as these are multiplied, in the same ratio is manufacture benefitted, commerce increased, and the equality in the social and political state of man promoted. The more agriculture produces the more she sells, and the more she buys. The more she produces the greater the abundance of provisions; the greater the number of manufactories, the greater the amount manufactured; and consequently the more reasonable the prices of manufactured articles.

The stone of our quarries in a great measure goes toward the construction of factories and warehouses, for the construction of the raw materials to which agriculture gave virtual existence into wearing materials, or for the storage of these articles when manufactured. The iron of our mines and the timber of our forests are turned into tools for the cultivation of the soil, and into railroads and shipping, and canals, and other vehicles of conveyance for the transport of the raw and the fabricated material to the widely separated markets of the world. It will be seen then, that the greater the amount of agricultural productions, more railroads, ships, canals, manufactories, &c., are necessary for their transport or fabrication into wearing materials; the greater will be the number of mariners and mechanics of every description required; the greater will be the number of trades, and in the same proportion will population increase; hence the more are the services of teachers in schools and seminaries needed; and the more encouragement is held out to scientifical investigation; and as a final and grand result, directly or indirectly, of this whole system, which agriculture has raised to so stupendous a height, and still supports without danger of giving way so long as she herself progresses, its whole tendency is toward the increase of information, and the universal diffusion of knowledge. But unless agriculture progresses, this mighty system cannot be sustained by any strength which lies within itself. Should she retrograde, the whole would fall into a mass of ruins.

Every day in the progress of agriculture contributes to the general health of the globe. It is by the efforts of the farmer that forests are laid open to the sun's rays, and the noxious gases and vapours arising from their decomposing vegetable accumulations are removed. It is by his efforts that swamps and marshes are drained, and their malignant influence destroyed: that the climate is ameliorated and rendered uniform; and lastly, that new portions of the globe are settled and civilized, and the savage aborigines compelled by contact with their new neighbors, to substitute a life of virtue and industry for that wild uncultivated state, which if left alone, they would never relinquish.

We see, then, that agriculture is absolutely necessary to maintain the existing state of society; that she is, in fact, the foundation-stone upon which civilization rests, and that the moment agriculture begins to be universally neglected, will be the epoch at which the human race begins to descend to that benighted state from which man originally sprung.

Chemists may speculate upon the period when man, by the aid of science, shall construct those necessaries of life for which he is now dependent on the vegetable kingdom. But not in our day will that period arrive, and probably never. Yet, if it should, it will only be when the earth has become too densely populated to afford sustenance to all its inhabitants, by the means which nature now employs for preparing it. But should the earth be inhabited by man tens of thousands of years, she will still pour forth from her bosom a supply for all his wants. The resources of nature are inexhaustible, as her domain is infinite. The gradual changing of the axis of the earth, elevates the icy pole beneath the smile of a more congenial sun. The temperate zone glows with the rank verdure of the tropical regions, and the frigid zone with the cereal grains and the golden harvest. The vegetable kingdom has been the chief resource of man and still must be. Yet even this source becomes inadequate when nature is not assisted by man. The supreme being foresaw the evils which would result from a too lavish distribution of his gifts; and while he holds out to us an inexhaustible source of all things that are necessary, he ordains that man shall only become possessed of them by the efforts of his own mental and physical powers. Had it been otherwise, had the earth produced spontaneously such an abundance of fruit, all the year round, as to relieve man of the necessity of sowing and harvesting, there would have been little or no incitement to lead us on to the acquisition of knowledge, or to a change in our state of life. When but to desire is to have the senses gratified, man remains contented with his existing circumstances, and has no desire to exchange them for any other combination.

How much is it the interest, therefore, of every individual of society, whatever may be his profession or trade in life, to do all in his power to further the interests of agriculture? And can we longer consider the employment of the husbandman as vulgar, when we have seen how important it is to society? If the farmer's hands are discolored while he is at work with the soil, it is no dishonor to him. Why should we feel a repulsion to touch the elements that compose the soil, when every day of our lives we derive a sensation of pleasure and satisfaction from the consumption of the same elements.

As for us, we think there is something noble about the occupation of the rustic countryman, which should lead all classes of men to consider it in a different light from any other; to feel a peculiar interest in it, as the common child of all, and to embrace every opportunity of forwarding the views of agriculture, which may be presented.

Finally, we would say to the young men, do not despise that employment which nature intended all men should exercise for their subsistence, and which Cincinnatus and Cato, Washington and Webster, ranked among the most honorable of professions.

In another paper we will treat the other points proposed in the beginning of the present article.

HOT WATER FOR INSECTS.

BY P. ARNOLD, RED BANK, N. J.

Your mode of cleaning insects from plants and flowers by water heated to 130°, is an excellent one. I tried it on rose bushes that were full of rose Aphis and other kinds of insects, and I found it cleaned them perfectly. I poured it on the bushes with a watering-pot. I have tried tobacco, sulphur, and many other things, but have not found any thing as good as the above remedy.

WINTER BLOOMING PINKS.

(Translated from the German for the Gardener's Monthly.)

BY A. F.

This beautiful class of plants, which can be made to bloom in winter, is not half as well known or cultivated as they deserve, both on account of their agreeable odor and easy cultivation. They not only produce a charming room ornament, but they furnish a great many beautiful bouquets, remaining a long while in bloom, and the flowers are unaltered for a considerable time after being cut: besides they bloom at a time of year when flowers are somewhat scarce.

With proper attention these remontants bloom in pots from October till May, and in fact longer when shifted in April or beginning of May; if there is a large collection of them, the flowers can be cut off at pleasure; for this will be required sooner or later to compel them to throw out new flower buds from the lower stems. There are at present an endless variety of markings and colors, and the most pleasing diversity of shades and form.

The best time to begin is in the month of April, by cuttings or layers. About the first of October I take my cuttings, choosing for them the finest and strongest shoots; I cut them in the ordinary way through a joint, strip off the upper leaf, and stick it in the split in the stalk to hold the ends apart, lay the cuttings around the edge of a common garden pot of 4—5 in. diameter, fill it with earth and pack it rather firmly. The earth, which I use, consists of equal parts of leaf mould, compost and sand. The pots are then transferred to a cold frame, always kept shaded when the sun shines strongly and watered as often as necessary. Here they throw out roots slowly and by the first of March are well rooted. They are then potted in three inch pots, with fresh mellow garden mould mixed with sand and rotted manure, when they are again placed in a cold frame, protected for several days from the sun. In eight or ten days they should be syringed, so that the plants may take better hold on the new soil and start roots: this done, air can be freely given.

Early in April the pots will be filled with roots.—In this state I snip off each middle shoot, whereby they are compelled to spread out strongly. As soon as the plants have shoots an inch long, they should be placed in six inch pots, but not transplanted, and the clump of roots packed firmly around with a mixture of three parts of good garden mould, and one part of equal parts of sand and well rotted manure.—

I shall here take occasion to remark, that in my opinion the reason why many of these beautiful plants do not bloom perfectly is, their growth is not checked at the proper time, or sufficient time is not given for their requisite development till they are shifted into two large pots, eight, ten, and as I have sometimes seen twelve, inch pots. It is a great error to use such pots. When all the plants are potted, stakes should be inserted, to which the shoots can be fastened when they grow tall; at the same time all the shoots broken out except four, which number according to my experience is more advantageous than a larger one. The pots are now sunk to the brim in the ground, the plants bound and watered as required. About the first of September buds begin to appear when they are taken out of the ground and watered twice a week or so, with liquid manure.—When mildew shows itself, which sometimes happens in the fall, I sprinkle them with sulphur, and should green fly attack them (which has not happened to mine) it will be necessary to dip the young shoots in an infusion of tobacco. The pots are then washed off and allowed to stand for a week or ten days in any convenient place where they are slightly protected.

The earliest varieties begin to bloom towards the fall, when they are kept in a greenhouse the temperature of which is maintained, at night, from November till the end of February at 45 deg. Fahr. and in day time from 50 to 55 deg. they will grow very well all the time and repay their culture with luxuriant bloom.

I take then, as before in October, cuttings of my plants, after they have bloomed, which will have taken place by the end of April or beginning of May. However I turn the old ones into the garden border, where they begin to bloom again, and give me a second supply of pretty and delightfully odoriferous flowers, which are prized at all seasons.

HOUSEHOLD GRACES.

BY JOSEPH AMRAM.

The genius of a nation is not made up by virtues and vices alone, but also by propensities, habits, and manners. A happy blending of characteristics, all different from each other; and, in fine, in themselves, is required to raise that nation in the eyes of God and men.

Valor, proficiency in the arts, trade, education, wealth, patriotism, do not indicate the standing of a people when taken singly; and any nation excelling in any of them too much, is either still in the confines

back into it. History, ancient and modern, furnishes plenty of illustrations.

It takes, then, many qualities to make a man, and a nation, approach our ideal of civilization; and the softer qualities have as much to do with it as the sterner ones. Virtues and graces, must in our model nation, run hand in hand through its character.

The love of flowers is, no doubt, one of such graces; belonging as it does to that harmonion of things which makes and marks the geniality of a people.

We do not speak of *floriculture* as an art; we rather speak of a feeling and its practical expression. It also is the one in which we in this country are sadly deficient. "Take it altogether," we said the other day to a friend, just home from his travels, "what has struck you most abroad in the gardening line? "He paused a moment, and then replied:—"*The sale of pot plants in Germany.*" We were then told that there were there the usual stands in the markets, and at the corners of streets, and the itinerant wheelbarrow gardeners, which we find almost everywhere; but in addition to them, there were in every city, stores, more or less numerous; more or less well-stocked; more or less expensively fitted up; in which pot plants and cut flowers were sold. Such an extensive sale of course rests on the demand of the masses; on the general custom of having a garden for every family,—not exactly in the place where gardens 'ought to grow,'—but pocket editions of gardens, in the shape of plants blooming gloriously inside of the windows during winter, and outside of them, on little stages, in summer. During the the fine season it occurs sometimes that a pot gets dropped or blown over on somebody's hat or head, which suffers accordingly; but such accidents are not half as frequent as camphine ones with us.

"The poorer the people," so my friend went on, "the more they seem to cling to their plants, and perchance, their Canary bird. It looks like the purest enjoyment of the soul, left her in and against adversity. I did not fail to notice that Ericas, Tree Ferns, Begonias, etc., were of the aristocracy, whilst Geraniums, Callas, Hydrangea hortensis, Aucuba japonica, and others, dwelled with the plebians. Still I often saw a fine Camellia or an Orange Tree in the window of the poorest—no doubt one of the poor woman's treasures.

Mignionette and Myrtle were, as they ought to be, with high and low, associating with all the grades and tempers of society. Pots too, like their owners, dress there more or less expensively, that is, they are put into china-ware, porcelain, gilt or painted Fayence, etc., which serve, just like dress, to hide—the clay. Plants once drawn into the family-home get petted by the ladies. It is they who provide for them stands of all shapes and materials, hang them up in baskets and vases; now decorate the iron balcony into a living one, where the beholder fain looks for the iron, then again trail ivy on an arch between the windows and make a bower of it."

"And what sort of a people are the Germans at home?" I naturally inquired.

"A pleasant sort," he said, "satisfied with little and industrious, nevertheless. Drawing the enjoyments of life from rational sources, especially from the feelings. Mellow in intercourse, with a turn for thinking, and a profound veneration of art; and, you see," my friend concluded, "they are excellent customers for gardeners."

As my friend spoke, two ideas started parallel to each other. One was somewhat in this way, "wish we had the same chance here;" the other, "wonder if rowdyism cannot be sunk in pot plants?" Hard on the heels of these two, came the third, "what can be done for it?" And this is the drift of this article.

How can we raise the love of flowers in the masses? It needs no demonstration what benefits all the world—and florists in particular—would derive from it. If we are not out of the baby-hood of a nation,—as our orators tell us time and again—then we are at least, as individuals, full grown men and women. And if, as a nation, we can cultivate the sterner virtues only, which we are told belong to national infancy, then at least, as individual beings, and as members of a "home," we might cultivate in us and around us, more of the *graces* of civilization.

Will our Horticultural Societies lead the way?

[We think, ourselves, that many of our Horticultural Societies might do more than they do to encourage gardening amongst the masses. At present they reach only the wealthier portion of the community, and commercial gardeners.—Ed.]

BEST SIZED GLASS TO RESIST HAIL-STONES.—Our best Philadelphia Gardeners have been experimenting on the best size and quality of glass for greenhouses to resist hail-stones, and have pretty much settled down to the opinion that thin "second common" glass of 10 x 12 or 12 x 15 is the best, with a due regard to first cost. By its elasticity under a sharp blow it escapes, when smaller size and resisting glass gets broken. But then our hail-stones seldom exceed one inch in diameter. What will our Kansas friends do according to the following:—

"A fearful hail-storm is said to have visited the town of Leroy, Kansas territory, on the 13th of April. The ice-storm lasted about fifteen minutes, during which time the ground was covered with ice balls from the size of a hen's egg to a common sized table-bowl. Some balls were picked up that weighed ten ounces and another one pound and a half!"

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PHILADELPHIA, AUGUST 1, 1860.

☞ All Communications for the Editor should be addressed-"THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

NOTICE TO CORRESPONDENTS.

In consequence of the heavy increase in the circulation of the *Monthly*, and the consequent necessity of going to press earlier in order to issue the Magazine punctually to all our subscribers by the 1st of each month, it is desirable that communications requiring immediate attention, should reach the Editor before the 10th of each month.

THE NEW IMPROVEMENTS IN PROPAGATING.

We are pleased to find that there has really been much more attention given to the discovery of the proper theory of propagation during the two past years than we had supposed, when we received Mr. Watson's article in our last. On looking about us, and prying into the several corners of such of our friends who devote themselves to mysterious modes of increasing their stock, we found one gentleman who had been in successful practice of callousing cuttings in a way similar to that which we described in our last, for some time back. It differed from our plan in this, that though a similar jar to the one we use is employed, wherein to callous the cuttings, it is buried up entirely under sand. In this glass the cuttings callous beautifully. Though our friend's success has been very encouraging, he will not allow us to do more than refer to it as corroborative to our own experience. He promises us that when he shall have completed some other connected experiments, he will give the readers of the *Monthly* the whole benefit of them.

But we commenced this article with another object. In looking over the store of a pottery show-room in Philadelphia, our eye caught a non-descript utensil, to which the "what is it?" was particularly appropriate. The annexed is a cut.

Fig. 1.

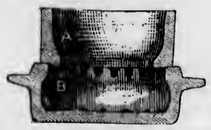


Fig. 2.

The presiding genius of the establishment could not enlighten us, and we consulted our own oracle as to its uses, but it was mute. So we set our own reporter on the track; and by the use of that peculiar instinct which has never been described in any work on Natural History that we know of; but which nevertheless these useful and never-to-be compensated gentlemen of the press are so remarkable for possessing; he discovered one of them in the full tide of successful operation on the grounds of our ingenious fellow townsman, Robert Cornelius, Esq.—Stuck around in the notches were green cuttings of Grapes, Oaks, and other usually unstrikable things, all seeming so completely under the will of the operator, that instead of the unwilling look most cuttings presented, these seemed to vie with each other as to which should root the quickest and the best.—To show how they were rooted, Mr. C. tore them out as ruthlessly as we would a tuft of Couch Grass, and in the same manner "hammered" the clotted matt of fibers against the wall, to shake out the sand, with the remark that "they would do," and with a push of his fist thrust them into a bed of damp sand close by. And these, too, were green shoots of Delaware and Rebecca Grapes, good reader! to whom these grapes have heretofore proved very sour from their costliness. Your time is come to rejoice. Grape plants will not henceforth be worth their weight in gold, for any great period after this discovery. Every poor man may soon not only sit under his own vine and fig tree, but a Delaware or or diamond vine at that.

But to the cutting-pan itself. Fig. 1 represents it correctly seen from the outside. Fig. 2 is a vertical section, showing the interior. It is about ten inches in diameter, which is about the size best for general use. It is made in two pieces—the top part A being separate and independent from B—and has no bottom but rests, as shown, on the cog-like points, made by the notches in the piece below. The projecting rim on the piece is for convenience in handling. The holes at the bottom are for the escape of water.

The invention of this pot is due to two observations. As we have stated in former numbers some of the difficulties of propagation arise not from water in itself, or from want of drainage to carry it off, but from the want of a medium that shall be unchanging in its moisture and temperature. Cuttings will often root better in water itself than in a well drained soil. By the usual mode of striking the surface of the sand will get dry, and must have water, and the changing circumstances cannot be avoided. This is corrected in the present invention by the cuttings being inserted in the notches in the pan B, the top pan is then placed on and filled with sand. So large a body over the cuttings evidently must keep them constantly and regularly moist in the most perfect manner.

The other observation was that no matter what may be the cause of the sap's ascent, the principle of gravitation had to be overcome by the vital force. As this force is always much weakened in a cutting, we should aid it by placing the cutting in a horizontal position, along which the sap can more easily flow than when set upright. This is accomplished in the manner indicated in the cut.

The pan has been employed with the most complete success, and the theory deduced from the result shows the practice to be founded on correct views of propagating science, and goes a long way towards making a very common-place idea out of what has hitherto been one of the great mysteries of the gardener's art.

TO NURSERYMEN.

As the planting season is again at hand, we take the liberty of suggesting to Nurserymen the importance of forwarding their advertisements in good season.

We are proud of the fact, that this periodical has attained a circulation which renders an advertisement in its columns of the greatest advantage to our patrons. Its circulation is not only great in numbers, but also very *widely extended*. In addition to its immense subscription list in the Northern, Eastern, Middle and Southern States, it has also a very extensive circulation in Canada, California, New Mexico, Texas, Oregon, Kansas, Nebraska, and, indeed, in every section where there any lovers of horticulture.

The importance of sustaining a cheap and efficient advertising medium, must be apparent to every one.

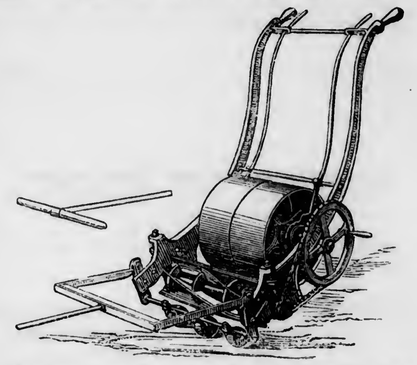
In preparing advertisements care should be taken to have the names of varieties, and the prices very plainly written, avoiding as much as possible erasures and alterations, and also to be careful to specify whether the price named is for a single plant, a dozen, a hundred or a thousand.

We would also recommend, as a most effective mode of advertising, *short* advertisements with striking headings, of any single variety that the nurseryman has a large stock of, and is anxious to sell. This often strikes the eye when a more *general* advertisement is passed by unnoticed.

GREAT IMPROVEMENT IN LAWN MOWING MACHINES.

Notwithstanding all that has been done towards the introduction of improved lawn mowers, they are not often seen in use,—principally because the larger ones only do the work well, and these can only be employed on lawns of some extent.—The smaller mowers, though they cut the grass easily, leave it so scored that one is too strongly reminded of scarred beauty to be over-well pleased.

Our friend Mr. J. J. Smith, the late distinguished editor of the *Horticulturist*, who has recently been making a horticultural tour in the Eastern States, inform us that he has recently seen one of Green's New Patent Noiseless Mowers in operation, and that it entirely removes all the objections to the older kinds. The annexed engraving represents it:—



Mr. Smith describes the wheels in the front as a very ingenious arrangement, by which the work is done in a perfectly satisfactory manner.

This machine was imported in the Spring from England, where they are furnished at prices ranging between $30 and $100. The former takes 14 inch breadths, and the latter 26 at a time. The one noticed, we believe, cost about $50, and took in about 2 feet breadths.

The abolition of the old Scythe institution, is a "consummation devoutly to be wished;" and we are not without hope of now soon witnessing so desirable an end.

AMERICAN POMOLOGICAL SOCIETY.

In one of our recent issues, we stated, on the authority of one of our morning papers, that the Academy of Music had been selected as the place of holding the meeting. We have since learned that this announcement was premature, and that the Academy has been decided to be unsuited to the purpose.

The Assembly buildings, at Tenth and Chestnut Streets, have since been engaged, and the committee in charge of the subject could not have hit on a more suitable Hall or locality, as it is so arranged that the fruits on exhibition will be in a separate room from that in which the discussions are to be held.

From all appearances a delightful time may be anticipated.

PHILADELPHIA AGRICULTURAL SOCIETY.

The advertisement of this, the oldest agricultural society in the Union—appears in our regular department, and the exhibition itself will we are sure be as popular as usual.

There are several points in the schedule deserving of attention from lovers of rural taste. Amongst

others a premium of $50, for the best display of rustic seats by the sons of farmers. Fruit and flowers are also invited by handsome premiums, and our gardeners and fruit growers will no doubt cordially respond with their productions.

☞ We shall be glad to exchange other numbers for those of January and April. Those who have spare numbers of these months would oblige us.

Questions and Answers.

"Amateur," J. S. Atkinson, W. R. Prince, and other friends, next month.

Grape Disease—*J. B. C., Lake Mills, Wis.*—The little tufts on your Grape leaves are excrescences produced by an unknown insect. Should be obliged by a few more perfect specimens to hatch the larvæ from.

Disease in the Norway Spruce.—In a private letter Mr. Sargent writes:—"I am in some trouble about the Norway Spruce. My best specimens are very dingy, having a thin sparse look, and of a bare, unhealthy color, as if preyed on by some spider. I remember calling your attention to this fact last Summer, when Mr. Reid, who was with you, suggested that they might require stimulation. I have given them this abundantly during the Winter, but they do not improve. I am the more impressed with this disease, if disease it be, from having observed recently all the trees in the Capitol grounds, at Washington, and in some of the private grounds there, as well as in Baltimore, and up and down this river, are all more or less affected, at least all trees over 12 to 15 years old.

I cannot help thinking that our late severe winters have something to do with it, by producing a sort of blight or blast, generally upon the inner portions of the trees, where the vitality and circulation are less active, though there is, under a microscope, a cell, and the remains of some very minute spider, I think on the axils of the branches. I should be glad if some of your correspondents can give us some light, for if all Norway Spruces, when they arrive at the age of 20 years, are to look like some of mine, it would be hardly worth while to cultivate them. I observe in this neighborhood however, that our red and black Spruces, and Balsam Fir, are equally affected with the Norway Spruce—perhaps worse."

We should be glad to hear from some of our observing correspondents, whether they have noted the disease Mr. Sargent has, and can suggest any cause?

Sex of Eggs—*Viola.*—Your experiments result as Richard Smith stated, in proving the centre crown the male and the side crown the female. We hoped by withholding the information a while, to receive accounts of experiments that would fully test the theory; but yours is the only note so far received on the subject.

Meeting of Secretaries of Horticultural Societies.—Mr. M. S. Frierson, of Columbia, Tenn., suggests that a meeting of the principal officers of the various Horticultural Societies, to talk over matters and things in relation to horticulture, would be productive of much good.

Aphis on Apple Trees—*W. F. B. Sharonville, O.*—If Burning Fluid or Turpentine injure your Apple Trees, you will be able to detect the injury in a few days afterwards. It would be well therefore to try a few first, and when the proper strength had been tested, use it over the whole.

Propagating House—*Maple Leaf.*—"The Propagating house spoken of in my last, was built for the purpose of facilitating the making of roots upon cuttings of the Grape, Currant, Paradise Stock and other profitable things in this line, about as any of the leading Nurserymen do in Rochester, N. Y., with their houses during the winter, which is supposed to be understood.

The information required was how such houses were applied in summer."

[Where grapes are an article of propagation, as our correspondent now informs us, we thing he could not use the house to a better purpose, than growing them in it in summer time. Young weak plants would be better and stronger at the end of the season, than if grown in the open air. Some maintain a high temperature, and keep the grapes growing, and layer them as they grow.

Others who have a good market for evergreens, raise choice kinds from cuttings, and keep growing in the house the first summer.]

Limestone Query.—Where limestone strata exist within a few feet of the surface, is not the surface stratum modified? Do we not always find beneath the clay and next to the rock a considerable depth well adapted to be put upon the surface? E.

[We think this question could only be answered satisfactorily by actual experiment. The surface (upper?) stratum would certainly be modified, but whether mixing it with the surface soil would or not be beneficial, must we think, as in the case of lime itself, depend on the condition and circumstances of the surface soil, at the time of the proposed mixing.]

Pruning Trees at Transplanting.—Dear Sir: I have great respect for any opinion you give through the *Monthly*, which, allow me to say, for practical talent, and combined scientific accuracy, I regard as unsurpassed by any journal published. With this view I was not well pleased with your hit at Vegetable Physiologists in your last number, and would ask you again to review your opinion. I think there is not a clearer truth in any science than the one in Botany, which teaches that there can be no root growth without leaves; and the inference is legitimate that the greater the number of branches to bear leaves, the better it must be for root growth. Hoping to see your retraction, or reasons for your views in your next, believe me truly yours, D.

[At the risk of losing our talented friend's good opinion, we cannot "retract," but we will agree to reason.

If we cut down a young Willow tree in Spring, and plant it as a cutting with all its head on, it dies. If we take off all its head, and plant the "bare pole," it pushes out a new growth, and soon makes a new tree. By the old views our friend advocates, the more head the better; and it is the latter, with its "double injury," as some writers call it, the loss of head and want of roots—that ought to die.

It is so with all cuttings, as every practical gardener knows—a long stem left out of the ground, and but a little way set in, invariably dies, and the more rapidly if a hot dry air exists about it.

A tree transplanted approaches the condition of a cutting, and requires analogous treatment.

We are amused at the idea of our "hitting" science. Our friend mistakes a false philosophy for scientific truth. Those who contend as he does, overlook the fact that evaporation is continually going on from the branches, before the leaves push, and that it is possible for all the sap to dry out before leaves appear, when, of course, there will be no leaves nor vital action of any kind. That an abundance of leaves favor root growth, we grant; but there will be few leaves without vigorous growth, and this it is which pruning, by checking excessive evaporation, achieves.

This is our "reason"—not derived from a specious philosophy, which never changes, as it ought to do, with the accumulation of facts—but founded on the simple observation that a well pruned transplanted tree or cutting rarely dies, while unpruned ones often do. No one venerates "laws of Philosophy" more than we do; but they are not as unchangeable as those of the Medes and Persians, and we like to see them tempered occasionally with experience.]

Advertisements.—A Canadian subscriber writes, that, seeing an advertisement in the *Monthly*, he enclosed an order to the advertiser, with $18 for the things advertised. Though having to travel some hundred miles, no moss was used in the packing, and the whole on arrival was one mass of dirt and rubbish, and nothing of consequence could be detected in the mass. He procured a sworn statement of the outrageous nature of the packing, and forwarded to the advertiser, and though several applications have been made, he can get no word of explanation from the party in question. He finishes by saying: "On the strength of seeing the advertisement in a journal of such high character for reliability as yours enjoys, we forwarded the money; and you must see how such acts hurt not only your journal but upright parties advertising therein, as a stranger is unable to distinguish the one from the other."

It is a rule—well known to lawyers—that a client is of all parties the least able to state clearly his own case; all we can say is, that, judging from our correspondent's own statement, he has been very uncourteously if not unjustly treated. Most upright business men would have been glad of an opportunity to explain; and, if proved in the wrong, to make reparation.

If, however, our correspondent has not been more just to his nurseryman than he is in his inferences about our paper, we opine the "other side" might have something extenuating to say. How is it possible for us to know the business characters of our advertisers? And why should the credit of the paper suffer for an advertiser's individual delinquencies? The advertising department of a paper, is like a public street in which every man has a right to hang out his "sign." You find so many good things in that street, that you would not go elsewhere, though the cost of getting to it were "threefold what it is" (as he further says of our paper). Would it be right to think the worse of the street, or of other dealers in that street, because a trial of one of the merchants there had proved so unsatisfactory?

If we know a man's business to be in itself a swindle, we might of course be held responsible for its appearance in our advertising columns; just as the police would be held responsible for mock auction or gambling saloons in a public street. We do not permit such advertisements. But where the business itself is legitimate we have no control over its advertisements, or any other method in which a man may mistakingly or otherwise think proper to manage his affairs.

Of the party named in our correspondent's letter, we know nothing.

We would advise all our readers, never to trust implicitly to an advertisement in making purchases. That a man understands his business—of which packing is an important part—and that he has a good reputation for probity and honor, is of as much importance as the

fact that he has goods to sell at certain prices, which is all that can be learned from an advertisement.

A man's reputation in these matters must be learned from other sources.

Names of Plants—*J. H. C., Dyersburg, Ky.*—Your plant is *Platanthera fimbriata*. The "large purple fringed orchis.—*C. Georgia,—Turnera cistoides*, it is not common. *M. G., Greensburg, Pa.*—Probably *Wistaria or Glycine frutescens*. If you would sendus a leaf or flower it would save us much time in "guessing the plants enquired about.

Rose Slugs—*J. R. F., Ellicott's Mills*—Will find by a note under Dr. Norris's article in another column how to destroy soft skinned insects of all kinds, this amongst the others. We do not recognize to which species of beetle the larvæ sent belong, as they were completely crushed on arrival.

Prince Imperial Rhubarb—*From Barnes and Washburn, Dorchester, Mass.*—We handed over to the Pennsylvania Horticultural Society who noticed it in their last report. It has long slender stalks, not prepossessing in appearance. We had it afterwards prepared for table, together with Prince of Wales, the best scarlet kind we have, and found it superior in color and texture to that good kind.

Spent Hops for Hot-beds—Will yon please, at your earliest convenience, inform me through your *Monthly* if used hops from the brewery make hot-beds, and if so how to use them, and oblige a Canadian subscriber.

[We do not think they have been used here; but they are in great request for hot-beds in the gardens around London; a full detail of which we have given in a letter from one of our English correspondents, at page 94 and 95 of our last volume.—Ed.]

Dr. Uhler's Plan of Restoring Heat in Hot-Beds.—A correspondent asks us to account for Mr. Johnson's failure to get up heat in tan by this process, as detailed in a past number. We cannot explain. Dr. Uhler's plan usually *restores* heat in tan after the original has declined; but when no heat would *originate* in the tan, it would be hard to "restore" it, and the evil must be searched for in the tan itself, which usually heats of its "own" accord.

We have had Dr. Uhler's plan even to originate heat in a pile of sawdust.

Grape Culture at Hammondsport.—We received from a friend at Hammondsport New York, some valuable information on Grape prospects there, too late for our last number. The facts have now become so widely circulated since that its insertion now would be stale. We hope, however, that our friend will continue to favor us with his correspondence.

New Strawberries.—*Randolph Pine Strawberry.* A bottle from Mr. O. T. Hobbs reached us in bad condition. An imperfect fruit, however, from a small plant we have growing, leads us to form a good opinion of its flavor.

The *Fillmore* from Feast & Son, Baltimore, sent us for the Fruit Growers' Meeting, had fermented on the way, and were worthless. We exhibited them, however, that the members might judge of its appearance under the circumstance.

The *Austin* Seedling was promised, but did not appear. A quantity sent to Philadelphia, however, had fermented as the Fillmore had done, and no just opinion could be formed.

The evident desire of these parties to place their Seedlings before the judgment of the public, is a good sign in their favor.

Wizard of the North Strawberry.—A friend suggests that the leaf of the Wizard, as drawn in our last, looks very small; but we have figured no leaf. What is given is but a leafy bract on the fruit stalk. A leaf would have filled our whole plate, and added needlessly to the already costly lithograph.

Caterpillars on Cabbage—*John, Lynchburg, Va.*—"The greatest obstacle to raising Cabbage is the Caterpillars, whose ravages in July and August, are more injurious to this crop than all other enemies combined. Many applications may be made which will destroy the Caterpillars but are dangerous to the market value of the Cabbage—such as Guano in solution, Tobacco-dust, &c. What do you think the best preventive—economy of labor and efficiency of application being considered."

[Under the circumstance we could only recommend hand-picking by boys.—Ed.]

History of the Diana Grape.—T. P. C. says: "I noticed in the April number a writer upon Grapes says, that the Diana is thought to be of American origin. If you would like the history of the original Diana vine, I can procure it, as I am acquainted with the lady that raised the original vine from seed, and have vines in my garden taken from the original stock. Her name is Diana Crehore.

The history of the Diana is now so well known, that we think the detail so kindly offered would be new to but very few of our readers. "American origin" is a term used by writers on the Grape to designate a variety raised from the American race of Grapes. "Foreign origin" means from the foreign race, though raised on American soil. "Foreign introduction" is when the variety itself was imported from abroad.

Books, Catalogues, &c.

Home Book of Health and Medicine. By Dr. Alcott. Philadelphia: Published by G. G. Evans & Co.

Bodily health, and a sound constitution, are indispensable elements in the true enjoyment of life.—Whether every position of the author would receive the subscription of all in the profession, we do not suppose probable; but we have derived a great deal of interest from perusing the book, and would recommend it to our readers. The Doctor says of Horticultural pursuits:

"I do look forward with confidence to a period in the world's history when the best interests of mankind, as a whole, will be seen to involve the necessity of agricultural or horticultural labor three or four hours a day, by every one who is old enough.

"Some, I know, may smile to think how a young woman of fashion would appear, while pruning grape vines, cultivating strawberries or gathering them, or budding or grafting trees, with tawny hands, and sunburnt cheeks; but had they the most distant conception of the advantages it would secure to her, they would smile rather at the superlative folly of those present customs which deny her their pleasures as well as their benefits.

"Did professional men, students, and all our public teachers, know half the advantages which are to be derived from devoting but a few hours, daily, to these same exercises, they would not, as it seems to me, be half as often weighed down to the ground with a load of nervousness, hypochondria, dyspepsia, scrofula, and consumption. Did our factory people understand this subject better than they do, and would they, in these days of improvement and 'striking' for certain supposed privileges, strike also for time and means of laboring four hours a day on some little spot which they coul either buy or hire at a reasonable rate, they would not so often break down their constitutions, and become sufferers for life."

Outlines of the First Course of Yale Agricultural Lectures. By Henry S. Olcott.—New York: C. M. Saxton, Barker & Co.

These "Outlines" are made up from the notes of the *Tribune* reporters, and have been revised by the Lecturers themselves previous to their final publication. The publisher deserves the thanks of the community for this—the best effort that has been made to put these popular essays on a permanent and useful basis.

Godey's Lady Book.—We have received from the publisher a set of his valuable periodical, now so well known through the country by its devotion to the different branches of the *feminine arts, sciences and literature*,—such as worsted work, embroidery, dressmaking, household economy, music and even Cottage Architecture.

We are pleased to see that even gardening is not forgotten, which is a sure sign that the magazine is in great favor with the ladies.

Patent Office Report for 1858.—This volume has been for some weeks on our table, and even now we reluctantly take it up for notice—reluctantly because the good intention of this division of the government service is so apparent through its most futile results, that criticism becomes painful.

It opens with a frontispiece of that notable piece of folly the "Government Tea Gardens." When this scheme was first propounded, and the appointment of a collector to China sealed by the selection of Mr. Fortune, opposition was in a measure quieted by the supposition that though thousands were to be fooled away in this brilliant chimera of the famous D. J. B., Mr. Fortune would probably introduce for us many other kinds of seeds of the new trees and shrubs, for which the celestial region is so famous; and in this way compensation was hoped for. But it has since turned out that Mr. Fortune was employed only to get the tea, and the other things, which would have really been a blessing to our country, seem to have been a perquisite to Mr. Fortune, for seeds collected by him in China, as it has been supposed, are now being freely sold to the English nurserymen, who will be graciously pleased to draw one or two hundred thousand dollars from us during the next five years, to pay for seedlings, for the collection of which we have already paid our own money. We have no fault to find with Mr. Fortune. He filled his contract—all that could be expected of him; but the reflection that we have been Done Just Brown by the "D." "J." "B's" of the patent-office in a matter that might have redounded to the glory and good of the country, is painful to all patriotic minds.

As to the tea plant itself hundreds of fine plants already exists in the gardens of the Southern States, from which, probably, as many tea seeds could he procured as were sent and raised at such an enormous expense from China; and even could these not be had, any nurseryman would have contracted to furnish the department, in the two years already occupied in the nonsensical pursuit, from trees in the United States, 500,000 of better plants, than they will now have in the same time, for $150 or $200 per 1000.

A mere drop as compared to the actual cost already incurred.

The proper object of this department, should be the collection of statistical information, that is usually out of the reach of newspapers and Agricultural Societies; instead of which it is filled with trashy treatises on Education, in which all rules of grammar are violated; and with specimens of composition and reasoning that would disgrace a school-boy.

The redeeming features of the volume are the chapter on the proposed statistics of Agriculture, and that Meteorology, by Prof. Henry.

The rest is little more than waste paper.

THE CULTURE OF THE GRAPE AND WINE MAKING. By Robert Buchanan. Sixth Edition. Cincinnati, O. 1860.

In our notice of wine making around Cincinnati last month, we promised to give further the views of Mr. Buchanan. The principal point left unnoticed last month, was mainly a description of the wine press, which is perhaps already sufficiently clear to to the reader.

The present work, the sixth edition, shows the appreciation which the public bestows on Mr. Buchanan's views. It is divided into full details concerning the VINEYARD, MAKING WINE, and STATISTICS of WINE MAKING; besides much useful matter by way of appendix. We do not know the price of the book; but judging from its size, it cannot be expensive. We cordially recommend it to the attention of our readers, as no one interested in the subject can afford to be without it.

NURSERY CATALOGUES.—*John M. Nelson*, New Orleans, La.—Fruit shade and Ornamental Trees.—We never receive a Catalogue of any fine Southern Nursery, but we envy the many fine things their climate allows, but of which ours deprives us of. Here we have as usual Gardenias, Norfolk Island Pines, Camellias, and many other tempting things.

H. P. Penniman, Battle Creek, Michigan.—Descriptive of Fruit, Ornamentals, Roses, &c.—Said to be the most extensive Nursery in Michigan.

Mendenhall & Sons, Richmond, Indiana.—An old and enterprising house. Now, with the "Sons" added, there will be, as the Catalogue indicates, an increased energy.

J. T. Barrett, Factoryville, Staten Island, N. Y.—Fruit and Ornamental Trees, including the choicer kinds of Evergreens.

R. S. Reeves, Keysburg, Ky.—Fruit and Ornamental, with full list of Roses, Dahlias, &c.

Cowles, Roberts & Co., Syracuse, New York, (formerly Cowles & Warren.)—Fruit and Ornamentals.

Joseph Taylor, Newport, Ky.—Fruit and Ornamentals. Another enterprising firm. Greenhouse plants form a prominent feature in this list.

W. M. Carr, Springfield, Mass., (Successor to Chauncey Brewer.—Roses, Greenhouse and Bedding Plants.

F. Prentice, Toledo, Ohio.—Fruit and Ornamental Trees, occupies 55 closely printed pages.

New or Rare Plants.

CHAMŒBATIA FOLIOLOSA.—This beautiful shrub was first described by Dr. Torrey in the "Plants of the Fremont Expedition," and was discovered by that memorable little party on the mountains of Sacramento, in California.

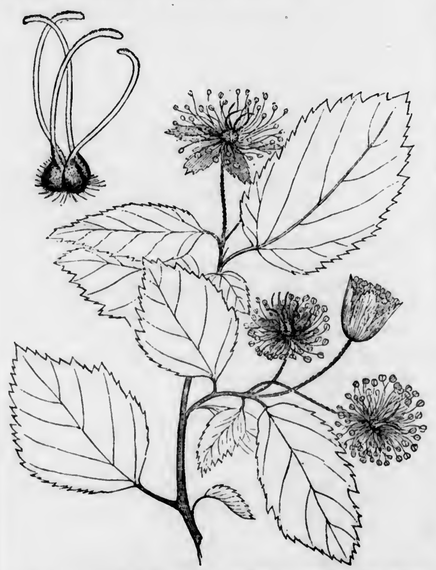
It is the only known species of the genus, and is nearly allied to, and resembles in general appearance, the Agrimonia of our woods. It might, in fact, be called the Shrubby Agrimony. It is also nearly related to the *Cercocarpus ledifolius*, figured in our June number, though presenting

a different look. By the enterprize of the Veitches' of London, it has been recently brought into cultivation, and is already commanding great attention. Sir W. Hooker says, it is "assuredly highly ornamental;" and the *Cottage Gardener* says:—

The Fern or Lycopod-looking evergreen, close-growing shrub called *Chamæbatia foliolosa*, is really a gem of a thing, but is up at a stiffish price yet. Mr. Veitch exhibited dried specimens of the flowers of this little charmer at the Crystal Palace, and you would take them for Mays or Hawthorn blossoms in that dried-up state.

The flowers are white.

NEVIUSIA ALABAMENSIS.—Our young botanists will have a new incentive to their exploring labors in the older settled States, by the discovery of an entirely new genus in the State of Alabama, of which the cut annexed is a representation.



It is a small shrub, growing but a few feet in height, with numerous white flowers; the whole habit and appearance giving a Spiræa suggestion, though it is said to have a closer affinity to another genus of the same natural order—the Common *Corchorus japonica* of our gardens.

It was discovered by the Rev. Mr. Nevius, and named in his honor by our distinguished botanist, Dr. Asa Gray, of Cambridge, Mass.

NEW PLANTS exhibited at the Summer meeting of the London Horticultural Society, chiefly from Messrs. Low, of Clapton, who sent *Alocasia metallica*, an ornamental foliaged stove plant allied to Caladium, with large, shining, bronzy leaves covered with a singularly beautiful metallic bloom; Sphærostema marmoratum, a silvery white mottled-leaved climbing stove plant, which will form a good companion to the well-known *Cissus discolor*; Anæctochilus Petola from Java, with dark green leaves, beautifully traversed with pale yellowish veins; *Plocostemma lasianthum*, a warm greenhouse shrub, with blossoms resembling those of Cyrtoceras reflexum; and the pretty little Bornean Fern called *Lindsæa Lowii*.

GYNERIUM ARGENTEUM—*The Pampas Grass.*—(*See Frontispiece.*)—We had the pleasure of seeing last season, on the grounds of Mr. Alfred Cope, near Philadelphia, a beautiful specimen of this noble grass, of which the engraving, from the *Floricultural Cabinet*, is a correct representation. Mr. Cope's plant had not quite so many spikes of flowers as the one engraved. It had stood out the previous severe winter, by having some dry leaves piled over it, and some branches placed on these to keep them from blowing away.

Where they have been entirely unprotected, we believe they have been destroyed, but the rare beauty and noble aspect of the plant, render the trifling care necessary to its preservation not worth talking about.

New and Rare Fruits.

APPLE.—*Father Abram* is thus described by Dr. Warder in the *Prairie Farmer*:—

It is generally supposed to have come from Virginia. Its productiveness, soundness, and good keeping qualities, render it valuable; besides all this, the fruit, though unprepossessing, is very good.

Description.—Globular, oblate, uneven; medium size; yellowish green, partially covered with red, mixed, streaked, and splashed; dots minute and scattered. The basin is shallow, wide and wavy; eye, small and closed; cavity, acute and regular; stem, long, inclined; core regular, closed; seeds, numerous, short, plump, pale brown; flesh, greenish-yellow, becoming yellow, fine-grained, juicy, sub-acid and rich; use, for table and cooking, as well as for cider; quality, nearly first-rate; season, from March till May.

The appearance of this fruit is rather against it, but those who know its many good qualities willingly overlook its plain exterior. This may be the fruit described by Downing as the Bullet, page 124, revised edition.

OSCAR AND SIR CHARLES NAPIER STRAWBERRIES, at the last meeting of the London Horticultural Society.—The best Strawberries were contributed by Mr. Smith of Twickenham. The sorts were Sir

Charles Napier, and a large dark-colored new variety which was said to be of good flavor. The only other new kind we saw was Oscar, of which Mr. Turner, of the Royal Nursery, Slough, showed a dish of large and beautiful fruit.—*Gardener's Chronicle.*

Strawberry Vicomtesse Hericaut de Thury is generally grown in England as "*Duchesse de Trevise.*"

The Albion Blackberry, introduced by Mr. Orange, Nurseryman of Albion, Southern Illinois, is highly spoken of in the *Prairie Farmer, Cincinnatus,* and other Western Journals. It is a light colored variety.

Still another New Strawberry.— *Princess Frederick William*—Raised by Mr. Niven, of Dublin, and claimed to be the "earliest known;" color "admirable," flavor "exquisite; as a forcer "unsurpassed," &c. It is advertised in the English periodicals at "one shilling each." John Bull has to pay "Strawberry prices" for novelties, as well as his brother Jonathan. It is said to ripen in Dublin 29th of May.

Bowood Muscat Grape.—A correspondent of the *Scottish Gardener* says, that with him this variety exceeds in fruitfulness any thing he ever grew, and that the berries are one-third larger than Muscat of Alexandria, grown in the same house.

The Boston Lady Currant.—At a meeting of the Illinois Horticultural Society, Mr. Ordway described the Boston Lady Currant as a white variety, the fruit of which was not only unusually large, but also as bearing double the quantity of other kinds. He has seen the currants taken off a single stock of 12 inches fill a quart measure. They are also very fine flavored, sweeter than common, but a little later in ripening.—*Michigan Farmer.*

Domestic Intelligence.

Salmon Berries, a superior native fruit, are now becoming plenty in Humboldt County. The *Northern Californian* says "the present season promises an abundant supply of these berries, and such a bountiful gift of nature's beneficence should by no means be disregarded. A bush laden with this golden fruit is truly a beautiful sight. The large and delicious globes amid the luxuriant foliage of the parent stock tempt the hand to gather and the lips to taste their excellence."

Budding Grape Vines.—A correspondent of the *Gardener's Chronicle,* has succeeded in budding Black Hamburg and other Grapes in cold graperies, by operating about the 10th of August.

Expensive Fruit.—Pears have been received at New Orleans, La., from Mississippi. Two bushels brought $60, over freight and other expenses.

For those Afflicted with Grape Fever.—It is said that a new variety of Grape has been discovered in the East of such amazing power, that from a remarkably accurate drawing alone of a single bunch a "Yankee" has made three bottles of most superb wine, for which he has been offered an immense sum. He does not, however, intend to sell any till he receives 100,000 subscribers at $10 a bottle.

Select Pears—J. M. Earle of Rochester, Mass., one of the most experienced and reliable of Pear amateurs, recommends for his part of the country the following:—

amateur's list.

1st Twelve.—Baronne de Mello, Belle Lucratif, Beurre Bosc, Beurre Superfin, Doyenne du Comice, Durandeau (De Tong,) Gray Doyenne, Marie Louise, Paradise d' Automne, Seckel, Urbaniste, Winter Nelis.

2d Twelve.—Bartlett, Beurre d' Aremberg, Beurre St. Nicolas, Brown Beurre, Figue d' Alencon, Glout Morceau, Mareschal de Cour, Passe Colmar, Rostiezer, St. Ghislain, Thompson, Zephirin Gregoire.

3d Twelve.—Alexandre Lambre, Beurre Giffard, Beurre Montgeron, Dix, Doyenne Boussock, Easter Beurre, Flemish Beauty, Jules Bivort, Kingsessing, Lawrence, Madam Eliza, Sheldon.

orchardist's list.

Bartlett, Beurre d' Anjou, Beurre Nantais, Buffum, Capiaumont, Catillac, Doyenne Boussock, Duchesse d' Angouleme, Figue d' Alencon, Lawrence, Leon Leclerc of Laval, Louise Bonne de Jersey, Paradise, d'Automne, Seckel, Swan's Orange, Vicar of Winkfield

Lines to my Herbarium.—A correspondent, writing from Hillsboro' N. C., says: "That piece of poetry which you attribute to *the* Poet Sprague, is not by him, but by his son, J. C. Sprague—*a poet,* nevertheless, as you may infer from these "Lines to his Herbarium.'"

Orchard House of G. G. Hubbard, Esq., Cambridge, Mass.—*Hovey's Magazine* says was built in 1859, is 115 feet long by 18 wide, and contains 150 trees of Pear, Apple, Plums, Cherries, Peaches, Apricots, Nectarines, Figs, and Grapes in tubs 18 inches in diameter. Under the care of Mr. Walsh, gardener, they are models of beauty.

Fine Magnolia Glaucas.—A correspondent near Campbellton, Geo., speaks of some specimens near there 60 to 70 feet high, in a rich bottom soil. We presume these cannot be excelled by those of any other localities.

Recipes for Fruits and Vegetables.

"The lady who contributes a good recipe for the public benefit, deserves as much credit as he who introduces a new fruit or vegetable."—*Good Authority.*

Tomatoes for Table.—Take good ripe tomatoes, cut them in slices, and sprinkle over them finely pulverized white sugar, then add claret wine sufficient so cover them. Tomatoes are sometimes prepared in this way with diluted vinegar, but the claret wine imparts to them a richer and more pleasant flavor, more nearly resembling the strawberry than anything else.

Preserving Currant Juice.—The following is the way currant juice can be kept without the expense of sugar. Pick any quantity of red or white currants from the stalk, place them in open jars, and put these jars in a pan of cold water; heat the water to boiling, and until the currants are quite soft; leave them to cool gradually. When cold, squeeze the juice out through a coarse cloth or sieve; replace the juice only in jars, and boil it gradually as before. When perfectly cold, bottle in half-pint bottles, to be well corked and kept in a cellar. N. B.—Take care not to let the water get to the currants. If not too much squeezed the pulp may be reboiled with coarse sugar to serve for tarts. Every one who has been in France knows how exquisite sirop de groscelle framboisè is on a hot day—that is made with sugar and some raspberry, added to the currant, and is of course more expensive.—*Floricultural Cabinet.*

Blackberry Wine.—To every gallon of crushed berries add one quart of boiling water; let it stand 24 hours; then squeeze through a jelly bag; to every gallon of expressed juice, add 2lbs. of good brown sugar, white of 2 eggs, beaten to a froth, and stirred in the juice; cloves, spice and nutmeg, small quantity beaten together and put in a small muslin bag, then dropped in the juice. After all are well mixed, put it into a stone jug or cask, filled up and kept full with some of the same juice reserved for that purpose, until it is done working, which will be in two or three weeks. Bung it tight, and put it in a cool place for four months; then pour off into bottles with a little loaf sugar in each bottle. Cork and seal close. If the wine is kept for twelve months it will still be better; and it will continue to improve with age.—*Southern Cultivator.*

Preserving Fruits in Cans.—To one pound of of the fruit, I put a quarter of a pound of white loaf sugar. Put them over the fire together. Let them boil up once. Then have your cans in a pail of water as hot as possible without breaking them—have them also filled with water of the same temperature. Let them remain so for a few moments. Then, while the fruit and sugar are boiling hot, fill the cans while they are setting in the water. They must be filled to the very top. Then put the cover on, and seal with the cement. After filling them, take them out of the pail of water and put them away to cool. After they are cold, turn them over on the cover side, and let them remain so until you wish to use them.

I have saved fruit in this way for three years; and have now strawberries and peaches that are as fresh as though they were picked this year, which are a year old.

I always use the glass cans, for I consider them more pure than any other kind.—M. H. K., Auburn.—*Country Gentlemen.*

Squash Cakes.—Mix fine flour with half its bulk of stewed squash or pumpkin, and add milk enough to make a thick batter; cook on a griddle.—*Rural New Yorker.*

Green Corn for eating should never be boiled more than four or five minutes. If boiled longer than five minutes it becomes hard and tasteless.—*Cotton Planter.*

Raspberry Sandwich.—Take half a pound of sifted sugar, half a pound of butter, two eggs, and two ounces of ground rice, work them well together, then add seven ounces of flour. Spread half this mixture upon buttered writing paper, in a shallow tin dish, then a layer of raspberry preserve, and next cover with the other half the paste. Bake in a quick oven, and when required for use, cut it into thick pieces like sandwiches, having previously sifted a little sugar over it.—*Floricultural Cabinet.*

Green Beans and Corn in Winter.—My wife has a stone jar that holds just a bushel of prepared beans. She has had it these twenty years, I believe, and she will always have it full—and her way to fill it is this: First get the beans, then string them, next cut them as for present use, carefully rejecting all that may be so old as to have the bean formed in them; then rub them well between your hands with fine salt, after which pack them in the jar aforesaid, a layer of beans and a layer of salt, till the jar is full. Tie a piece of oilcloth over the top of the jar, and the beans are ready for use! They will form a pickle for themselves, and come out of the jar as fit for use, three months afterwards, as the day they went in. As for cooking, either soak them over night, or change the water in boiling; boil slowly. I have heard my

wife complimented on having beans so early by parties eating her old ones, kept over as above set forth. Try it somebody.

To have the corn to cook with the beans, get some sugar corn—Stowell's evergreen is the best—scald it two minutes and thirty seconds, to curdle the juices only, not to boil it; cut it from the cob, and put it in jars in a pickle strong enough to bear an egg; seal the jars. This corn will come on the table as white and fair looking as if taken from the field the day it is eaten. In serving up, add a table-spoonful of sugar, to compensate for the juices withdrawn by the salt. Try them both; they are not hard to take, separate or mixed.—*Press.*

ANOTHER WAY OF CURING GREEN BEANS FOR WINTER USE.—Pick good, tender, sweet string beans, cut them into pieces about three quarters of an inch in length, throw them into boiling water, let them stand five minutes; then having the oven heated just hot enough to avoid burning the beans, spread on tin or earthen dishes, set them into the oven, and let them remain there till perfectly dry, when they should be put up in small bags, and hung in a cool, dry place. When you wish to cook a mess of corn and beans, put them to soak over night in warm water, and cook them as usual.—*Homestead.*

Foreign Intelligence.

THE LARGEST HORTICULTURAL BUILDING IN THE WORLD is about to be built at Kew Gardens. It will cover as much space as the Great Eastern, and will be 700 feet in length. It is intended as a Winter Garden and for Australian plants.

VICTORIA REGIA IN ITS NATIVE WATERS.—Dr. Lallemant, in a letter from Pernambuco, published in *Bonplandia*, says that in a river that runs near Cerpa he saw Victoria plants in profusion, and that a species of *Melolontha* makes its home in the flowers of the *Victoria*, so that the Queen of Flowers, like the royal potentates in the world of humanity, finds its peculiar parasites that feed on and nestle about it.

ARTIFICIAL PARASITIC PLANTS.—Capt. R. Mignan, in his Travels in Chaldea, says the Arabs slit the stems of the "Alhagi" (*Hedysarum Alhagi, Linn.*) near the ground and insert seeds of the watermelon, which germinate and grow on the roots, in ground too dry for its own to succeed.

Recent French Pomologists assert, a pear seed can in like manner be made to germinate in a slit in a pear stock. Curious facts, *if true*, which can, however, be easily tested by any one inclined to try.

FOREIGN GRAPE SYNONYMS.—Experiments made last year in the London Horticultural Society's Gardens, make the Welbeck Black Tripoli, which in this country we consider the true one, the same as *Frankenthall.* To this variety they also refer the Victoria and Pope Hamburgs. Mill Hill Hamburg, and Wilmots, they say are the same as the Dutch Hamburg.

SURFACE MANURING.—Prof. Leibnitz, of Eldena, has been experimenting with two roods of ground in four parts. To No. 1 no manure was given. No. 2 received about two tons of farm yard dung, which was spread immediately and covered in by means of the plow. No. 3 was treated in the same manner, with this difference, that the hoe was used instead of the plow. The same quantity of dung was carried to No. 4, and allowed to remain spread for three weeks on the soil before being covered in by the hoe. On the 10th of Octobor the four lots subjected to experiment were sown with about 95 pints of rye seed each. The following are the total results of the crop of each lot, grain and straw included:

No. 1 produced 583 lbs.	No. 2 produced 770 lbs.
" 3 " 818 "	" 4 " 935 "

TREE HELIOTROPE.—Aug. Bauman, in *Deutsches Magazine*, describes a way to make tree Heliotropes. Vigorous seedlings are selected, and side shoots taken off till the hight necessary to form the head is attained.

GRAPE MANURES.—Strong or stimulating manure is most dangerous to the vinous property of the Grape. The general rule in wine-producing countries is to manure only with its own cuttings, or the refuse of the grape when pressed, which contain tartar, essential to the vinous property of the grape. Excessive richness of the soil, though it gives a larger crop, and the best fruit for the table, detracts from the character of the wine. There have been several remarkable instances of this fact; amongst others, the celebrated vineyard of Johannisberg, which some fifty years since having been richly manured, it for several years afterwards produced a grape which gave wine of an inferior character, and much deteriorated in quality. It took twenty years before the soil became sufficiently poor to restore the vinous quality of the grape. Soils which produce choice and rare wines are never manured with any description of fetid manure, generally applied for the purpose of fertilizing land; but wool, horn, bones, and the cuttings and refuse of the vine itself, being only used. The scientific botanist tells us that the vine only takes up from the earth carbonic acid, ammonia, etc.: practice and experience, both ancient and modern, affirm the contrary.—*Florist and Fruitist.*

THE RED SPIDER.—In one of the finest pear orchards in New York we saw, last season, the Red Spider making terrible ravages. As few but plant growers have hitherto had much acquaintance with the pest, the following from the *London Gardener's Weekly* will be interesting:

"The red spider is an *Acarus* or mite, and apparently of foreign origin. When inspected with a good magnifying glass, it has somewhat the appearance of a crab, of an oval shape; it has eight legs, two pairs of which project forward, and as many backwards, all covered with short hairs; there also are a few longer ones scattered over its body. Its color is yellowish, inclining to orange, and on the thorax, near the head, are two distinct scarlet spots, one on each side. The female insects are larger than the males, and are of a color inclining to chestnut, with a lead-colored spot on each side.

"They increase by eggs, of which a vast number are produced, and in eight days hatched.

"The red spider infests the under sides of the foliage of plants, and when there is a considerable colony, they spin a kind of fine web, which has given rise to the common name by which this insect is known. It attacks the plants by piercing the under surface of the leaves with its short rostrum, or beak, and imbibing the juices, of which, for so small an insect, it appears capable of doing very largely. This gives rise to small yellow spots and patches on the upper surface, which spread in a short time over the whole. These attacks will continue, unless checked, until the tree or plant drops its foliage, and becoming quite exhausted, dies; young plants are especially liable to suffer.

"An attentive observer will not fail to remark that this insect loves warmth and dryness, and that it commits greater ravages out of doors in summers that partake of that character. As a correct knowledge of the disease mainly contributes to the cure, it has been therefore found that moisture is the best remedy for this pest. Syringing well (the under surface of the leaves more particularly) will do much towards getting rid of it, especially if taken in time. In stoves and vineries we have found a good warm steaming by pouring water on the flues, pipes, paths, etc., and shutting the houses up early whilst the sun is on them, very beneficial. Sulphur may be applied if other remedies fail, by being mixed with the whitewash when the walls are painted, or by painting a thin mixture of this and water over pipes, flues, or warm walls. It may be given to open air crops by means of a syringe or with a fine rose from a watering pot. The great secret, however, in keeping houses, plants and crops free from insect attacks of all kinds, is to apply the proper remedy as soon as they are discovered. This will also save a world of trouble as well as time, and the loss of numbers of plants; we have sometimes had to recommend, in cases of great neglect, that the greater portion of the stock should be thrown on the dung heap."

A CHEAP MOWER.—A correspondent of the London *Cottage Gardener* keeps a sheep or two of the Bretagne breed—miniature little fellows, not weighing more than 17 lbs.,—and when the lawn is not too wet, encloses them in small wire hurdles, shifting them daily, and not only saves mowing thereby, but, in addition to the enjoyment of the pet animals, has a much better lawn than mowing could ever accomplish.

WEARING OUT OF PEACH TREES.—It has been found by experiment, in France and England, that a peach tree left to itself, unpruned, dies out in about three years. They have established the rule, that wood that has once borne is incapable of doing so again, and by acting on this, preserve their trees healthily for a number of years.

A SECRET FOR HORTICULTURAL SOCIETIES.—Donald Beaton says he was at a loss to discover the great secret of the success of the Crystal Palace shows, until the last meeting, when he saw the Prince of Gardeners, Joseph Paxton, with the Princess of Beauty, the Duchess of Sutherland, on his arm. When beauty and fashion so honor the gardener, Beaton thinks the mystery of success is exposed.

SEQUOIA—WELLINGTONIA.—Dr. Lindley has recently written a letter to say that he has not yet seen reason to agree with Dr. Torrey, M. Decaisne, and Dr. Seeman, that *Wellingtonia* should be referred back to *Sequoia.* He says the reasoning of these botanists would be sound if it referred to such a tribe as Rosaceæ. It is most philosophical, he says, to distinguish coniferous genera by their foliage, their manner of foliation, as in Pinus, Abies, Picea, etc., and in this respect he claims it is as distinct as any of them.

It is now conceded that there is no difference in any other character; but on this ground it is certainly as distinct as some larches and spruces, which have little to divide them but the deciduous foliage of the former.

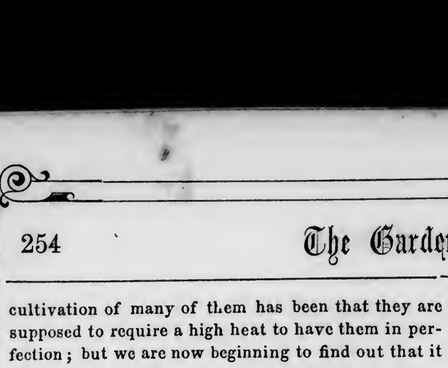
Foreign Correspondence.

From our English Correspondent.

SHEFFIELD, ENGLAND, July 1, 1860.

I have in my former letters written to you of the many kinds of leaf plants that have become so generally popular here. The great drawback to the

cultivation of many of them has been that they are supposed to require a high heat to have them in perfection; but we are now beginning to find out that it is better to grow them in a more temperate atmosphere than is usually done. In fact, a warm greenhouse is where they do best, kept moderately *moist*, not wet. By stove cultivation they look well for a time, but gradually fade away after a few weeks. The same may be said of stove ferns. By-the-by, have you any account of the new variegated ferns, Pteris argyrea and Pteris tri-color, both of which are beautiful things, but are yet expensive. I find Ænectochilus thrive best in chopped sphagnum moss, and clean silver sand; for Saracenias, Encephalotus, etc., dry peat and sphagnum moss. The plants do best placed upon a warm flue, or, better, a tank, the pots plunged to their rims in damp moss, so that a regular warmth and moisture to the roots may at all times be insured, and the plant kept moderately cool. This is an important point in the cultivation of most stove plants. The best way I consider to insure this is, to have the stages enclosed with brick work, and arranged similar to the enclosed sketch, which will better illustrate my meaning. I decidedly object to hot water tanks in any shape whatever, as being very expensive, uncertain and irregular in their results.



1. Hot air chamber.
2. Hot water pipes or flue.
3. Trap-door to regulate the degrees of bottom heat required.
4. Moss, leaves or tan, etc., for plunging pots in, which should at all times be kept moist. The confined heated air will be found to afford abundance of bottom heat, to keep the moss, etc., at about 95 degrees, which, if kept constantly damp, will afford abundance of bottom and top moisture, without at all interfering with the heating apparatus.

Slate will be found a good material for the stage; if large slate are inconvenient, shorter ones may be used by fixing stay timbers to support, as shown by slanting lines; or an occasional upright one, by taking the pipes or flue to one side.

[Our correspondent should come over here to see how to "cheapen" things, and we think he would be better impressed with hot water tanks. If our people get hold of a good principle, they soon find a way to bring it within the bounds of true economy. We know of a boiler and tank, 30 feet long by 3 wide, put up for less than $20, and which would pay the owner if he had to build it new every year.—ED.]

Horticultural Societies.

LIST OF OFFICERS OF HORTICULTURAL AND POMOLOGICAL SOCIETIES.

For the information of those who wish to correspond with the different societies, we furnish a list of the Officers of as many of them as we have been able to procure, and hope to be furnished with any that are omitted. We insert only those societies of a strictly horticultural or pomological, and not of an agricultural character.

HORTICULTURAL SOCIETIES.

Name of Society.	*President.*	*Cor. Secretary.*
Pennsylvania, Phila.	M. W. Baldwin,	William Saunders.
Massachusetts, Boston,	Joseph Breck, Brighton.	Eben. Wright, of Dedham.
Hingham, Mass.,	Hon. Albert Fearing,	T. T. Bouve.
Maury County, Columbia, Tenn.	M. S. Frierson.	
Chicago Gardoner's.		
Chester County, W. Chester, Pa.	J. K. Eshleman,	Josiah Hoopes.
New York, (City)	John Groshon,	Thomas Hogg.
Cincinnati, Ohio,	William Orange,	E. P. Craach,
Montreal, Canada,	Jas. Ferrier, jr.,	L. N. Duvernay,
St. Louis, Mo.	William Glasgow, Jr.	Carew Sanders.
Cleveland, Ohio,	Dr. Edward Taylor.	
Buffalo, N. Y.,	Jason Sexton,	William Coleman.
Poughkeepsie, N. Y.	S. M. Buckingham,	H. L. Young.
Morrisania, N. Y.	David Milliken,	Wm. H. Willcox.
Genessee Valley, Rochester, N.Y.,	Joseph Harris,	C. W. Seelye.
Brooklyn, N. Y.,	Jno. W. Degrauw,	Edwin Scott.
Portland, Maine,	T. C. Hersey,	John W. Dana.
Kentucky. Louisville,	Thos. S. Kennedy,	Ormsby Hite.
St. Catharines, C. W.,	James Taylor,	Thomas Shaw.
Richmond, Indiana,	John H. Hutton,	W. R. Smith.
Keokuk, Iowa,	A. Bridgeman,	J. L. Tewksbury.
Fort Wayne, Indiana.	J. D. G. Nelson,	H. C. Grey.
College Hill, Ohio,	Jacob Tuckerman,	D. B. Pierson.
Workingmen's, Frankford, Philadelphia,		Thomas Hargreaves.
Progressive Gardener's Society, Philada,	W. Saunders,	R. Robinson Scott,
Meramac, Mo.,	Dr. A. W. McPherson,	Edward Vaughan.
St. Paul's, Minnesota,	Alexander Buchanan,	L. M. Ford,
St. Anthony's Falls,	A. E. Ames,	J. S. Williams.
Pittsburg, Penna.,	J. Knox, Pittsburg,	Thomas L. Shields.
York County, Pa.,	E. Chapin,	Edward J. Evans.
Toronto, Canada,	Hon. G. W. Allan.	
Hamilton, Canada,	(?)	
Cobourg, Canada,	(?)	

FRUIT GROWERS' SOCIETIES.

Name of Society,	*President.*	*Cor. Secretary.*
Western New York,	B. Hodge, Buffalo,	C. P. Bissell, Roch'r.
East'n Pennsylvania,	Dr. J. K. Eshleman, Downingtown, Pa.,	Thomas N. Harvey, Jennersville, Pa.
Missouri,	Norman J. Coleman,	Dr. L. D. Morse, Allen town, Missouri.
Anna, Union Co., Ill.,	E. Harwood,	A. Babcock.
Georgia Pomological Society,	L. Berckmans, Augusta.	W. N. White, Athens.
Ohio Pomological,	A. H. Ernst, Cincinnati, Ohio.	M. B. Bateman, Columbus, Ohio.
Am. Pomological,	Marshall P. Wilder, Dorchester, Mass.	Meets in Philad'a, September 11th.
Conn. Grape Grow's',	Col. D. S. Dewey, Hartford, Conn.	M. C. Weld, Hartford, Conn.
Wilmington, Del.,	H. F. Askew,	Dr. G. Pepper Norris.
Am Wine Grow's Asso. Cincinnati, Ohio.	Dr. N. B. Shaler,	S. W. Haseltine.

AMERICAN POMOLOGICAL SOCIETY.

In our last we made room as we were going to press for a portion of the circular of the Pomological Society. We now give place to the other portion which we were then compelled to omit.

The Eighth Session of this Institution will be held in the city of Philadelphia, commencing on the 11th of September next, at 10 o'clock, A. M., and will be continued for several days.

This Society, the first National Institution for the promotion of Pomological Science, was organized in the year 1848. Its sessions have brought together the most distinguished cultivators of our country; its Transactions have embodied their various researches and ripest experience, and its Catalogue of Fruits has become the acknowledged standard of American Pomology.

Its example has created a general taste for this science, inspired pomologists with greater zeal, and called into existence many kindred associations. Its progress has been remarkable and gratifying, but it still has a great work to perform. Its general catalogue should, from time to time, be enlarged and perfected, and local catalogues formed, embracing the fruits adapted to each State and Territory of the Union. The last of these suggestions was made by the Chairman of the General Fruit Committee, at the seventh session of the Society, in the year 1858. This has been carefully considered, and is deemed worthy of special attention. It is, therefore, earnestly recommended that each State Pomological, Horticultural, or Agricultural Society, charge its Fruit Committee with the duty of collecting information, and presenting the same, with descriptive lists of Fruits adapted to their location.

The importance of this subject, and the increasing value of the fruit crop of the United States, call for a prompt and cordial response to this request—for a careful preparation of said list, and for a full and able representation, at the approaching session, from all parts of the country.

Held, as this convention will be, in a city easily accessible from all parts of the country, it is anticipated that the coming session will be one of the most useful the Society has ever held. Societies, therefore, in every State and Territory of the Union, and the Provinces of British America, are requested to send such number of delegates as they may choose to elect. Fruit growers, Nurserymen, and all others interested in the art of Pomology, are invited to be present—to become members, and take part in the deliberations of the Convention.

In order to increase as much as possible the interest of the occasion, members and delegates are requested to forward for EXHIBITION as large collections of fruit as practical, including specimens of all the rare and valuable varieties grown in their respective districts, and esteemed worthy of notice; also, papers descriptive of their mode of cultivation—of diseases and insects injurious to vegetation—of remedies for the same, and to communicate whatever may aid in promoting the objects of the meeting. Each contributor is requested to make out a complete list of his contributions, and present the same with his fruits, that a report of all the varieties entered may be submitted to the meeting as soon as practicable after its organization.

Societies will please transmit to the Secretary, at an early day, a list of the delegates they have appointed.

Gentlemen desirous of becoming members can remit the admission fee to THOMAS P. JAMES, Esq., Treasurer, Philadelphia, who will furnish them with the Transactions of the Society. Life Membership, twenty dollars; Biennial two dollars.

Packages of Fruits may be addressed to THOS. P. JAMES, 630 Market Street, Philadelphia.

MARSHALL P. WILDER, President, Boston, Mass.

THOS. W. FIELD, Secretary, Brooklyn, New York.

FRUIT GROWERS' SOCIETY OF WESTERN NEW YORK.

JUNE MEETING AT BUFFALO.

The Fruit Growers' Society of Western New York held its June meeting in Buffalo, on the 27th and 28th ult. The meeting organized by the appointment of S. H. AINSWORTH, of Ontario Co., as Chairman. The subjects taken up in order for discussion were:—

STRAWBERRIES.

"Which are the best six varieties for market, and the best six for family use, and which the best method of cultivation in each case?"

Mr. Herendeen, of Macedon, spoke enthusiastically in favor of the Albany. He thought it would produce twice as many quarts to the acre as Triomphe de Gand.

Prof. Coppock, of Buffalo, recommended Scott's Seedling, Genesee, and Longworth's Prolific. The former would produce as well as Albany.

Mr. Moody, of Lockport, preferred Jenny Lind because it was earlier than Albany.

C. L. Hoag, of Lockport, was well pleased with Wilson and the Pyramidal Chilian. Hooker, as a family berry, never was excelled, although rather tender. Pyramidal Chilian next to this, almost as productive as Wilson. Wilson is of fair quality when fully ripe. Never cultivated except to destroy the weeds, as deep stirring of the soil near the roots is apt to injure them, and injure the crops. The soil Mr. H cultivated was a sandy loam.

Mr. Glen, of Rochester, had gathered 1000 quarts from 16 square rods of Crimson Cone.

Mr. James Vick, of Rochester, also praised Crimson Cone. He preferred growing Strawberries in hills.

Mr. *Charles* Downing's favorite was Triomphe de Gand. The ladies Pine from Canada, had a flavor like Burrs Pine, and was moderately productive.

Mr. Beadle, from St. Catharine, said Albany was productive there. Triomphe de Gand promised favorably.

Mr. Downing and Mr. Glen, said Albany died out with them after ripening one crop.

CHERRIES.

"What are the best six varieties of cherry for family use, and also for market purposes?"

Mr. Downing named Coe's Transparent for family use. Belle de Choisey better flavored, but poor bearer. Early Prolific and Belle d'Orleans here early. He recommended Kirtland's Mary and Great Bigarreau.

Prof. Coppock recommended for market Black Tartarian, Yellow Spanish, Elton, May Duke, Coe's Transparent, and Black Eagle.

Mr. Townsend, the Townsend Cherry. It is very early—had picked it the 7th of June. Always produces a crop. Liked the Black Tartarian, Elton, May Duke, Rockport Bigarreau, Downer's Late.

Mr. Glen recommended Belle de Orleans, Gov. Wood, Coe's Transparent, May Duke, Early Richmond, Downer's Late.

Mr. Hoag said Belle Magnifique was a fine Cherry—larger than Black Tartarian. It was particularly esteemed for bottling and preserving, keeping well and retaining its flavor.

Mr. Downing thought well of Vail's August Duke, one of the most promising of the new cherries. Something like May Duke, but several weeks earlier. A seedling of Mr. Vail, of Troy. Recommended a list of Dukes and Morellos that it is best to plant for Canada. Late Duke, Royal Duke, Plumstone Morello, and Vail's August Duke.

Mr. Townsend said cherries grown on Mahaleb stocks are hardier than on Mazzard, and much less likely to be injured in winter. They commence bearing at three years old. The size and quality of the fruit was much better on Mahaleb stock.

Mr. Hoag called the attention of members to a number of Seedling Cherries raised by W. P. Townsend, of Lockport, among them some of the best cherries he had ever tasted.

RASPBERRIES.

"What are the best varieties for market, and which the best for family use—hardiness and productiveness considered?"

Chas. Downing recommended Brinckle's Orange for family use; for market, the Hudson River Antwerp. All Raspberries should be laid down in the winter. This is the practice with all growers for market around New York.

Mr. Glen wished to add the Fastolf to those recommended by Mr. Downing.

Mr. Downing considered the Red American or Red Prolific the best hardy berry—the farmer's berry. It was like the Black Cap, but earlier and of a maroon color; belongs to the same family. He was not pleased with the Allen, although he wished to give it another year of trial before condemning it. It grew so many suckers that it is difficult to keep them subdued, and as a consequence the berries were poor. It was not to be compared to the Hudson River Antwerp.

Mr. Herendeen said J. J. Thomas had tried and condemned it.

Mr. Glen was satisfied that it was a variety they had in their grounds several years since, and had fought hard to exterminate.

EVER-BEARING KINDS.

Mr. Frost thought the Catawissa the best. It gave a good crop in the summer, and a crop again in the fall, continuing until October.

Mr. Downing inquired if the berries were perfect—with him they were very imperfect.

Mr. Frost said it gives a good crop of perfect fruit. To get a good crop, the old canes must be cut out, and the fruit obtained from the present year's shoots.

Mr. Glen thought well of the Doolittle Black Raspberry. They are larger, and not quite so seedy as the common Black Cap.

Mr. Peck, of Bloomfield, grew Black Cap from the woods, and could not tell the fruit from Doolittle's Improved.

Mr. Downing called attention to Vice-President French—a week later than most of the Raspberries. A fine large berry; plant vigorous and productive.

CURRANTS.

"Which are the best varieties, both for market and family use?"

Mr. Moody thought most of the White Grape Currant. Had

them last season until the first of October. The Cherry Currant is about the same size, and an enormous bearer.

Mr. Downing said there was but very little difference in the fruit between White Grape and White Dutch. There was considerable difference in the leaves and habit of the plant. There was a new currant, said to be twice as large as White Dutch. Versailles is a most desirable currant, the best of the new ones. The berry is as large as Cherry, and the bunches longer.

Mr. Frost said the Versailles was much grown, and was very popular around Boston. The berries were large, the bunches long, and the fruit very easily gathered.

GOOSEBERRIES.

Mr. Frost was cultivating, in addition to many English sorts, the American Seedling and Houghton's Seedling. The American is the most upright in growth, and is considered the best around Cincinnati and at some other places.

Mr. Downing said the American Seedling was known by different names in different localities. Mr. D. said, in answer to an inquiry, that Downing's Seedling was an improvement on Houghton's Seedling, a very fair berry, but like all new things, had been over praised.

Mr. Hoag thought pretty well of the Mountain Seedling.

SECOND DAY—MORNING SESSION.

PEARS.

"What variety or varieties of dwarf pears is it best to plant in an orchard of three acres? at what distance should the trees be planted, and what is the best mode of culture?"

Mr. Fish would set out equal numbers of Duchesse d'Angouleme, Virgalieu, Louise Bonne de Jersey, with some Bartletts double worked.

Mr Townsend noticed that when a vigorous growth was made one year, trees were subject to attacks from blight the next. Had cultivated between the rows, but proposed to let them go in turf for a while. Thought L. B. de Jersey the best pear to make money of. After this, Virgalieu, Seckel, Beurre Superfin, Bartlett (double worked), Tyson and Rostiezer. Would double work Bartlett on White Doyenne.

D. S. Manley, of Buffalo, said they could not raise a good Virgalieu in that section, neither on a standard nor a dwarf. For early pears would plant Rostiezer and Tyson. Liked Louise Bonne de Jersey, and would pick off fruit so that it be not allowed to bear until five years planted. Duchesse d'Angouleme should be served in the same way. There is not a pear orchard west of Boston cultivated too highly

Mr. Moody spoke highly of the Lawrence as a winter pear. It ripened without any trouble, just like apples in the cellar, and was about as good as the Virgalieu.

Mr. Vick said one would judge from remarks made that we are an afflicted people—that Pandora's book of Horticultural plagues must have been opened on our devoted land. While the fact is, we are almost exempt from all great difficulties, and have not yet learned to work, and fight, and conquer success. We have hardly begun to feel the truth of the curse—"thorns and thistles shall it bring forth to thee, and in the sweat of thy face shalt thou eat bread." We all know what a fuss the shephord made about the lost sheep, and how he left the ninety and nine and went in search of the lost one. So it is with us; we come here, and every one almost has a dead tree about which a great ado must be made, but nothing is said of the ninety and nine that live, and flourish, and bear fruit, that sells, some for ten, and some for fifteen, and some for twenty dollars a barrel. When the country was new, fruit was raised without any trouble; but it sold for about nothing. Now it costs a little labor to grow good fruit, and it sells at a high price. Could we grow fruit as easily as it is grown at the tropics, then it would be comparatively worthless, and the effect would be seen on character.

Mr. Townsend remarked that with all his losses his balance sheet exhibited balance on the right side. He obtained a profit of from $300 to $500 per acre to land on which he cultivated dwarf pears. No business was more profitable than dwarf pear culture.

After some remarks on grape growing, and the passage of resolutions of sympathy with the President of the Society in his affliction, of thanks to the Mayor and citizens of Buffalo, the Society adjourned to meet in Rochester in September next, at the call of the Council.—*Condensed from Rural New Yorker.*

YONKERS HORTICULTURAL SOCIETY.

The first meeting of this promising young Society last month was a great success.

Mr. Bussard exhibited Victoria regia.

Mr. Ryan, gardener to J. Lillienthal, Esq., received a Silver goblet for the best general collection of plants.

Mr. John Lee, gardener to W. A. Hall, Esq., A. Campbell, gardener to Mr. Strange, P. Ryan gardener J. B. Colgate, Esq., Thos. Ryan, gardener to W. T. Coleman, Esq., J. Downing, gardener to R. P. Getty, Esq., W. Tracy, gardener to A. Baldwin, Esq., M. Prendergast, gardener to T. W. Ludlow, Esq., James Slade, gardener to H. A. Smalll Esq., A. Noonan, gardener to F. S. Cozzens, Esq., are amongst those who honorably distinguished themselves in the competition.

CHESTER CO., PA., HORTICULTURAL SOCIETY.

The semi-annual exhibition of the Chester County (Pa.) Horticultural Society was held in the Society's spacious hall, in the borough of West Chester, on the 15th and 16th days of June.

On account of the inclemency of the weather, the attendance of visitors was small; but the quality and beauty of the contributions equalled if not surpassed those of any previous exhibition of the society. The room was very tastefully decorated with wreaths and festoons of laurel and lycopodium, and the fountain, which has always been an attractive feature, was rendered more so by the covering of moss and flowers.

The greatest source of attraction appeared to be the fine display of forced grapes, from the collections of Dr. Geo. Thomas, Hoopes & Brother, and A. Marshall, Esq. The display by Dr. Thomas numbered 13 varieties, embracing splendid bunches of Golden Hamburg and Bowood Muscat.

Strawberries and cherries were very poorly represented. The largest contributions were by Jno. Rutter and J. L. Darlington & Co. The recent hail storms completely injured the crops of many of the usual contributors to this department.

The floral department was large and highly creditable to the growers. The specimen plants of Calceolarias, Begonia, Roses, etc., were remarkably fine.

The vegetables on exhibition were also fine, but were confined to two contributors.

GENESEE VALLEY HORTICULTURAL SOCIETY.

The houses of Frost & C ., and Ellwanger & Barry, seem to be running a neck and neck race in Rose culture. At a recent meeting they exhibited:—

Frost & Co—Roses—290 H. Perpetual, 35 Moss, 46 Summer, 2 Yellow, 20 Prairie, 20 Bourbon, 15 Tea, 5 Noisette, 22 Bengal, &c.; 455 sorts Roses; 2 Table Bouquets, 2 Hand Bouquets, 20 sorts Cut Flowers, Hardy Trees and Shrubs, Herbaceous plants, 41 sorts of Strawberries, 17 sorts of Cherries, 2 plants of Foreign Grape in pots, 3 Cucumbers.

Ellwanger & Barry—288 varieties Hybrid Perpetual Roses, 47 varieties Moss Roses, 85 varieties Summer Roses, 14 varieties Perpetual Moss Roses, 35 varieties Pæonies, 50 varieties flowering Shrubs, 100 varieties Herbaceous Plants, 26 varieties Petunias, 70 varieties Verbenas; 2 Hand Bouquets, 2 Table Bouquets, 47 varieties Strawberries, 15 varieties Cherries.

Rochester will soon have something else besides Pears to talk about at this rate.

D. M. Dewey made a great show with his fruit plates, and amongst the exhibitors we noticed the names of W. H. Barton, Prof. Cutting, Messrs. Jewell, C. J. Mills & Co., C. J. Ryan & Co., George Cooper, J. W. Briggs, M. Cornell, E. K. Blythe, W. T. Goldsmith, S. B. Kelley, Hooker Farley & Co., Dr. Ripley, Rev. T. R. Garrick, H. E. Hooker & Co., H. N. Longworth, Messrs. S. Moulson, D. Marsh, Mr. McGee, C. M. Seelye and Selah Matthews.

HORTICULTURAL SOCIETY OF COLLEGE HILL, OHIO.

At a regular meeting of this society, held on the 14th inst., the following premiums were offered by a unanimous vote of the society, viz.:

1st. For a new Seedling Strawberry superior, for market purposes, to any now grown in Hamilton county—a Silver Cup.

2d. For a new Seedling Rose of decided merit, a premium of One Dollar.

Competition open to all. The following members of the society were appointed a Standing Committee on awarding the above premiums: Dr. John A. Warder, North Bend, O; Prof. H. N. Day, College Hill; John M. Millikin, Butler county, O.; C. E. Bobb, College Hill; E. G. Ricker, College Hill.

DAVID B. PIERSON,
Cor. Sec.

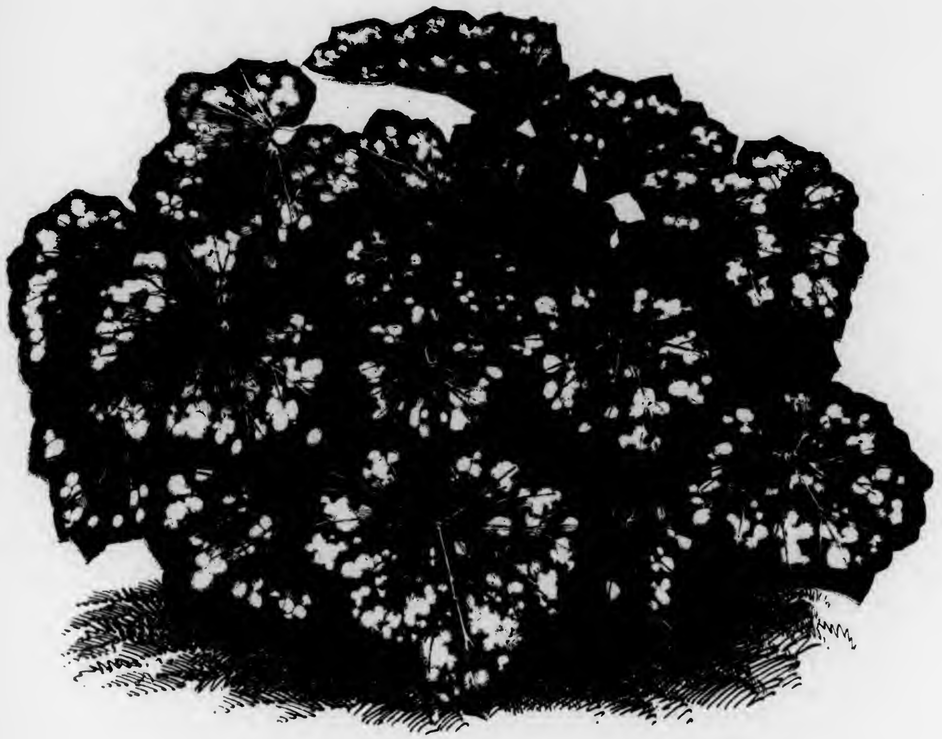
ST. PAUL, MINNESOTA, HORTICULTURAL EXHIBITION.

Was held on the 3d of July.

The Horticultural Exhibition was far more extensive and beautiful than could have been expected, and gave rich promise for the future. Strangers and citizens were equally surprised and delighted at the magnificence of the floral display, as well as the fine specimens of our fruits and vegetables.

Of Strawberries—Wilson's Albany, McAvoy's Superior, and Hovey's Seedling, were the chief kinds in favor.

Amongst the successful exhibitors, we are pleased to notice the names of our friends L. M. Ford & Co., Dr. Ames, Mr. Rohrer, Mr. Borup, John S. Prince, A. Buchanan, D. C. Green, D. C. Greenleaf, Mr. Selby, Captain Dana, W. Hansen, Mr. Clark, A. Schmedlin, Messrs. Hawke, W. H. Jarvis, Truman Smith, Mr. Moss, P. W. Nichols, W. Eudon, S. Mitchell, gardener to Judge Hewson and Stephen Hewson.



PARFUGIUM GRANDE

Rosenthal & Co's. Lith. 5th & Chestnut Sts. Phil.

COLOR PHOTO

THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, Editor. SEPTEMBER, 1860. VOL. II.---NO. 9.

Hints for September.

FLOWER GARDEN & PLEASURE GROUND.

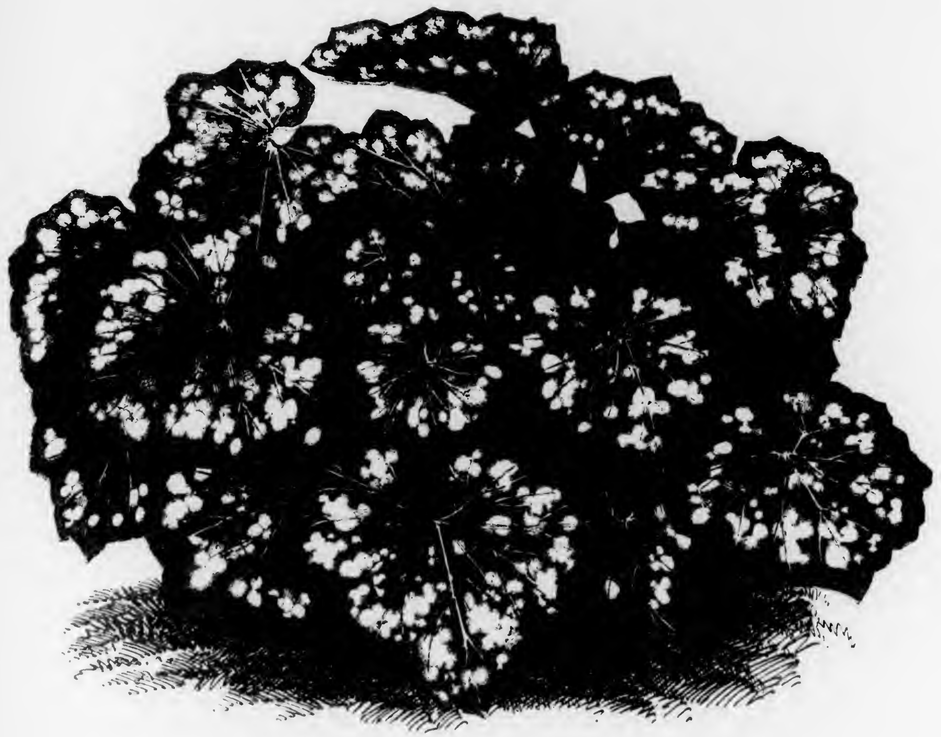
Those who have had their land drained and subsoiled, have had good cause to give thanks during the almost universal drought of the present season. Going through an underdrained, shallow cultivated garden, recently, where the plants were in the last stages of "witheration;" the ground like one magnificent brick, and the cracks suggestive of the gulph down which the immortal Curtius leaped; "Why," asked we of the proprietor, "do not you drain and subsoil?" "Drain and subsoil," said he, with a look of pity at our folly, "is it not dry enough now? drain indeed!"

Well, Horticulture has its Rip Van Winkles;—one would suppose that, in these days, not one of these antique gentlemen existed, to whom it would be news to be told that drained ground was moist in summer. If you cannot drain at least subsoil; it is the next best thing.

"I do not care," said a neighboring nurseryman, who had but half an inch of rain in two months, to the writer, "if I do not get rain for two months more; it will not affect my stock much—the ground is subsoiled two feet deep," and his *growing* stock, though not without a murmur as if it preferred better things, bowed assent. Now is the time to look about and prepare for these operations, to commence with the first fall rains.

At the same time commence to plant Evergreens, and Deciduous trees. The former cannot be too soon in order. After the 15th of October, we would not plant Evergreens in this latitude, except where the greatest care can be exercised in taking them up with perfect roots. After all, "How to take up and plant a tree," is of more importance than "when best to do it." In transplanting Deciduous trees, do not wait for the leaves to fall, if the fall rains have arrived. Where the leaves do not fall easily, cut away the shoots that bear them—wood, leaves and all. The trees should be severely pruned, at anyrate. If you plant in the fall, a severe winter will sometimes damage your trees. If you choose spring, a hot, dry summer will equally injure them. Twenty years of close daily experience in horticulture, has convinced the writer that there is no choice of either season. A few trees may be always expected to die; but where the management is proper, there will be little difference in an average of years, between spring or fall.

Those who have no greenhouse, and yet are desirous of preserving many half hardy plants through the winter, employ *cold pits*. Choose the dryest situation in the garden, and sink about five feet in depth. It is important that no water can be retained at the bottom. The pit may be of any length required, and about five feet wide, so as to accomodate six feet sash. The inside of the pit may be built up of boards, or, if something more durable and substantial is required, brick or stone. The body of the frame may be built up a few feet above the level of the surrounding soil, and the earth which comes from the pit be employed in banking up to the upper level of the frame. Shelving should be made for the inside so as to extend from the base of the front to nearly the top of the back, on which to place the plants in pots. In the space which will then be under the staging, hard wooded and deciduous plants, as Lemon Verbena, Fuchsias, &c., may be safely stored, while the more succulent kinds are shelved overhead. The plants to be preserved in such a pit should be potted early, and be well established and healthy before being pitted; much of success depends on this. The less water they can be made to live on without withering through the winter the better will they keep. Straw mats must be employed to cover the glass when freezing time commences, and when the thermometer is likely to fall below 20°, straw or litter should be thrown over. Board shutters are also excellent, as it keeps the snow out from the straw and litter, which sometimes makes the mats very awkward to uncover when we would like to give air. Very little light or air will be required through the winter when the plants are not growing. If a good fall of snow



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INTENTIONAL SECOND EXPOSURE

cover the pit, it may lie on undisturbed for two weeks or more without injury. When a warm dry day offers the sashes may be raised if convenient, to dry up the damp. Many kinds of border plants can be kept over winter this way with little trouble.

GREENHOUSE.

It is a very good time to look around for soil for potting purposes. The surface soil of an old pasture forms the best basis, which can be afterwards lightened with sand, or manured with any special ingredients to suit special cases, as required. The turfy or peaty surfaces of old wood or bogs also come very "handy." A stock of moss should also be on hand for those who crock pots, in order to cover the potsherd; moss also comes in useful for many purposes connected with gardening, and should be always on hand.

Plants intended to be taken from the open ground and preserved through the winter, should be lifted early, that they may root a little in the pots. A moist day is of course best for the purpose, and a moist shady place the best to keep them in for a few days afterwards. Any thing that is somewhat tender had better be housed before the cold nights come. Some things are checked without actual frost.

Those who have greenhouses, pits or frames, will now see to having any necessary repairs attended to. White-washing annually is serviceable, destroying innumerable eggs of insects in the war against which, the gardener should always take the initiative; sulphur mixed with the white-wash is also serviceable. Powerful syringing is a great help to keeping plants clean, and should be frequently resorted to.

Propagation of bedding plants for another season, will now be progressing actively. Geraniums, and other things with firm wood, do best in sand spread on the open ground, with a glass frame partially shaded spread over it. A great benefit will be found in most cuttings if they are placed for a short time in slightly damp moss for a few days before inserting in the same, so that the wound at the base of the cutting may be partially healed or calloused over. Verbenas, and such cuttings, can be kept but a few hours, unless the wood is very hard. The harder the wood the longer will they do to keep so. Ripe wood of some things will be benefitted by keeping two weeks. All this must be found out by each propagator himself.

Ornamental annuals for winter flowering should be at once sown, not forgetting Mignionette, to be without which will be an unpardonable sin. Chinese Primroses, Cinerarias, Calceolarias, Pansies, Polyanthus, &c., should all be sown. Winter-blooming Carnations and Violets should not be forgotten. They are now essentials in all good greenhouse collections. The Calla Ethiopica, old as it is, is an universal favorite, and should now be repotted, when it will flower through the winter finely. Oxalis, Sparaxis, Cyclamens, and such Cape bulbs that flower through the winter, should be repotted now. They are an easily grown tribe of plants, and should be in more favor. This is emphatically the Dahlia, as the next is to be the Chrysanthemum month. Dahlias have not grown much through the drought, and better not; now that September has come, they should be stimulated to grow, by copious waterings, and fine flowers will be the result.

VINERY AND FRUIT HOUSES.

Vines and other fruit trees in houses should have every chance afforded them of maturing their wood, which means that the atmosphere should be kept as dry as possible, and the pots or border suffered to receive no more water than is necessary to keep the leaves from withering prematurely. A common fault is however to keep the soil of fruit trees in pots too dry. A dry atmosphere is the chief point to attend to.

VEGETABLE GARDEN.

A few crops require attention South of Philadelphia, where the Cabbage will live out in the open air through the winter unprotected; now is the time to sow Early York. In planting out the ground should be thrown up like ridges east and west, and the plants set out on the north side of the elevation to escape the alternate freezings and thawing they would get on the flat surface. Lettuce may be sown and treated the same way. In this region and northward a few are sown and kept over winter under frames; but they are as well sown in a hot bed and forwarded early in spring; the fall sown ones often run to seed when spring transplanted.

Spinage and turnips should also be sown in rich ground.

Cauliflower, one of the most delicious of vegetables, is sown at this season, and where an abundance of leaves can be had are filled into such a pit as before described; with a few inches of soil thrown on, and the plants set out fifteen or twenty inches apart. As much air should be given through the winter as possible, and fine Cauliflowers will result.

Communications.

WORMS ON STREET TREES.

BY WALTER ELDER, PHILAD'A.

Our city has been in a filthy state for the past six weeks, caused by "them nasty worms" upon the shade trees. If any one could advise us how to get rid of such a yearly pest, he would deserve the thanks of the community at large. Last year twelve of my trees lost the half of their foliage by the worms, and at the same, time were greatly injured by the borers, so much so that they lost a third of the bark of their stems, and two died. I procured a few pounds of whale-oil-soap, and made a solution of that and water, as strong as I could make it, and washed the trees with it twice over the same day, with a white-wash brush stuck upon a long pole; and in February last, I gave them a shortening in, pruning and again washed both stems and branches with the same solution; and this year they have not been touched by the worms. Now, could the smell of the whale-oil-soap prevent the insects from laying their eggs upon the trees when they became white butterflies last summer; or did the February washing choke the grubs as they were hatched last spring? If either of one or both washings have destroyed the young brood, it would be well for everybody to apply it, as the experiment is both cheap and simple, if any of your correspondents are skilled in Entomology, I would like to know their opinion upon this matter.

[We are glad Mr. Elder has introduced the subject, as just now the city government has under consideration the absurd proposition of appointing a board to decide what kinds of trees shall be planted, and what shall not. We have a holy horror of "good fat jobs;" and Bell, Breckenridge, Lincoln or Douglass, are much more likely to be sought after in such an appointment, than "them nasty worms." A few articles like Mr. Elder's, in our daily papers, would do more good than anything "a board" is likely to do.

As to the nuisance, so far as the public is concerned, the drop worm is the greatest; and these hang in coccoons, all over the trees in winter, and could be readily removed then, and destroyed at an expense of 25 cents per tree. Hundreds of poor men are ready for the work in large cities when there is nothing else to do. If the city councils would make an ordinance compelling tree owners to clear their trees of these coccoons, they would really effect something for us.

Choosing trees is bootless. Every tree sometime or other finds some insects ready to prey on it. Time was when the Silver Maple was free, and those kinds now unattacked may yet become so. "Poverty meets strange bedfellows," seems to be as true in the insect as well as in the human world. Our hope lies in warring on the insect, not on the trees.—ED.]

TREATMENT OF BEGONIAS.

BY SCHUYLKILL.

It is not generally known that the new varieties of Begonias, cultivated for the beauty of their foliage, of which *B. Rex* is the type, are all remarkably strong feeders and require, not only very strong food to bring out their full beauty, but also to be deprived of all their leaves but, say four or five, so that the whole nourishment of the plant shall be concentrated in them. Where this leaf pruning is not attended to, they become small and of poor color. A collection, exhibited a few months since, at the Pennsylvania Horticultural Society, by Mr. Pollock, were grown in lumps of peat soaked in strong manure-water, mixed with a compost of half old cow-dung, sand and a little loam. In addition to this, they were occasionally watered with manure-water. None of the plants were allowed to retain more than 3 or 4 leaves, and the beauty of the coloring, and immense size, attracted great attention.

LAWNS.

BY H. W. SARGENT, ESQ., WODENETHE, N. Y.

In your issue for August, there are some remarks on Lawns by A. F. G., in which, among other things, he remarks, "Grass will get poor and weak from constant mowings, in which case use wood ashes." This is excellent advice when you mow with a scythe, since as this requires the raking or sweeping up of the cut grass, it is very evident that something must be returned to the soil, when so much is taken off every ten days to two weeks.

I think the time not far distant when the scythe will pass away and be no more seen, at least for ornamental purposes. When a lawn is once carefully prepared and graded so as to present a fair smooth surface to the action of the Lawn cutter, there is nothing I have ever seen equal the perfection with which the machine works.

Shank's Lawn Cutter, which I imported many years since, did wonders in its day; but on uneven or unequal surfaces, it was apt to gouge the sod or occasionally to skip over depressions. Mr. Green, in his new patent, by the addition of three simple little wooden rollers in front of the beaters (so-called), resembling in size and appearance three blacking or beer jugs, has entirely remedied all this difficulty, by carrying or lifting the cutter over any prominent elevation, and also by preventing any pitching into the ground, which a sudden start of the horse often caused. This is the machine Mr. J. J. Smith refers to in the few words on the improvement of Lawn machines, in your August number. Mr. Green, by substituting an endless chain for cog wheels, has also done away with the noise of the revolution, and given him the excuse of calling his invention "The Patent Silens messor."

My neighbor, Mr. Swift, who adapted "Shank's" machine to this country, is preparing to add Green's improvements also, which will make his cutter all that can be desired. You were a little in error in the size and prices of Green's machine; they range from the "*Parvum Miraculum*," cutting 1¼ inches, for la-

dies, to the largest horse-power, cutting 48 inches, and at prices from £6, £10 to £29.

Before mentioning some of the advantages of the machine, I will recall to your readers, and especially to one of its advocates, A. F. G., some of the disadvantages of the scythe.

In the first place. It is not every one who can use an English Lawn Scythe, whereas the most ignorant man or boy can use the machine.

Secondly. Lawns must be cut with scythes early in the morning and late in the evening, when the dew is on—inconvenient hours in this country, when so much watering for houses and plants is required at these times in our ornamental places. The Lawn Cutter, on the contrary, works better when the dew is *off*, after nine or ten o'clock, thus giving up to the gardener those early and late hours, so valuable in his department.

Thirdly. After grass is cut with a scythe, the most tedious part remains—the getting up. If raked, as is usual in the United States, a large portion must remain behind, from the coarseness of the rake; leaving a dead and decaying matter; preventing the full effect of the advantage of the cutting to be seen for two or three days, until the dry and woody part of the grass left by the scythe is surmounted by a new growth; for we must remember, in cutting with a scythe, the greener and more succulent parts are cut off, leaving them cut short, little more than stubble or woody stem, through which appears a mat of old fibrous decaying matter, the result of previous cuttings; each successive one adding its contribution of chopped hay—for it amounts to this.

Fourthly. As a large proportion of the grass which is cut every week or fortnight, manages to be got up, it is quite necessary, as A. F. G. says, to make some return to the soil by the addition of ashes and barn-yard manure; this latter not only producing a rank, coarse growth, but also introducing a variety and extent of weeds.

Now, by the proper employment of the machine, the following result is obtained:—A weekly mowing, with the weight of the roller, (some 700 lbs. in the horse size,) produces a low-flat growth of white clover, almost, apparently, without stems and with the leaves resting close and flat on the ground; this is and must be, in this country, the substitute for the English bottom, which is moss. Above and through this layer of clover comes up the slender and delicate spears, one to two inches high, of red top,—for after trying for many years every kind of lawn grass, I am quite satisfied nothing surpasses our road-side sod of white clover and red-top,—the passing of the machine every four to eight days over the lawn, either by man or horse-power, cuts off simply the spear of red-top and an occasional stray stem or leaf of clover, which has straggled beyond (above) the cutting guage, (about three-quarters of an inch), leaving the entire white carpet of white clover untouched.

These snips of grass are thrown, by the revolution of the beaters, into a box, and consequently none fall upon the lawn; and there is no necessity to employ either rake or broom. But as in the case of the scythe, as all growth is taken off every week, something to supply this consumption must be returned in shape of manure or food.

For some years after using my machine, though I was quite satisfied with the color of the lawn, and the beauty of its smoothness, yet I was disappointed in its softness; it was rather like walking over a billiard table than a Turkey carpet, which is the sensation one experiences in walking over a lawn cut every ten to fourteen days by a scythe. Some reflection and investigation led me to the conclusion that the softness of a lawn, cut by the scythe, was simply the result of the constant mulching it received from the decaying grass left behind after each cutting and raking; I therefore came to this result, that, by removing the grass box of the machine, and permitting the cuttings to fly in a sort of grassy shower, I should accomplish two important things—first, give an elastic soft bottom to the grass by the weekly mulching, which is so fine and so short, and one-half to one inch high, that it soon disappears instead of remaining an unsightly and hay colored brown for most of the season under the grass; but also by mowing frequently, the short clippings disappearing in two or three hours, I returned to the soil all it produced and nothing more. In other words, the materials abstracted from the soil, entering into the formation of red-top and white clover, were every week *entirely* returned to the soil, not partially, as in the case of scythe cutting, where the longest part is gathered and carried away, but the whole and entire produce of the Lawn, year after year, is returned to the ground free from weeds and stimulus, thus entirely superseding the necessity of any other dressing or manure; while increasing annually the depth, verdure and softness of the lawn, with an ease and success unparalelled, besides the great economy in time in having no grass to gather and carry away.

I have now tried this weekly grass dressing for two years with the most complete success, and am quite satisfied it is the only way to have, in this country, truly English Lawns. In England it would not do, since the weekly cuttings in their cloudy moist climate would not disappear; but in our hot, bright suns they all vanish in a few hours or so.

To do this, one must bear in mind the grass must be cut at least once a week, otherwise it would be so long that it would fall in piles and furrows, and by heating destroy the lawn underneath. It sometimes may happen, even in cutting once a week, after very moist weather, the cut grass lies rather too thick in some places; if so, it must be scattered and dispersed with a broom.

CLERODENDRON BUNGEI.

BY AMATEUR.

About three season ago, I bought a plant of this then new plant, and planted it out in my garden, with other border flowers. I was much disappointed in finding that it did not flower, and left it out for Jack Frost to use his own pleasure concerning it. I took no further thought of it until next summer, I was mortified to find it coming up all over my flower beds worse than an Ailanthus. The same season I met with one in a friend's greenhouse, and though the flowers were not in good condition, its grateful perfume pleased me, and I took up one of my wandering suckers, potted it, and kept it growing and repotting, pinching it as it grew to make it bushy, until by the fall it was a dense bush, with about twenty good shoots and side branches, and the plant itself in a twelve inch pot. The leaves fell like those of a Catalpa with the first frost, and having no greenhouse, the pot was set in my cellar with Orange and Lemon Trees, and in spring taken out and set on the lawn with other new pots and tubs.

A few of the youngest tips had suffered. These were pruned off, and as the plant grew it sent out magnificent heads of rose colored flowers of a Cape Jessamine fragrance, that has kept my friends in a perpetual state of admiration, and myself in great good humor.

Some years ago I saw at our exhibition a *Luculia gratissima*, and was said to be very rare, choice and hard to grow; but I would not trade my *Clerodendron* for any number of them.

The only thing I dislike about it is its name. Though a great admirer of flowers, I am no botanist, and hate any thing that looks like a pedantic display of scientific terms. Cannot you, Mr. Editor, give us the common name of this beautiful plant, and make any suggestions for growing it even better than I have done, for I am sure under *the best* management it must be a glorious thing?

[The best way to treat this is to serve it as we would a Hydrangea. That is give it plenty of pot or tub room; pinch it off while growing to make it bushy, and after it has done growing preserve the wood, from which the flowers will proceed next year. In this vicinity it is usually grown under glass, and is not as showy as our correspondent represents it; but we are well satisfied that our gardeners are mistaken, and that if they treated it as a tub plant in the open air it would fully merit all the encomium our correspondent has bestowed on it.

It does not prove any hardier with us than the Hydrangea, and like it must have the shoots of the past season preserved through the winter from very severe frosts, or the plant will not flower.

We are sorry we can give but little relief to our correspondent's sentiveness on the "hard names." The only common name it has is "Red Volkameria," which is not much of an improvement on Clerodendron Bungei.—Ed.

FRUIT GROWERS' SOCIETY OF EASTERN PENNSYLVANIA.

REPORT ON STRAWBERRIES.

The Committee for Philadelphia County, in presenting their first Report, would state, that most of the fruits herein alluded to have been grown in the grounds, or under the personal supervision, of one or more of their number, and that all have been personally tested by them.

They have not attempted a detailed botanical description of the varieties named, but have given only such marked characteristics, and peculiar qualities, as have seemed worthy of mention, aiming to report their general *average* character and value in this county. The local influences of soil, exposure, drainage, &c., have a marked effect upon the productiveness, hardiness and longevity of the plant, and the quality of its fruit, and tend to modify, very much, any description given of it in any particular locality.

Many kinds, known to be generally worthless, have not received their attention; other standard and good sorts, very generally accepted and cultivated, they have not included in their investigations. Their object has been to bring to notice and public acquaintance and appreciation, the comparatively new and less known kinds, to correct some errors in existing descriptions, and to place on their proper footing some over-praised varieties which are still cultivated but should be superseded by better sorts.

All the descriptions are based upon good and careful culture.

In classifying fruits for the "Market" and the "Private Garden' their respective *requirements* should be well understood.

For the "Market" the requisites are, *hardiness*, *productiveness* and *rapid reproduction* of the *plant*; *bright color*, *large* or *good average size*, *high flavor* and *firm flesh* of the *berry*, the latter quality being especially desirable, for distant transportation.

For "Private Gardens," *high color* and *firmness* of *flesh*, though very desirable, are secondary to the other qualities named.

AMERICAN VARIETIES.

H—Hermaphrodite. *P*—Pistillate.

Chilian Pyramidal. *H* Fruit of a large size, firm flesh, deep scarlet color and excellent flavor;

plant of robust habit, bears young and well. A very promising kind.

CHORLTON *H.* Fruit large, pale scarlet, juicy and rich, though slightly acid, plant very robust and hardy, a good bearer and strong grower. Promises well.

CUSHING. *H.* Fruit medium to large size, pale scarlet color, and, when well ripened, of excellent flavor, juicy and vinous; plant robust, growth vigorous, a moderate and often profuse bearer, but very unproductive in wet ground. An excellent impregnator of pistillate varieties and pays well as a market berry.

FILLMORE. *P.* Fruit of large size, firm flesh, rich scarlet color, and excellent flavor; plant robust, a free, vigorous, grower, perfectly hardy, bears moderately. Is one of the most promising of all the new American varieties. It has been disseminated as Hermaphrodite; all that have come under our notice have proved Pistillate plants.

HOOKER. *H.* Fruit of medium size, tender claret colored flesh, deep crimson color, high and rich flavor, juicy and melting. Best in moist soils. Plant of strong habit, a free grower, only a moderate bearer, and quite hardy. The fruit is too dark and too soft for market purposes, but excellent for family use.

JENNY LIND. *H.* Does not confirm expectations as to earliness. Fruit of medium size, deep scarlet color, tender flesh, good but not high flavor; plant robust, hardy and moderately productive.

LADIES' PINE. *P.* Fruit of small to medium size, very light scarlet color, often nearly white, of *unsurpassed* flavor, melting, sweet and delicious. Plant vigorous and hardy, though somewhat disposed to burn, on heavy clay soils. Very desirable for private gardens.

LONGWORTH'S PROLIFIC. *H.* Fruit medium to large, light scarlet, very acid. Plant very productive, foliage thin, not hardy in summer. Unworthy a place in a choice collection.

LADY FINGER. *H.* Fruit large, very long pointed conical shape, rich scarlet color, remarkably firm flesh, of good, sweet, but not the highest flavor.—Plant robust, a vigorous grower; a very desirable fruit both for market and private gardens.

MARILANDICA. *H.* As far as tested does not maintain its early reputation. With us it has proved a very poor bearer. Fruit of medium size, firm flesh, crimson color, and good flavor. Plant quite tender, a weak grower, and the bloom often so abortive as to render it quite worthless. Many of our best growers have rejected it.

MCAVOY'S SUPERIOR. *P.* Variable both as to yield and quality. Fruit large, bright crimson, tender flesh, melting and rich, but much disposed to knottiness.—Plant hardy, a free grower, but often very unproductive. Bloom frequently abortive, so much so that it is often difficult to find a single perfect berry in an entire bed.

PEABODY. *H.* Though hardly equalling, in size, the claims of its originator, this is one of the very best American varieties. Under high culture, in stools, 2 feet apart, the fruit has been grown, in the grounds of one of your Committee, at the rate of over 4,000 quarts per acre, from plants 4 years old, and single berries measuring 5¼ inches in circumference. The fruit ripens best in the shade and requires to be picked at the moment of maturity; if allowed to hang after ripe it becomes very tough and sour.—Size large to very large, color deep, rich scarlet, flesh firm yet melting, flavor saccharine and delicious. It *demands* and well *repays* the *highest* cultivation, and a thorough suppression of the runners while fruiting. As commonly grown, in crowded beds, it is very unproductive.

The following kinds are under trial and will be reported upon the coming year; Athlete (a supposed native) Golden Seed, Jessie Read, Scarlet Magnate, Downer's Prolific, Cutter, Randolph Pine, Pennsylvania, Moyamensing.

EUROPEAN VARIETIES.

CAROLINA SUPERBA. *H.* The largest and highest flavored of all the foreign sorts. Fruit large to very large, color variable from pale to bright scarlet, surface very glossy, bright yellow seeds quite prominent; flesh pure white, melting, juicy and delicious, shape long conical. Rather tender for transporting to market. Hardiness not sufficiently tested. A truly *superb* fruit.

COMTE DE FLANDRES. *H.* Fruit large, deep scarlet color, firm flesh, high flavored, juicy and melting. Plant very hardy, a vigorous grower, and sets runners freely. A very desirable sort for every collection.

DELICES D' AUTOMNE. *H.* Fruit medium to large in size, glossy, with prominent seeds, color light red at the base; blending into bright yellow at the apex, form varying from round to flat conical, flesh white, juicy, melting and truly *delicious.* The young plants are delicate and require a year to establish themselves. Whether this variety will prove a true autumn bearer your Committee are not fully prepared to state.—They commence bearing early in June and some of the vines growing in the grounds of one of our number, have now (July 15th) a second crop of blossoms and ripe fruit. They require high culture, a partially shady position, good winter protection, and thorough removal of the runners to improve fruit. As a general rule the fruiting vines show no runners and *vice versa.* Another year will be required to test this interesting and promising variety. Doubtless, like all the exotic kinds, it yields better after the second year.

We shall probably be able to report, next season, upon several very promising seedlings of this plant.

EXCELLENTE. *H.* Fruit of the largest size, bright red, quite variable in form, flesh firm, very high flavored, and truly *excellent.* Plant strong, healthy, a rapid grower and moderate bearer and perfectly hardy. It well deserves its name.

MYATT'S PROLIFIC HAUTBOIS. *S.* and *P.* This variety deserves some notice from the fact that it seems to require its *own Staminate* as an impregnator in order to produce a full crop of fruit. The male plant is a *pure Staminate,* utterly barren of fruit, but, when planted with the females in the proportion of 1 to 5 or thereabouts proves the best fecundator known for this variety. Its unproductiveness under ordinary culture of which many complain, is thus accounted for. Plant rather tender, especially in long droughts; stems and foliage quite delicate very bushy and of peculiar shape and color. Fruit of small to medium size, shape similar to a pecan-nut, dark maroon color, often nearly black; flavor unlike that of any other variety, combining the taste of the raspberry and mulberry, but more sprightly than either. Most persons dislike it at first, but come to be fond of it, as its peculiar taste improves upon acquaintance.

TRIOMPHE DE GAND. *H.* Fruit of the largest size, bright scarlet color, firm flesh, flavor high and rich, juicy and melting. Plant very vigorous, hardy both in winter and summer, a free, rapid grower, a good bearer and altogether a superb sort.

TROLLOPE'S VICTORIA. *H.* Fruit of very uniform and large size, round handsome shape, very light scarlet color, flesh melting, flavor rich and vinous.—Plant hardy, free growing, and under high culture in light, rich sandy loam yielding immense crops. In heavy clay soils it is less productive and the foliage is disposed to turn yellow and burn. One of the best of all the English sorts.

VICOMTESSE HERICART DE THURY. *H.* There is no Strawberry known to your committee which so nearly fills every requirement as this comparatively new French variety. Fruit of large size, variable in shape from broad conical to coxcomb, bright scarlet color, very firm yet melting flesh, flavor saccharine, sprightly and delicious with an agreeable fragrance. Plant healthy, a strong grower, perfectly hardy against the winter's frost and summer's sun; sets runners very freely, which strike root at once, and grow rapidly up into stout healthy crowns. Deserves a place in every collection and promises well for the market garden.

The following foreign varieties are now under probation; Ajax, Crimson Queen, Exhibition, Kitley's Goliath, La Reine, La Constante, Magnum Bonum, Marquise de la Tour Maubourg, Nicholson's May Queen, Oscar, Scarlet Rock, Vilmorine (Madame Vilmorin?) an autumn variety of high repute in France, Wonderful, and Wizard of the North. The last named kind has been fruited in this city, under glass, and produced berries of very large size and excellent flavor, similar to that of Boyden's Mammoth. All the other varieties named have also been fruited by ourselves or others, but mostly on plants too young to give a fair sample of their size and quality.

J. E. MITCHELL,
R. CORNELIUS,
A. W. HARRISON.

[As the above report has not yet been presented, it is not of course the adopted opinion of the Society. But as the season of planting is at hand, and believing from the knowledge and care bestowed on the subject by the distinguished amateurs whose names are signed to the report, that it would be a useful guide, we applied for a copy in advance, to which the chairman kindly acceeded. As it has not yet been reported, it is of course so far but the individual opinion of the members of the Committee, but loses none of its value on that account.—ED.]

THE SEASON AND GRAPES IN GEORGIA.

BY P. J. BERCKMANS, ESQ., AUGUSTA, GA.

Our summer has been uncommonly warm, for a week the Mercury went to 106 deg. This weather has been a fair test for all tender plants, and in consequence I have lost a considerable quantity. Fruit is abundant, grapes especially; I have now ripe.—Brinckle (July 1st) Delaware, Rebecca, Marion, Maxatawny. Emily, (this, the true variety, surpasses Delaware in size of berry and bunch, and resembles it in color.) Concord, Hartford Prolific (June 25), earliest of all but a very foxy tough skinned fruit.—Lenoir, Southern Isabella, and some ten foreign, among which I rank in the first line. Chasselas Rose de Falloux, Chasselas Rouge Musque, Chasselas de Fontainbleau, Fig Grape and Muscat Caillaba Noir. I have had very good success in raising foreign grapes in the open air. In fact there is little difficulty with them here, provided the suitable varieties are cultivated, and the pruning judiciously done.

[The above in a private letter from our friend, was not intended for publication, but as it contains some valuable information, we are assured he will pardon the liberty we have taken in publishing it. ED.]

THE NEW MODE OF PROPAGATING.

BY H. J. HOWLAND, WORCESTER, MASS.

A neighbor showed me in his garden this morning, a bundle of rose cuttings with well formed callus, just ready to put out roots, which have been buried,

horizontally, some two inches deep, in the loam in his garden, for about a week. He discovered this mode of striking cuttings accidentally last spring, having inadvertantly left a lot of Diana grape cuttings buried as above, for four or five weeks longer than he intended. He then took them out, expecting they were spoiled; but found them well started, and on setting them out in the open garden, they have all made a fine growth.

This seems to be even more simple and easy of practice, than any method you have published to produce the same result.

IS TARTAR ESSENTIAL TO THE VINOUS PROPERTY OF THE GRAPE?

BY DR. J. R. HAYES, WESTCHESTER, PA.

Mr. Bright in his little work on Grape culture, lays particular stress upon the use of Tartaric acid in the successful cultivation of the Grape, and has prepared a fertilizer with Tartaric acid, &c., in combination.

I am disposed to give him all due credit for the use of the Phosphates, Carbonic acid, &c., but it baffles my chemical knowledge to see what effect is derived chemically to the advantage of the grape in the application as a fertilizer of Tartaric acid.

With your permission, Mr. Editor, let us look into the matter, and see the position Mr. Tarter holds in the grape. Let us look in the first place at the elements contained in the grape juice—two of these will suffice for the present, *sugar* and *acid*. We see that the *sugar* by Katalysis in the process of fermentation is broken up into Alcohol, Carbonic acid and water; the *acid*, before a part of the fluid juice, is now by the formation of Alcohol, etc., from the sugar, partly held in solution in the vinous liquid, and thrown down in the shape of an insoluble compound *Argol*. Now suppose the Alcohol to be of high standard in density for wine, it will hold but a small part of the *acid* in solution, and the bulk of it will be precipitated, and the resultant wine will be of good vinous or alcoholic quality, without acescent character. Suppose again the Alcohol to be of *low* standard in density for wine, (the liquid being watery,) a greater quantity of the acid will be held in solution, and less precipitated than in the previous case, and the resultant wine will necessarily be deficient in vinous quality and acescent. It cannot be denied that circumstances modify the density of the Alcohol during the process of elimination from the sugar, as the presence of water in excess, in the bulk of price; but we have nothing to show that the acid or *tartar* is essential as is apparent to the vinous quality of the wine. Surely the wine, *per se*, has nothing to do with the Argol deposited; if the Alcohol in the wine be of the right density it will hold only *so much* tartar in solution, the rest will be deposited without the quality of the wine affected. If much tartar is contained in the liquid in solution after fermentation, the inference is plain that the wine is poor in Alcohol.

The fact that large quantities of Argol are deposited in the wine cask is proof positive of its existence in *large* quantities in the grape. The same disturbing causes that would lessen the amount of grape sugar in a given bulk of *must*, and thereby its resultant Alcohol might also lesson the tartar, but as long as there would be sufficient for the alcohol of good wine density to hold in solution, there would be no use for more to make the wine better. But I cannot imagine a grape must, under any circumstances, be wanting in tartar. On the contrary, it exists *largely* under all circumstances as an essential element, as well in adversity as in prosperity, in reference to the cultivation of the grape. Its presence is as constant as water is on the juice, but while the wine is dependent indirectly upon the water for its quality during its Katalysis, the tartar rests upon its oars, holding its strong forces in reserve, using them partially only as occasion requires.

Strong stimulating manure to the vine gives us a larger crop, and larger fruit for the table, but does not make good wine, because the same bulk of expressed juice contains more water and less sugar than is essential to the making of good wine.

That the vine eliminates from the atmosphere and natural soil, by its own instinctive process, more tartar than is necessary for the making of good wine, cannot, I think, be denied. If not, why do we have the *Argol* of commerce.

Let us suppose that the vine takes up Tartaric acid from a special fertilizer—other than what it receives inherently, and should give it in excess to the fruit with the addition of rich manures, we would obtain large fruit, juicy to a nicety, excellent for the table, but when converted into wine—poor in Alcohol, but depositing *Argol* largely, and no one will contend that the wine is better for having in solution much of the acid in consequence of the want of density in the Alcohol. I cannot see what benefit Tartaric acid is to grape soil, under any circumstances. I admit that the *fruit* would be better under the circumstances for table use, for when the watery portion of the grape is increased under rich cultivation a corresponding increase of acid would be necessary. But when we come to make wine we find other laws prevailing as we have seen. I contend, therefore, that it is *not* essential in a *wine making* point of view, for its elimination and absorption depend wholly upon the density of Alcohol, and the Alcohol in density is dependent upon a given number of equivalents of grape sugar in a given bulk of expressed juice. In excess it would lessen the sugar and injure the vine. Did the Tartar change by Katalysis the case would be different, but it is the same before and after fermentation, omniscient is all its stages. Now nature gives us an *excess*, but not at the expense of sugar under proper cultivation. Shall we increase that *excess* by *special* legislation, and thereby injure the number of equivalents of sugar in our cask of vinous liquids?

In our ardent zeal for fertilizers let us not overlook nature—she is a good instructress in all things, and it seems hardly probable that she would throw away her Tartaric acid in the shape of Argol so profusely, were it needed as the most essential property for wine.

ORIGIN OF THE LINCOLN AND ISABELLA GRAPE.

BY DR. CURTIS, HILLSBORO' N. C.

We are indebted to the author for a copy of his recent work, from which the following will interest our grape growing readers:

"I learn from Dr. Hunter, of Lincoln, that the Lincoln Grape was discovered about the beginning of this century, near the junction of the South Fork and Catawba, by Dr. Wm. McLean, and that he transplanted the whole vine near his house. From this stock Mr. John Hart, of Mecklenburg, derived his, which is still in vigorous existence. From this last, Dr. Butt, of Lincolton, obtained his cuttings, and sent some of the fruit to Longworth, who gave it the name, now most in use, of the *Lincoln* Grape, though it was previously known as the *Hart* Grape, and *McLean* Grape."

"A foreign origin has been claimed for the Isabella, but this is an evident error, proved in the fact that seedlings of the Isabella sometimes revert to our Fox Grape in every particular of leaf and fruit. This has been tested by Mr. Caradeuc, of South Carolina, as I learn from Mr. Ravenel. But what is regarded as a scientific demonstration of its American origin, is the fact that its seedlings sometimes have barren stocks, like all our American species, which is not the case with European Grapes. Besides, the Isabella, in its specific characters, comes nearer to our Fox Grape than any other.

Dr. Hunter, who has given much attention to the history of our Grapes, has conmunicated most of the following items in regard to the Isabella. Dr. Laspeyre was probably its first cultivater in the United States, probably as early as 1805, as he sold it in the Wilmington Market in 1810. Judge Ruffin cultivated it in Orange County in 1811, under the name of *Laspeyre Grape*. It is a tradition that Gov. Smith brought it to Smithville in 1809. About the year 1810 Mrs. Isabella Gibbs took a rooted cutting from Gov. S's. garden to Brooklyn, New York, according to a current account. According to Laspeyre, she got the vine from *him*. These statesments may, in a sort, be reconciled, if Gov. S. obtained *his* stock from Dr. Laspeyre. In 1819, Gen. Swift bought the Gibbs place, and it was there the elder Prince first saw and obtained this Grape, which he named the *Isabella* in compliment to Mrs. Gibbs. Dr. Hunter has some of these statements from Gen. Swift. Dr. Laspeyre was under the impression, that this, which he called the *Black Cape*, was one of the vines which he brought from St. Domingo, but it was probably the accidental introduction of an American among his foreign stocks. Dr. Hunter seems to be of opinion, that it came to the Cape Fear region from South Carolina, according with the tradition mentioned in Dr. Hawks' History."

MARKING DRILLS, &c.

BY C. F. E., RAVENSWOOD, N. Y.

A few days ago, I visited a well kept garden in our neighborhood, and there saw a man tracing lines for planting, with a stick along a line, (rope) stretched for that purpose. This reminded me of the fact, that I have never seen that simple and easy mode of tracing lines practiced in this country, which is of course known to you and many of your readers, but certainly has not yet been hit upon by as many others, and which consists in *sawing* a trace in the freshly prepared ground with a rope.

Would you not think this simple trick practical enough to mention it in your really practical *Monthly?*

The way I practice is this. After the distance of the rows is marked on both ends, two men take a rope of the length of the rows to be traced, stretch it tightly over two opposite marks with their right hands, and with a short stick in their left hands press it gently down on the ground, to prevent its shifting its position. Three are four sawings with their right hands, now make a perfectly straight mark. By taking a stouter rope and sawing a little longer, the traces can be made deep enough to sow fine seed in. On strong or roughly harrowed ground, a chain must take the place of the rope. Sure this mode of tracing takes two men to do it, but they can trace twenty rows while one man traces one with a stick, as I saw it done in a well kept garden.

[A simple fact not known generally, and will be very useful to many. Should be glad to have further hints from C. F. E.—ED.]

HYDRANGEA VARIEGATA.

BY L., BROOKLYN, N. Y.

I have been interested in the several sketches by yourself and correspondents, of the many new leaf plants that have of late swarmed into existence. I think it is a move in the right direction. There

should certainly be as much interest felt in graceful forms, especially when combined with striking colors, as in showy and gaudy colored flowers.

Unfortunately most of these fine foliaged plants are not adapted to out door cultivation, so that when we do meet with one it is the more valued. The Hydrangea japonica is one of these plants. I failed to grow it well for a year or two, but now I think I understand its wants. I do not wish for any thing better in its way.

I bought my plants in 1853, from our enterprising neighbors, Parsons & Co., for the neat little sum of $2—a dollar a leaf, my plant having just that many on it. I petted and potted it, tried it in a frame and in the open air, but all to no purpose. It was no larger in 1854 than at first. After trying it in various ways for several seasons with more or less success, I potted in rich garden soil, in a large pot, and set it out under the shade of some Pine trees, with a saucer of water under the pot. Here for the first time it grew freely, and was quite pretty. I have suffered it to remain in the pot the two past seasons, and each season it looks more interesting than the past. The white variegations is clearer, and the green more defined, and the whole contrast particularly striking and pleasing.

I have come to the conclusion that very rich soil does not suit it, nor does an open sunny situation. Nothing that I have pleases me so much, and I can recommend it to the general cultivator, as a plant that he would not miss after once having it.

[We are glad attention is called to this beautiful plant. We saw one the past season on the grounds of Harry Ingersoll, Esq., near us, that enlisted our warmest admiration. This also was in a pot, growing under the shade of a large Chestnut tree, without the water saucer our correspondent recommends. We insert in the article an illustration that we happen to have by us of the same plant, to give those of our readers who have not seen it an idea of its general appearance. It is a variety of *Hydrangea japonica*, and was raised about 10 years ago, by Mr. Van Houtte, the well-known Belgian Horticulturist.—Ed.]

GROWTH OF THE DELAWARE GRAPE.

BY CUTTER & BRO., BEVERLY, ILLS.

Last Spring a year ago we got forty cuttings, tried them in several ways, but found grafting the best.—Those on small pieces of root grew from two to four feet. What were put on one and two year old seedlings, without moving them, made from twenty to 80 feet of vine the first year.(1) Besides bearing some fine clusters of fruit. Now our vines are only yearlings and were, like all other Delawares, very closely trimmed to get the grafts; but no other kinds are full enough. The largest we left about four feet high with two branches of about four buds each; we left it to be swept about by the winds without even a stake to support it, until about the 10th of June; we then tied it out, and now it has on over a peck of as fine smooth clear looking clusters as you would wish to see. They stand on common prairie soil, sloping a little to the north, never was manured, nor worked over a foot deep. We feel confident that grafting is not only the easiest but the best way to raise grape vines, they grow faster, bear younger, and are a great deal hardier than vines grown in any other way. Our last dry winter was very hard on grape vines. A good many of the roots of our hardiest varieties were found this spring to be dead, but not a single grafted one was injured.

[(1) We understand our correspondent to mean all the shoots collectively—not that one shoot extended eighty feet. The Delaware has been found well adapted to our locality, and this seems to speak well for Illinois. We should be glad to hear of this and the other scarcer grapes from other localities.—Ed.]

TOWN AND COUNTRY RESIDENCES OF THOMAS WINANS, ESQ., BALTIMORE.

BY K. R. D.

Mr. Editor: On a recent visit to Baltimore, I was favored, through the kindness of a friend of Mr. Winan's, with an opportunity of visiting these princely establishments.

The city residence is situated in Hollins Street and in the centre of the most beautiful part of the city.—It occupies nearly an entire block or square of ground, and is handsomely enclosed with an iron railing; the grounds are laid out with taste, and planted with a great variety of rare trees, and shrubs. The collection is particularly rich in the new evergreens, many of them considered by us, only a hundred miles further north, as extremely tender, but here flourishing with the greatest luxuriance. This result is no doubt attributable in part to the protection afforded by the surrounding houses and fires. The entrance to the grounds is through a large and handsome iron gateway, at the side of which is a neat porter's lodge.—I was informed that on one day of the week the public are admitted, and if this is correct, Mr. W. deserves the thanks of the whole community. The house is situated nearly in the centre of the grounds, and is large elegant and commodious, but with an air of home comfort about it, seldom met with in houses of so large a size. One of the most beautiful features about it is the conservatory which is quite extensive and which communicates with the drawing room. This conservatory is kept well supplied with flowering plants from a range of thirteen houses or pits built side by side somewhat on the ridge and furrow principle, and are each about 35 by 17 feet, and their aggregate or total length would therefore be upwards of 450 feet. Each of these houses are as a general thing, devoted to the growth of a single genus or of kindred tribes of plants that require nearly the same treatment; to this cause, added to the skilful management of the gardener, Mr. Campbell, may be attributed the complete success in plant culture which has been attained here.

House No. 1 Is devoted entirely to the culture of grape vines in pots.

No. 2 A moist stove in which amongst other stove plants were a number of fine specimens of Musa Cavendishii.

No. 3 Devoted entirely to Heaths and Epacrises, which looked remarkably healthy.

No. 4 Azaleas, Rhododendrons, &c.

No. 5 Camellias.

No. 6 Azaleas a very rich collection of the new dwarf and double varieties.

No. 7 Orchids, ferns and mosses.

No. 8 A mixed Greenhouse.

No. 9 Mostly filled with Begonias including the new foliage varieties.

No. 10 A mixed hot house.

No. 11 " "

No. 12 A propagating pit.

No. 13 Pine apples, and for forcing Asparagus.

Having had for some time an idea of erecting a house on the ridge and furrow principle, I thought this a favorable opportunity of ascertaining whether much inconvenience was suffered from the snow collecting in the furrows, and I understood Mr. Campbell to say that they found it necessary to have them cleaned out after every heavy fall of snow. If any of your readers have had any experience with houses of this kind I hope they will furnish it for the general benefit. The heating apparatus which heats not only this large range of pits but also the dwelling, conservatory and an immense vinery 300 feet in length, is well worthy of notice. It is a large tubular *steam* boiler somewhat of the shape of a locomotive boiler. The steam is conveyed through the pits under the walks in three inch cast iron pipes covered with iron grating. Some of the houses that require the most heat have several return pipes. The heat in each house can be very nicely regulated by a stop cock. The steam pipe or main which is 8 inches in diameter after heating the pits passes on through an underground tunnel or culvert to the dwelling, a distance of some three or four hundred feet! And from thence through a 3 inch pipe, and another tunnel to the vinery about 200 feet further. The radiation of the pipe in passing through these tunnels is not so great as one would suppose. Mr. Campbell informed me that during the coldest winter weather, the apparatus did not consume more than four tons of anthracite coal per week which, considering the immense duty it has to perform, struck me as being quite moderate. It has given no trouble since it was first erected which was several years since.

After examining the house, grounds and plant houses I was taken through the new vinery which is a very extensive lean-to house built against a high wall which forms one of the boundaries of the property. It is over 300 feet in length, 18 feet wide and from 8 to 12 feet high to the front plate, and about 18 feet high at the back. It is divided into several

compartments and is very judiciously planted with a great variety of exotic grapes. There is also another forcing vinery on the place about 75 feet long, and 30 feet wide in full bearing.

I regretted extremely that my time would not admit of a more minute examination of this very interesting place, one which is a literal exemplification of the expression *rus in urbe*, for when you are in the centre of the grounds, surrounded by dense masses of shade, you cannot realize that you are in almost the centre of a large city.

The next day I drove out with my friend to Mr. Winan's country residence, which from his long residence in Russia, and his consequent partiality for that country, he calls *The Crimea*.

It is situated on the Franklin turnpike about 5 miles from the city, and in a most picturesqe country, a fine stream of spring water runs through the place, which has been judiciously employed in furnishing lakes and cascades, and in supplying one of the most complete bathing establishments in the country. It embraces a large swimming tank, douche, shower and vapor baths. Shortly after entering the place you cross the stream on a picturesque bridge and then by a winding carriage way which is carefully graded, you at last reach the house which is situated on a lofty eminence, commanding a glorious view of the adjacent country. The house is built in the style of a Russian villa, and is quite unique. It is three stories high with noble verandahs to each story, around three of its sides, so that each room and chamber has casement windows opening on to one of these verandahs. From the house, branch off in every direction most tempting walks and drives through the park like scenery. Some idea of their extent may be derived from the fact that the walks on the estate are *six miles* in length, and the drives over *three miles*. These walks for the most part are constructed in the most durable manner, bedded in stone and gravelled, and if on a hill where they are subject to wash in hard rains, are provided with iron gutters crossing them nearly at a right angle. The annexed drawing will give a better idea of their shape

which is somewhat like an iron pipe with a small piece taken out of its whole length. This allows of its being easily cleaned out if it becomes obstructed. When a walk is dug out of the side of a hill, a gutter is constructed of ordinary stone laid flatways and a mixture of coal tar and sand poured in to the interstices hot, which binds it all together and is very durable. The able and polite superintendent of the farm, Mr. John Wilkinson (formerly principal of the farm-school at Germantown), informed me that one barrel of coal tar, which costs at the gas works one dollar, will answer for one hundred feet of this kind of gutter, one foot wide.

Mr. Wilkinson showed me through the stables, which are very extensive and fitted up in the most durable manner, most of the fixtures being of cast iron. The stalls were filled with a great variety of fine horses, amongst which were some noble Russian stallions and mares, with most unpronouncible names. The dairy was next visited, it is fitted up with marble shelves and troughs or cisterns, filled with spring water in which the milk pans are immersed. In passing through the pleasure grounds we were struck with a mode of getting rid of the loose stones with which a portion of the place abounds; they are piled up into pyramids, cones, pillars and rectangular forms, and ivy and other creeping plants planted around them which soon cover them, thus forming very beautiful and picturesque objects. We also met here with an apparatus which we have seen in Europe, but never before in this country; a number of small boats, furnished with sails and with seats for four persons, are arranged on a revolving frame-work of wood and the wind acting on the sails, causes them to revolve on the same principle as a windmill. My time and your space will not allow me to do justice to this spot, so I must conclude by recommending your readers, who are fond of the picturesque, by all means to endeavor to obtain access to it.

Allow me before I close to express my regrets that, in my letter from Washington describing the Conservatory at the President's House, I have done injustice to the gardener, Mr. Watt, who I am happy to find is a very deserving man, and competent gardener. At the time I wrote I did not know of the many difficulties that he has had to encounter. My visit, as I stated, was a very hurried one, and my opinion was formed from appearances only.

GRAPES.

BY OLIVER TAYLOR, LOUDON, VA.

A N. Y. Fruit grower, recommends not to plant the Rebecca for vineyard culture, but to put it in a sheltered place in the garden. I have one vine in such a place, and after it put out some six inches it seemed scalded just like the Catawbas close by, and stopped growing for a month or so almost entirely, but finally recommenced; whilst those on a north hillside were not so affected. I have planted 1000 Rebecca grape vines, and of course must be set down as having the grape fever; yes, and I have some ten bunches on six vines set out last year. I think the inveterate habit of taking bunches at the expense of high quality, is the cause why our grapes rot so much. Heavy winter pruning to accomplish this, causes too great an extension of young tissue in the growth of the berry during cloudy days, and the fruit being first to suffer, falls a victim. Our excessive heavy rains, glowing bright sunshine and drying winds, alternate so quickly, that none but plants used to such changes can well withstand it, unless we give them the advantage and not the disadvantage of art. Friend G. P. Norris of Wilmington, does not discourage any one from planting a single variety known to be good by any one, even such an one as A. J. Downing whose opinion on seeing the original vine is certainly worthy of regard. I do not suppose all the thousands of fruit trees or vines we now rate high, to be the best that might have been planted; but plant all, is my motto, if we ever want an abundance of fruit, which every year seems to be more and more needed, and of all fruit, the grape and blackberry stand prominent in certainty of crop, and abundance for outlay; and doubtless not many years will pass e'er the grape will be the first fruit in the land. Not for its wine would I say this; for its intrinsic value is but little known when we use only its juice. Cooked as a marmalade, with the skins and seeds strained out, either alone or with other fruits, it forms a very wholesome and palatable sauce, which keeps easily put up air-tight, and if so kept, the sugar forms into crystals that give it a very sprightly flavor. From the numberless wild varieties that throng our wilds, we may well anticipate the art of hybridizing will soon give us varieties that will ripen from mid-summer to winter, and be furnished fresh most of the year on our tables. Therefore let us grow all, and get every lover of good fruit who has a new grape to bring it to Philadelphia next Congress, and show it to the public. Grapes have rotted much here this summer, more than usual, but the Clinton is not affected, nor are our wild varieties ever affected in that way. The thermometer here last winter was 16° below zero, killing more tender things than our two hard winters previous 57° and 58°.

I wish to ask one question, is it correct to call a grape that has come from seed of any foreign variety when grown in this country a foreigner, when we call all apples and pears that come from foreign seed, grown in this country, natives? I call the Rebecca a native, for instance, and will not second Prince when he says, it is as tender as the Chasselas, from which it might have sprung.

[There is but one *species* of apple, and but one *species* of Pear. Of these we have American *varieties* and Foreign *varieties*. Variety has reference to the the country where it originated; no confusion can here arise.

In grapes there are several *species* some of them American, and one Foreign. A seedling raised here from a foreign species—Brinckle for instance—is an *American variety* of a *foreign species*. A child of Sambo, would be an American of the African species (or variety,) and that of the Govenor of Virginia, an American of the Caucasian or some other stock.

We see no difficulty in the idea, and are surprised at the number of inquiries we receive in relation to the subject. There are American seedlings of foreign species, and American Seedlings of native species, and the fact is as useful in correct grape classification as in classifying the Blacks, Whites or Indians, who inhabit this continent.—ED.]

HINTS TOWARDS THE DISCOVERY OF THE TRUE THEORY OF PROPAGATING.

BY JOHN WATSON, ROCHESTER, N. Y.

It has long been customary with gardeners, previous to planting cuttings of a succulent nature, to leave them, for a time, in a *dry* shaded situation, in order that the superabundant sap may be evaporated, and the wounds nicely healed over. On the other hand, the practice recommended in the *Monthly*, of putting grape vines eyes in a *damp*, shady place, is an excellent preparatory process in the propagation of things of sterner stuff. But a cutting of a medium texture —a Rose cutting for instance, can withstand neither of those modes of treatment; it will quickly shrivel in the one case, or blacken and die in the other. Clearly then in order to obtain that great desideratum —the development of the callus, recourse must be had to at least three different modes of procedure, according to the nature of the subject under treatment. Is this, then, as it should be, or is it not more reasonable to suppose that this peculiar exudation, Nature's own healing salve, would be developed in all cases alike, and under one particular set of circumstances, provided the proper medium were once thoroughly understood?

An approximation towards this end has at length been made. Common sharp sand dried until it will stream through the fingers like that in a sand-glass is the article employed, and a rough wooden box, or any thing tight enough to contain so fickle a substance, is all the apparatus required. The vessel may be filled brimful of sand and cuttings in alternate layers, and must then be buried out of sight under a greenhouse stage, or any similar place, where the under-ground temperature will be comparatively steady and not too warm. The exact degree of warmth required, and which may be readily ascertained by experiment, is, I opine, the greatest amount they are able to bear without endangering the bursting of the buds which, of course, would exhaust the sap and thus defeat our object. The callousing process completed they must then be gradually inured to the

usual amount of heat, light, air, and moisture of the propagating house.

A word here in regard to the nature of the Callus, as very erroneous ideas are sometimes entertained by gardeners concerning it. Some are under the impression that it is nothing more or less than a bundle of roots in embryo which may or may not be developed according to circumstances; and I have never heard any one speak on the subject, who did not seem to take it for granted either that the rootless issue immediately from the callus, or that, come whence they may, they penetrate directly through it. In a series of articles on the "Science of Gardening," at present appearing in the *Cottage Gardener*, the writer takes the same ground and more than once affirms that roots are emitted from the callus. Now, unless I am strangely mistaken, such an occurrence rarely if ever happens. After examining hundreds of rooted cuttings I am clearly convinced that, the root fibres are in all cases emitted laterally from near the base, and that in those instances in which they do seem to issue from the callus, it is merely an illusion caused by the swelling of the latter, around the ends of the cuttings. Dr. Lindley remarks that, "in cuttings the callus, which forms at the end placed in the ground, is the cellular, horizontal system, preparing for the reception of the perpendicular system, which is to pass downwards in the form of roots." This is so theoretically, but, as I before observed, it is highly improbable that the perpendicular system is ever so received, the roots showing a much greater affinity to their new surroundings, than they have to the callus, of which they are entirely independent.

In the work from which the above quotation is taken, the *Theory of Horticulture*, the callus is spoken of as "those processes which usually precede the formation of roots," and this, (coupled with the idea I have just advanced, viz.: that in the case of slips detached from the parent plant, said process should likewise precede the bursting of the buds,) is, indeed, the only point that we as gardeners need care much about. Once become fully impressed with the belief that any attempt to excite cuttings prematurely is wrong in principle and we are then able to account for many of those failures in propagating which otherwise appear to us inexplicable. The usual mode of raising the Japan Quince from root cuttings may serve as an illustration. After being cut up into small pieces it is either put at once in heat or if suffered to lay around for a time is but very imperfectly calloused. The cuttings being wholly unprepared for the emission of roots, the only effect of the heat is to excite the tops, and these will sometimes grow two feet high without showing any symptoms of throwing out roots. Pinching the tops is indeed partially a remedy for this state of things; the best preventive is in having the cuttings all calloused and ready for the start; pinching will then tell with much better effect. Those in the habit of root-grafting the native grape, the tree-peony or any other plant that requires stimulus of the hot bed know, to their cost, how such things, after giving great promise, frequently die away in the most mysterious manner. There can be no doubt I think as to the cause of the difficulty. Had the application of heat been gradual, so that the union of root and scion had been perfected previous to being excited by 70° or 80° of bottom heat, the chance of failure would have been considerably lessened. Florists near large cities might turn this underground system into good account, by cutting up and stowing away their bedding stuff until wanted for propagation, but with this end in view they must be calloused at a lower temperature than before advised. This last suggestion, however, as well as everything else brought forward in this article, must be taken only as so many hints and acted on with caution and by way of experiment. That they are hints in the right direction I honestly believe and therefore predict great results from them if properly followed up. Having no facilities at present for carrying on these experiments, I give the above for the benefit of your readers with the hope that those among them who have anything to communicate on this subject will not be backward in doing so.

One other remark before I close. About two weeks ago I selected a few sticks of Pear buds and also a few Quince shoots of a corresponding size. The Quince cuttings were made into lengths of three eyes each, the middle eye neatly cut out and a pear bud inserted in its place. I examined them the other day and found every one of them beautifully united, and also the quinces calloused at the base. Can the idea be turned to profitable account?

TO PROTECT CABBAGE FROM CATTERPILLARS.

BY E. F. TRAGARDH, CHICAGO, ILLS.

Having noticed the complaint of your correspondent, John, of Lynchburg, Va., concerning the catterpillar on cabbage. I would kindly suggest to him, to scatter a few seeds of the common hemp amongst his plants. Half a dozen hemps will protect an acre most effectually.

DENDROMETER.—A small pocket instrument has been invented in Edinburg, by which an angle of 45 degrees is readily obtained with the top of the tree, and the level from the stem to the eye; thus forming a right angle triangle in which the height of the perpendicular is equal to that of the base.

SKETCHES of PHILADELPHIA BOTANISTS

BY L.

III.—JOHN AND WILLIAM BARTRAM AND HUMPHREY MARSHALL.

In close connexion with the names of Collinson and Fothergill, we place those of John and William Bartram and Humphrey Marshall, the first honoring the "Bartramia" a moss growing among the damp mountain rocks of Berkshire, Massachusetts; the latter the genius "*Marshallia*," composite plants found in the Southern States; their researches in their own Pennsylvania, it would seem, having left none for later discoverers to name in their honor.

John Bartram
1739

These worthy students of nature were farmers, and the sons of farmers, and while cultivating their paternal acres, found time for the pursuit of Botanical science.* These sons of the soil were self educated men, surrounded daily with objects of interest, they could not pass them unheeded by, nor close their eyes to the wonders and beauties of the varied creation. They regarded with scrutinizing curiosity, the infinite variety of plants unknown, and of course undescribed in the volume of the botanist, and knew no higher pleasure than the study of the forms wonderfully diversified, with which our forests abound. The enthusiasm with which they devoted themselves to the pursuits, and the industry and perseverance with which they followed it, were accompanied with a modesty, prudence, worth and other sterling virtues, which must endear their memory to all who read their lives and correspondence, as charmingly portrayed in Dr. Darlington's delightful volume. "The lovers of nature everywhere, whom the London merchant, Peter Collinson, introduced to the acquaintance of Bartram, regarded him with admiration; the learned men of Europe sought his correspondence; princes patronized his labors, and learned societies conferred on him the highest testimonials of esteem. He was not only a man of science, but a man of genius.†—He was endowed with extraordinary capacities of body as well as of mind, enduring fatigue, encountering danger, evercoming difficulties, undergoing privation, and persevering to the end in the accomplishment of every great object he had in view.‡ He was not only a man of science, a man of genius and a man of great capacities—he was a man of great virtues. His life is scarcely more distinguished by his discoveries, than by his reverence for the *great Author of Nature* and the love of his fellow-creatures.—His residence and garden have become objects of interest to all students of his favorite science, and to strangers of taste. Having become the property of a gentleman of wealth, who cherishes a regard for the memory of its founder, it is preserved from desecration, and a stroll beneath the trees planted by the hands of Bartram a century agone, will well repay every lover of nature, every admirer of simple virtue and genial worth.

[BARTRAM'S OLD MANSION, KINOSESSING, PHILADELPHIA.]

The Bartram Botanic Garden, on the west bank of

* So earnest was John Bartram in the pursuits of learning, that he could scarcely spare time to eat, and might often have been seen with food in one hand and his book in the other. While plowing or sowing his fields, he was still pushing his enquiries into the operations of nature. What a contrast does his enthusiasm present to the dull indifference of boys of our day, who surrounded with means of receiving instruction, waste the precious opportunities through indifference and neglect.

† Dr. Franklin, in a letter introducing John Bartram to Jared Eliot, dated Philadelphia, Sept. 1st, 1775, writes: "I believe you will find him to be, at least, twenty folio pages, large paper, well filled, on the subject of Botany, fossils, husbandry and the first creation."

‡ John Bartram was a great traveller in searce of his favorite objects in natural history, making his way from the head waters of the lakes and rivers of New York and Pennsylvania, through what was then a wilderness, and accomplishing, when he was nearly seventy, a full exploration of the St. John's river in Florida.

the Schuylkill, about four miles from Philadelphia, was established as early as 1720, at a time when nothing of the kind existed in the colonies, except Dr. Clayton's, in Virginia. Here were concentrated very many of the indigenous plants and trees, of N. America, and in greater profusion perhaps than can elsewhere be found. John Bartram and his son were industriously employed in making this collection for 110 years, so that in reference to plants enduring our winters, it must have been unrivalled in the days of its prosperity. Thirty years ago it was computed that there were two thousand species of our native productions within the space of six acres.—Plants of every size were then to be seen, from the minutest Marchantia to the loftiest cypress, one of the latter was 30 years ago, upward of 112 feet in height and 25 feet in circumference. When last seen by the writer, it had exceeded these dimensions. It is now upwards of 125 years old. Noble Norway Spruces, though too closely planted, and large Magnolia acuminata are among the interesting specimens; and in its season of flowering, the beautiful Halesia tetraptera, a medium sized tree, abounding with drooping white flowers, resembling the snowdrop, form a lovely ornament beneath the clustering shade.

Bartram's learning was not inconsiderable, for which he was indebted to his own efforts, in the midst of toil, after he had attained the age of manhood, and was encumbered with the care of a family. He acquired a knowledge of the several languages, partial we may suppose, and of medicine and surgery. His rustic appearance and careless dress gave no indication of the accomplishments of the inner man, and led in one instance to an amusing, and on the part of one of those concerned, a confusing blunder. The governor of Pennsylvania, having a communication for Bartram, as the story is told, sent for him, but when he appeared before his excellency, the chief magistrate taking him for a carter suffered him to stand, paying him no attention. Bartram at length addressed the governor, saying, he had been told that he wished to see him. The governor eyed him a moment and telling him it was a mistake, resumed his writing. Bartram comprehending the cause of this treatment, accosted the great man in Latin. The governor surprised, replied in the same. Bartram, it is said, then plied him with another tongue, and another, until the governor was forced to cry quarter, and confess inferiority to the simple rustic.

Bartram in stature was rather above the middle size, erect and slender. His complexion was sandy, indicating a sanguine temperament. His countenance wore a cheerful expression, though his air was solemn, and his gentle manners accorded with his amiable disposition. He was modest, liberal, charitable, a friend to liberty and social order, and a real benefactor of his kind.

He deceased in 1777 in the 78th year of his age.

His eulogy has been pronounced by Linnæus, who styled him "The greatest natural botanist in the world."

William Bartram, son of John Bartram, inherited the botanical zeal of his father, and came naturally by his tastes, having been born at the Botanic Garden, on the banks of the Schuylkill in 1739. He had an early talent for drawing, which was afterwards usefully employed in botanical and ornithological sketches. He accompanied his father to Florida, and there attempted the cultivation of indigo. His own travels were commenced in 1772, at the request of Dr. Fothergill, and he occupied five years in collecting and studying the natural history of the more Southern Atlantic States. On his return, he quietly passed his time in scientific occupations, at the old Botanic Garden, never marrying, though occasionally rallied on the subject by his friend Collinson. His "travels through North and South Carolina, Georgia, East and West Florida, &c., were published in 1791 in Philadelphia, and reprinted in London in 1792, and again in 1794, and Paris in 1802. The style of this work is distinguished for its simple love of nature and its vivacity. "It is a delightful specimen of the enthusiasm with which the lover of nature, and particularly the botanist, surveys the beautiful and wonderful productions which are scattered over the face of the earth." It breathes the freshness of a new land, every sensation is pleasurable, welcomed by health. All his faculties are alive in his book, whether he describes a tree, a fish, bird, beast, Indian or hospitable planter. He detects fragrance, vitality and health everywhere in the animal world, Coleridge honored this work with his eulogy; "the latest book of travels I know, written in the spirit of the old travellers, is Bartram's account of his tour in the Floridas. It is a work of high merit every way."

William Bartram to his botanical knowledge, added an acquaintance with the ornithology of our country, and prepared the best list of birds before Wilson.—Alexander Wilson resided for some time at the Botanical Garden, enjoying the valuable friendship of Bartram, who assisted him in his drawings and in the preparations of the early volumes of his great work.

Fred'k Pursh, who visited Wm. Bartram, thus writes: "I found him a very intelligent, agreeable and communicative gentleman, and it is with the liveliest emotions of pleasures I call to mind the happy hours I spent in this worthy man's company, during the period I lived in his neighborhood."

A visitor to the Botanic Garden, curious to see Bartram, has left a sketch of his appearance:

Arrived at the Botanist's garden, we approached an old man who, with a rake in his hand, was breaking the clods of earth in a tulip bed. His hat was old and flapped over his face; his coarse shirt was seen near his neck, as he wore no cravat or kerchief, his waistcoat and breeches were both of leather, and his shoes were tied with leather strings. We approached and accosted him. He ceased his work and entered into conversation with the ease and politeness of Nature's nobleman. His countenance was expressive of benignity and happiness; this was the botanist, traveller and philosopher, we had come to see."

Bartram appears to have been engaged in these genial pursuits to the last, for it is recorded, that he penned a description of a plant a few minutes before his death, which happened suddenly in 1823, in the 85th year of his age.

Humphrey Marshall also contributed to enlarge the botanical treasures of England, and corresponded with the leading botanists of his day.

His garden at Marshallton, Chester Co., Pa., abounds in rare and noble specimens of American trees and shrubs, now a wilderness of overgrown and rank vegetation.

Pursh visited this garden about the beginning of this century, when Marshall, though far advanced in age and deprived of his eyesight, conducted him personally through the collection, pointing out many which were new to his visitor; thus evincing continued attachment, to the science which in former years, he had pursued with a mind full of vigor and senses unimpared.

In his perseverance and devotion to Botany, he much resembled his cousin John Bartram, and the career of both should serve as a bright example which sons of farmers, in our day, might follow with advantage to themselves and to society at large.

STRIKING CUTTINGS.

BY J. M. SMITH, GREENVILLE, ILLINOIS.

I wrote to you some time ago that I was experimenting in striking cuttings in a new material. Here it is—and successful.

Near our nursery is an old tannery, where spent or rather rotten tan-bark, of from twenty to forty years old, lies in large beds, perfectly rotten. Of this material I procured a lot, and inserted a number of cuttings promiscuously cut from the nursery, and none of them failed, except a few I drew out in making notes, and they were all nicely calloused. I inserted cuttings of Pear, Plum, Currant, Gooseberry, Grape, Althea, and a number of bedding-plants, together with some Pine-apple buds, and all have well rooted, or are in the act of doing so. The tan keeps just nicely moist, and is so loose that the tender rootlets permeate immediately the loose bed, forming perfect masses of roots.

I take shallow boxes about six inches deep, and fill them to within half an inch of the top with the decomposed tan—setting it well with sprinkling of water, then place it where the air will circulate freely *beneath* the box, (the box being perforated at the bottom so as to afford a perfect drainage.) I fill it quite full of cuttings, and place it in the shade where the air circulates freely.

I have no doubt that by supplying bottom heat, it will answer excellently for striking cuttings in the winter in lieu of sand. It never packs or bakes by neglecting to water, and in fact retains moisture so well that it needs little watering at all. A Rebecca grape cutting showed roots over an inch long in three weeks.

HYBRID APPLES AND STRAWBERRIES.— Mr. W. A. Williams, the Secretary of the "Southern Pomological Society," at Charlotte, N. C., says that on the 19th of June, of present year, Mr. *Edwin Alexander* presented to the Committee ten Hybrid varieties of Apples, which were the result of a natural "freak, brought about by the Bee, or some other insect, in conformity to established physiological laws, but under the circumstances somewhat curious—a Red Astrachan and a June Apple tree stood on opposite sides of a Fall Pippin—an Apple green-skinned when ripe, and now but half grown—on the side next the Astrachan, the Pippin ripened a large fine red Hybrid specimen of that Apple, and on the June Apple side, a fine, well made Hybrid of the June Apple; the presents in each instance being well defined and beautifully blended."

[We give the above as "information" of what ideas are travelling about. Of course the freaks are not hybrids brought about by bees; nor are they in accordance with "established Physiological laws" of hybridization, which effects the progeny of a fruit, and not the fruit itself.]

BLAND OR POWELL GRAPE.—Mr. Van Buren recommends this strongly for the South. He says:—"In size it is equal to the Catawba; in color and general appearance, little, if any, inferior to the Golden Chasselas; in vigor and productiveness, about the same as Catawba and Isabella, while in flavor it is rich, sweet, juicy and tender, with very little pulp. It is very easily propagated from cuttings, not more than one in every ten failing to grow, with ordinary treatment; it is not more disposed to rot than either the Catawba or Isabella, if well and judiciously pruned during summer, while the bunches or clusters are of fair size."

The Gardener's Monthly.

PHILADELPHIA, SEPTEMBER 1, 1860.

☞ All Communications for the Editor should be addressed, "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

TO ADVERTISERS.

☞ Copies of Advertisements, *when they occupy an entire page* of this paper, will be furnished to the advertiser, printhd on good paper for private distribution, at the low price of THREE DOLLARS per thou sand. *Nurserymen* will find this an economical way of getting their *Wholesale Lists* and *Abstract of Catalogues* printed.

HAVE WE ANY GARDENS AMONGST US?

The Father of modern Philosophy tells us that "a garden is the purest of all human pleasures." But where is the spot that justifies this definition? We have amateur gardeners and professional gardeners, and gardening periodicals, but we have no *such* gardens —for the spots so called are the reverse of pleasures. If a citizen fancies he will have his garden, he finds out when too late for repentance, that he has wedded himself to a lot which entails endless trouble, vexation, and annoyance; and "what shall I do with my garden?" becomes one of the most important questions in life.

It is true, a few delightful little Edens exist where the happiest beings amongst us, are they who own, dress, and keep them,—but these are but the oases in the great desert of gardening.

People who fancy they have gardens, abound; but they skilfully conceal the worm that preys on their vitals, to wit, their purses; and the want of knowing what better to do, alone restrains them from committing horticultural suicide. "Better" say they "to bear the ills we have," or as the happy Mr. Weller less poetically expresses it, they make up their minds to be satisfied, perfectly satisfied, with their present situations until they can provide themselves with better ones. Thus like some other saints they make virtues of necessities; and the spectator, innocent of a garden, is led to mistake their compulsory martyrdom for voluntary delight.

The great majority of those who "go down into" the country, know full well the truth of this remark; and their gardeners also know that their whole lives are but a continual succession of harrassing vexations and cares. And the Horticultural editor—the Jupiter who high up in the clouds of his editorial sanctum receives the complaints and griefs of his dissatisfied subjects below, he knows better than all others that if pure, much less the purest pleasure is the distinguishing feature of a garden; the enquiry "have we any amongst us?" is one we may be allowed in all good faith to ask.

It seems the fate of man that he shall have no garden. The same wandering discontented nature that caused his expulsion from his first paradise, leads him to sow thorns and thistles in what might be his second; and like the ass he seems to prefer the harsh and unsavory matter, instead of willingly cultivating the choice fruit and happy flowers nature persists in so generously urging him to adopt for his use.

Why we have no gardens, we have partially explained in our July issue. On the "every man his own Washerwoman" principle, no distinct object is seen—no practical result aimed at. The uncultivated mind, views a garden in the distance, as a boy sees a lovely butterfly, on the wing. He would like to have it; imagines a great deal of pleasure would be derived from its possession, and he gives pursuit. He grasps it with a thrill of intense pleasure, and opens his hand but to find in it a crushed and unsightly mass of loathsomeness and ruin.

It should therefore be a first thought with all who would have a real garden, that will give the pleasure and enjoyment a garden ought, what they expect a garden to do for them, and what they will do with the treasure when they get it. The details should be well weighed. Everything should have some purpose. Nothing should be unmeaning. A reason should be ready for all things.

In choosing a spot and laying it out, the physical wants of human nature should be first studied. The site will be governed by ease of access. The most lovely situation, or the most delightful prospect, becomes painful in time by difficulties of approach. The house will be so arranged, in reference to the grounds, that the greatest amount of comforts can be realized with the least amount of physical labor in the enjoyment. Then a house will not be built on the top of a hill, where, however magnificent the view, a pair of horses can scarcely draw up to it an empty carriage; nor will the carriage road be so arranged that you have to swelter up a flight of a score of steps on a hot day, or be soaked with rain on a wet one, to get from the carriage to the front door. The stables and out buildings, the vegetable and fruit garden, and other objects requiring continual communication with the mansion and with one another will not be placed at an inconvenient distance, nor in situations utterly unsuited to the main objects of their existence.

In all matters of physical utility, abstract beauty should play but a secondary part; theoretically there is more beauty in a curved line, than in a straight one, but practically the mind revolts at the idea of going round a circle on a matter of business, and insists on driving straight through the diameter.

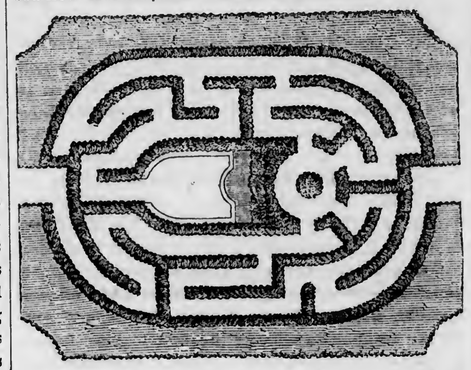
We know that it is this mistaken course of losing sight of physical utility—this sacrificing of every atom of comfort to an invisible, indefinable, incomprehensible spirit of abstract beauty, that renders country life so frequently miserable. We see the shadow and search for the substance. We miss the kernel, and find but the shell.

We must confess that the tendency of the teachings of modern writers on the art of landscape gardening, has been in a great measure to elevate unduly ideal beauty over substantial comfort and convenience, and something of the failure to make a garden enjoyable has to be laid to its door. Beauty of form and outline, artistic groups, fine contrast of color, the niceties of light and shade, are all well enough if a garden is only a something which we are to enjoy as we would admire a fine landscape painting in a gallery, sitting in an arm chair; but this mere copying of nature is but a small part of the pleasure of gardening, and falls far short of the capacities of the art to furnish enjoyment for us.

The triumph of mind over matter, is always a source of pleasure, and was at the foundation of the ancient geometric mode of gardening, which the modern showy style has well nigh supplanted. Modern gardening nearly ignores the principle. You cannot now grow your herbaceous plants, and fill your garden with a multitudinous variety of beautiful forms, which you can go in amongst, contrast, and admire; but you may in good taste have a few beds of coarse leaved, over-fed Geraniums, Petuneas, or other such things, which give you a gaudy mass of color, and which you may lazily look upon from your drawing room window, and having once seen, feel the novelty is gone. You may not now have any flower bed, but an oval or a circle. It is vulgar to cut or clip a tree into any form but that into which it would naturally grow,—trimmed hedges are an abomination and straight walks are odious. We must in fact do nothing but "imitate nature." We are to act in the matter like some little girls, who are taught to dress up, and look so stiff and prim in their efforts to be so youthfully fashionable, that the whole idea becomes repulsive, and wounded human nature will rebel.

The effort to accomplish what nature seems to forbid us to do, is one of the greatest attributes of humanity. To ripen peaches at Christmas or in Lapland, affords us more real pleasure, than the greatest abundance of fruit in its natural season or locality; and to derive any amount of pleasure from a garden, we must carry this idea beyond the area of the forcing-house, and extend it to every part of the ground.

There are many little fancies that can be carried out on every place however small, that would not fail to add great interest. A maze, for instance, would often add much to the pleasures of a garden. The following is one designed by Nesfield for the proposed new Horticultural Garden at London.



A summer house fountain, and water could be formed in the centre, and the maze, which could be formed of Arborvitæ, or other evergreen, or even of Beech, Hornbeam, or other close growing shrub, be formed all around it.

Arbors, and seats cut out under close growing box trees,—rustic seats made of living branches, and many other things can be introduced, which the length of our article prevents us from now doing more than suggest.

That there is something wrong in the system which, though declaring a garden to be "the purest of all human pleasures," can point to so very few who, though possessing the name of one, actually enjoy it; no one will deny. We think we have indicated wherein the error lies, and hope to see a vast improvement.

NECTARINES, PEACHES, AND GRAPES.

In a note to a communication in another column, we refer to some fine specimens of *Hydrangea variegata* we saw on the grounds of Harry Ingersoll, Esq. Amongst some other matters that our memory loves to dwell on, were the Peaches and Nectarines in pots about 12 inches across, which were plunged in the borders along the walks in the vegetable garden. Each plant averaged two dozen fruit all of full size, and at the time of our call (July 10th) ripe. For the first season of fruiting we considered it a great success, and an example we should like to see more frequently imitated. The pots are preserved from frost through the winter, and kept in the orchard house, until the curculio season has ceased, when they are taken out and plunged as we have described.

Being in the neighborhood of Hestonville recently, we could not resist the inclination to visit the estate of Thos. P. Remington, Esq., where ten years ago,

the writer performed the first act of his professional career in Philadelphia.

The crisis of 1856 and '57 drew Mr. Remington into its vortex with so many other worthy citizens of our Republic, from which he has never revived and the magnificent Park of near 200 acres, which, had it been completed as the taste and means of its owner intended, would have been perhaps the finest specimen of landscape gardening in the Union. What had been done was still beautiful through the ruin with which neglect has overwhelmed it, and in its design still visible, bore the imprint of a master's hand in the art of landscape gardening. Mr. Chas. Miller, the designer, is already known to our readers by several communications, and from what we saw here of his capabilities should be glad to hear from him oftener. Crossing from Mr. Remington's to Mr. Francis Yarnall's adjoining, we found the best looking foreign Grapes we have seen for some time. The vines were models of health and beauty, and are now in their second bearing year. We measured one bunch which was *seventeen inches long and sixteen inches wide*, and for weight—what will our readers say to Black Hamburg Grapes *over five pounds* in weight not merely one or two, but many of them and mostly uniform in size. The fine black berries were more like plums than grapes. The vines are planted in the house and have as well an outside border. The house is built on a side hill, and has the peculiarity of being constructed for both grapes and plants. The glass roof span is *twenty-two feet*, and the earth is dug away under the glass so as to form *two steps*. On the upper and higher step which is about 10 feet wide, is the staging for plants along the front of which, and on the edge of the step, the flue runs and keeps the place warm. On this we look down on the lower step which is the vinery proper, and is comparatively cool in the winter, and in which the vines can then be laid down and be at rest. Mr. Matheson, the excellent gardener, did not speak highly of the arrangement so far as the plants were concerned, but we saw in it a principle which with some modification will yet come into popularity. But we intended here to speak only of the Grape. If any one can beat Mr. Matheson we shall be glad to know of it, and if it is not "out of our world" should like to pay a visit.

PORTRAIT OF JOHN BARTRAM.

Just as we were going to press, a friend presented us with an engraved portrait of John Bartram, which we have incorporated in our correspondent "L's" article. We were always under the impression that no portrait of the distinguished botanist existed, but the source from which we obtained it seemed to admit of no doubt. On more minute inquiry, we find that the engraving referred to was taken from a description of his person, and from a portrait of his son, William Bartram, who he was said closely to resemble.

THE GARDENER'S MONTHLY.

About this time two years ago, the Pomological Society being about to meet in New York, we set ourselves out to prepare a new fruit to be laid before this distinguished body, in the shape of *our Journal*, which we were anxious they should at least place on the list of "those which promised well;" but before we had actually plucked our fruit, we found it would improve by being left a few days longer on the branch, and so we were unable to serve it up to our friends till the first of October when our specimen number appeared. While another biennial period has been recurring, our sapling has grown into a well developed tree, and we are now enabled to offer not merely a single fruit prematurely gathered, but near two dozen of them, full formed and rosy, throwing around the aroma and delightful fragrance that the aid of its hundred corresponding friends in all parts of our great country have imbued them with.

We do not offer our production as an improvement on any one existing; but as a new form or species that will call for no "rejected list" into which to consign any of our contemporaries. Finding a field at a cost of *only a dollar* unoccupied and unexplored; peopled only by aborigines who had never known the civilizing influences of any Horticultural Journal, we planted our little tree in the midst, around which as it grew we fondly hoped to draw a class of settlers peculiarly its own.

Our territory has rapidly filled up. The citizens now number many thousand, as our subscription book and advertisement columns amply testify; and it is on their behalf that we now apply to the Convention, and to all true Pomologists, that our offering shall be transferred from the list of those fruits which promise well to those which are "worthy of general cultivation."

Elevated to this distinguished position, we hope for the continued aid of our friends to improve the character, and make the merits of their selection known. Our effort shall be not to rival the size of the delicious Bartlett, nor compete with the *embonpoint* of the regal Duchesse, but rather to become the *Seckel* amongst Pears in literary Pomology.

Notwithstanding the trial of the two past years, which has proved the *Monthly* to be so well suited to so extensive and so varied a number of tastes, we have hope still of further improvement; and before the next meeting of the Pomological Society in 1862, we hope to attain a still higher class in the society's lists, if it has any.

LAWNS.

In another column will be found an article by Mr. Sargent, which will receive the attentive perusal of all our readers. We are well satisfied that the plan of frequent machine cutting, and of leaving the mowings to remain on the lawn, will ultimately come to be a general feature in American gardening, and the name of Mr. Sargent, as the introducer of the practice, will receive a prominent place in its history, as one of our greatest benefactors.

We allude to it here in order to give prominence to the fact, which scarcely needs however additional illustration, that there are many principles which seem to oppose our old fashioned notions of gardening, which only require a little thought in order to be rendered of vast service to us. Here our hot dry climate, which we have thought so opposed to "the fine green English lawns" will now enable us to introduce at least an exclusive "*American System*" of managing them, by which we shall be saved half the labor and expense of keeping them, and have them little if any inferior, as Mr. Sargent's magnificent lawn itself testifies.

We are suffering under many other evils besides a dry climate, which oppose at every step the practices of Horticulture in which we have been educated.—Since we cannot remove, may we not hope to utilitize them?

We look yet for the advent of a few more Franklin's in American Horticulture, who if they cannot remove our lightning-like evils, will yet be able to saddle and bridle them for us.

It would be a curious chapter in the history of the future, that should class the Plum weevil and Grape mildew amongst the best friends of the gardener.—Who would dare hope for that? But when we have "our abominable climate" as our lawn-mowers term it, actually forced to aid in making a green and velvety lawn, where may our hopes be compelled to terminate?

ERRATUM.

In the interesting article on Lawns, by H. W. Sargent, Esq., in the communications of this month's issue, and in the last line on page 259, instead of $1\frac{1}{4}$ inches, read 14 inches.

A NURSERY PARTNER WANTED.

Under this head a notice appears in our advertising department, well worthy of attention from parties interested, and we allude to it here only because we think it a chance of rare occurrence. Were we on the look out for an opportunity to commence Nursery business we could not wish to step into worthier shoes than those offered by such a firm as Ellwanger & Barry.

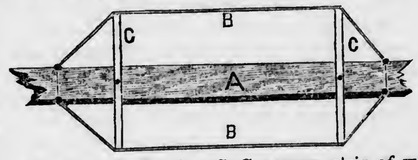
FARFUGIUM GRANDE.

(*See Frontispiece.*)

This plant has been so often alluded to in our columns that it is unnecessary to repeat its history.—Though but two years have elapsed since its introduction to public notice by a London Nurseryman, it has won its way rapidly in popular favor. Mr. Buchanan stated in one of his advertisements that it has proved hardy with him, and we have no doubt it will prove so in most localities.

SIMPLE ARRANGEMENT FOR TIGHTENING WIRE.

On a visit to the country seat of H. J. Williams, Esq., at Chestnut Hill, Pa., we noted in the vinery a very simple but effective method of tightening wire of which the annexed sketch will afford an idea.



A. rafter; *B. B.* wire, *C. C.* narrow strip of wood fastened to the rafter by a screw in the middle, with the wire, as represented passing over the ends.

When the wire is attached at first, the top brace is screwed on and the wire drawn over and attached to the base of the rafter loosely. The lower brace of the same length as the upper, is then placed in near the bottom and drawn downward until the wire is sufficiently tightened, when the screw is applied to fasten the brace to the rafter. The lower brace, at the tightening may be kept at an acute angle, so that when the wire slackens by lessening the angle the wire is tightened. When the brace has assumed a right angle, should the wire again become loose, the brace can be unscrewed, and set an inch or so lower down, when the operations before described can be repeated.

The beauty of this simple plan is, that instead of continually unfastening wires in order to tighten them, and this too usually unsatisfactorily, a single turn of the thumb or of the screw driver, effects the whole in a moment.

The principle can be applied as well to wires, on arbors and trellises as to those in Graperies or Greenhouses.

The readers of our advertising columns would do well to note that there are two firms of the Hookers in Rochester, N. Y. H. E. Hooker & Co. is a distinct firm from Hooker, Farley & Co.

FAIRMOUNT PARK, PHILADELPHIA.

We took a ride through these lovely grounds a few days since and were highly gratified to find that the work was progressing so rapidly. The carriage drive is nearly completed and is made in the most durable manner, gravel on a stone bedding with chains at the sides. It is beautifully undulating with easy grades, now skirting along the margin of the beautiful Schuylkill and then winding up on the high ground, affording most exquisite views up and down the river.

The grand avenue of American Linden is graded and planted, and will be a most imposing feature.—The walks are also nearly completed and an immense number of choice Evergreen and Deciduous Trees and Shrubs most judiciously planted. The fine old specimen trees already on the place add greatly to its beauty. The *Schuylkill Navy*, composed of the various barge-clubs, are building a number of boat-houses under the superintendence of the architect; some of them are already completed and are perfect little gems and quite ornamental. We were pleased to see so many of our citizens availing themselves of its advantages. We saw several family groups seated on the grass and enjoying the beautiful views whilst scores of carriages were slowly winding their way through its drives. The projectors of this Park deserve and will receive the gratitude of our citizens for all time to come.

There are many peculiar features introduced into the Park that will interest our readers, and we shall take an early opportunity of again recurring to them.

Questions and Answers.

Artificial Breeding of Fish, and Aquaria Management—*J. S. A., Jr.*—"In your July number I see mention made of Mr. Desilver's "fish pond" and of artificial fish breeding; I have several times tried the operation, with no success, I suppose for the want of proper information on the subject; cannot you give me through your columns, a full description of the 'modus operandi.' I am much interested in the subject of fish, and the other appendages of a perfect aquarium."

[Our correspondent has probably failed through operating on the fish too early. The spermatic fluid and the spawn must be obtained by pressure from the different sexes only when perfectly matured, and mixed with water in a vessel which will afterwards require much care in changing. It is easy when the niceties are just balanced; but this has usually to be obtained at the expense of failure at first. We could not do better than refer our correspondent, and all interested in the interesting study, to "A Treatise on the Artificial Propagation of Fish" by Dr. Garlick, published by C. M. Saxton, New York, in which the whole subject is treated very minutely and completely. As it is quite recently published it contains the newest discoveries.

The management of aquaria is easily learned.—There must be a good quantity of water plants in a healthy state of growth to make oxygen for and to feed on the carbonic acid thrown off by the fish.—Shells or clean pebbles should be placed on the sand in which the aquatics are planted, to keep the fish from rooting them up. Beautiful aquatics now exist in every pond and stream well adapted for the purpose. The following list grow in almost every part of the Union, and may be pointed out by any botanist, at least one of whom may be now found in almost every town.

Vallisneria spiralis, one of the best for the purpose; *Alisma plantago*, rather coarse but fish thrive with it; *Anacharis canadensis*, *Callitriche verna*, and *C. autumnalis*, *Caulinia flexilis*, *Ceratophyllum demersum*, *Eriocaulon septangulare*, *Fontinalis* different species in most running streams; *Proserpinacea palustris*; *Myriophyllum spicatum*, *M. verticellatum*; *M. heterophyllum*; *M. scabratum*; *M. ambiguum*; *Potamogeton crispus*, doubted by Dr. Gray, in his last edition of his Flora, as having been found in the United States, has since been found in Delaware by Edward Tatnall, on the Lehigh in Pennsylvania by Josiah Hoopes, and in New Jersey by Isaac Burk, and may possibly be found common in other parts; *P. pectinatus*; *P. hybridus*, *P. pauciflorus*, *P. compressus*; *P. perfoliatus*; *P. lucens*; *P. natans*; and probably some others which we do not now remember but which we should be glad for some of our correspondents to supply.

There are also many foreign kinds in use. *Calla Ethiopica* is frequently employed; and we have seen the *Trapa bicornis* of China in some Philadelphia aquaria.

If every thing go right water will not require changing often. Diatomaceous plants will however often prove troublesome, and give the water a green scummy appearance, when it (the water) should be drawn off by a siphon, the fish taken out temporarily, the whole affair cleansed, and the fish and clean water again replaced.

Cherries on Kentish Stock—*W. W. M., Jonesville, Mich.*—"The Heart Cherries do not seem to do well in the southern part of Michigan. The weather seems too severe for them in winter. The bark cracks open, and the gum runs from them all the time, and appears in these openings, and in the course of two or three years they die. Do you consider these kinds of Cherry trees more delicate than other kinds? A friend of mine in Somerset, in this county, has 800 Cherry trees in his nursery, (W. Bunday, Esq.,) 500 of which are grafted. He has lost hundreds in the manner I speak of, and is now grafting Yellow Spanish and Ox-heart on what he calls English Kent trees. Is the English Kent the same as the Morello? He does not appear to have lost any grafted on Kent stock. Our peach crop in this State, except upon the shores of Lake Michigan, is small. The fruit was probably killed in the winter. The apple crop will be larger than expected.

[The Kentish is one of the varieties of the Morello, and is preferable for stocks where the tender kinds of Heart Cherries are liable to be winter-killed. The Mahaleb is also employed for this purpose. Being of slower growth, they check the luxuriousness which leads to winter-killing.]

Improvements—*Book Gardener, Pittsburg, Pa.*—I have a bed of strawberries, which I wish to remove this fall and substitute a lawn in place of it. What would be the best month to remove them, and what treatment would you prescribe to get the lawn into grass next season? The soil is a pretty strong, clayey loam. (1.)

The place I have come into possession of, is mostly occupied by an old apple orchard. I notice in parts of it the grass is very thin and weedy. I fear to plough it up, lest I injure the roots of the trees. How can I eradicate the weeds (plaintain mostly) and get it into grass? (2.)

I wish to lay out a serpentine walk all round this orchard, (about three acres,) but it would be too expensive to dig it out a foot or so and fill in with gravel. Would it answer to cut out the sod and cover with tan-bark? (3.)

What shrubbery would you recommend me to set out, bearing in mind it would be considerably shaded by the apple trees? (4.)

On the north side is an ugly fence, which I wish to conceal, but there is a row of large common cherry trees the whole length of it. Would Osage Orange or other hedge plant flourish beneath their shade? There is Hawthorn in a back field; would that do? (5.)

If it would answer, (the Hawthorn,) how should it be transplanted or propagated? (6.)

[1. Subsoil two feet deep as soon as the fall rains commence; dig any rough litter into the subsoil, to help keep it open and retain moisture in dry weather. Let the plot settle a few weeks after working, so as not to be liable to sink unevenly after. Then rake level, and sow with Rye-grass or Red-top, and cover with rye-straw lightly through winter, to keep the sun from thawing out the young plants. If you are fond of White Clover, you may sow this on next April.

2. If the orchard is very old, you had better commence by planting a new one in some portion of your ground. Plough up the old one; never mind the roots; turn in plenty of well-fermented manure, and seed it down in October. In the winter give the trees a good pruning,—nothing like this course to make old and worn-out trees grow again. In your new orchard well manure and subsoil your ground, plant the trees, sow it down with grass, and give the surface an annual good dressing of fertilizing matter.

3. If your walk is a "foot-walk," why should you stone it a "foot deep," or at all? Roads are stoned to enable them to bear carriage weight. None but "greenhorn" citizens, who come fresh into the country and think "they know," stone foot-paths. Make the bottom dry, either by elevating or draining it; then an inch of tan, ashes, or gravel will give you a good walk.

4. If the ground is subsoiled, so as to cut off some of the old roots of the apple trees, most kinds of deciduous shrubs will do. It is not so much the shade that injures shrubbery under trees, as the vigorous roots which dry the soil so that no moisture is left for the shrubs. Very old apple trees have few vigorous roots to interfere.

5. See the last reasoning. Osage Orange or Honey Locust will do under the *old* cherry trees when they would suffer too much under younger ones. Dig deeper and manure better near the trees.

6. Better buy a few thousand plants from the nearest nursery.]

Fuchsias, Pansies, &c.—*A Lady Subscriber, Washington.*—Will you be kind enough to inform me through the *Gardener's Monthly*, the meaning of the term "*callus*" in cuttings? (1.)

What is to be done with Fuchsias when they grow tall and bloom badly? Can they be cut down? and when should it be done? (2.)

How can Heartsease be prevented from blooming small? (3.)

[1. The granular appearance at the base of a cutting, which always appears before roots protrude from it.

2. Cut them in just before they push in the spring, and, after the new growth has pushed half an inch, repot into new soil.

3. Place the young seedlings in rich soil and a shaded place. Poor soil and dry situations are favorable to early flowering, and the contrary with the reverse.

Apples.—The New York Pippin and Bendavis Apple are the same. See Downing's Revised Ed-

tion, page 119, and Horticulturist, May number, 1860. A. L. Caldwell.

Ravenswood Pear—*From C. J. Erhard, Ravenswood, L. I.*—At page 155 of last volume, we gave, with a favorable opinion, an out line and description of this pear. The present specimens more than confirms what we there say of it. We regard it as a formidable competitor to the Ott, which it somewhat resembles.

Soil for Liliums—*E.*—What description of soil is best adapted for the growth of *Lilium lancifolium* (Japan Lilies)? (1.)

Also, whether bone-dust or phosphate of lime would have an injurious effect or otherwise in the culture of Hyacinths and Tulips. (2.)

[1. Any common garden soil, with peat or bog earth, or well-decayed surface-soil from a wood, will grow them well. They are very hardy.

2. It is of no use, and may be injurious. Well-rotted cow-manure and sand is the best appliance.]

Perpetual Strawberries.—In reference to our remarks under Mr. Prince's communication in our last, Mr. P. writes us:

"I notice your humorous comment on my article concerning strawberries, and I, of course, must feel overpowered by the strong fact setting all argument at rest, 'that when any thing can be proved to exist, it must certainly be possible;' but the question still remains, Has the thing been proved to exist? You, of course, refer to the hybridization of European and American species of the strawberry?"

Mr. Prince is mistaken. We did not refer by the quotation to his statement of facts proved by the past, but to his positive assertion that "there never will be hybrids between certain varieties of strawberries in the future." Hundreds of things quite as unlikely have been pronounced "utterly impossible," as the world's history fully proves, until the facts have "proved the thing possible."

Fuller's Budding-Knives—*P. P. B., Lewistown, Pa.*—Can you inform me where I can get one of Fuller's Budding-Knives? I saw a description of them in the October number of the *Gardener's Monthly.*

[We do not know. The one we made our figure from was made by a Connecticut firm, which, we believe, has since ceased to exist. If any one is still manufacturing them, it might be worth while for them to advertise.]

Grape Disease.—*A "Subscriber," Philadelphia,* says:

"I have several vines of the Catawba and Elsingburgh, the leaves of which during the last three weeks have dried up and dropped off. On some of the leaves I detected "*thrips.*" Can that be the cause? (1.)

"My cold grapery is ventilated by a window opening on the south, the top sashes being kept closed. Is this sufficient? Some of the vines are very weak and unpromising. (2.)

"I proposed next winter to cover my strawberry plants with hay, instead of straw. What think you?" (3.)

[1. We could not tell the cause without seeing the vines, or specimens, and judging by the circumstances.

2. We must plead ignorance as to which is usually considered the "south" in a vinery. If the top sashes are always kept closed, and there is no escape of air any way from the top, it certainly is not sufficient. Conveniences for air the whole length of the top is essential in a vinery.

3. Straw is better than hay as a protector.]

Oscar Strawberry.—A friend informs us that Mr. John Hayes, gardener to Mr. Linsley, of West Meriden, Conn., has fruited the Oscar this season in a very satisfactory way. August 1st the plants were still in blossom, though bearing ripe fruit. The plants, however, had been kept in pots through the winter, before being planted out in the spring, and this is well known to interfere with the regular course of fruiting. The berries measured four inches and a half in circumference.

Native Evergreens.—"A Gardener," dating from Maine, gives the following "thrilling" account of the way distant customers have been "did" and are being "done" by the pedlars in this line of nursery stock. It is an aggravating thing for the customers to be so rascally cheated; but, as we stated in reply to a correspondent last month, the public should not forget that the nursery business is one requiring great knowledge and skill to manage it properly, and it is just as important for a purchaser to find out that a nurseryman understands his business, as that he has trees to sell. The only security is to buy of no one you do not know, or only of those you have reason to believe are the men they ought to be.

"Orders are received by men—city merchants and others—who don't know a spruce from an oak, and executed promptly, but after the following manner, and perhaps they never saw one of those trees. First the order comes, then they send some men in the woods and pay them one dollar per thousand for getting and packing the trees. Of course, these men will go where they can get from three to four thousand per day for a week, cart them out to the roadsides, leaving them there exposed all this time to wind and weather, together with taking them out of the depth of the forest, where sun or moon never shone upon, and where they are as tender and as spontaneously grown; much more so, than if grown under glass in a stove-house. This is one reason why so many of our fine native evergreens die from the effects of the winters. Again, if there are any large-sized trees wanted that a man cannot pull up by a hold of the hand, without any mercy, 'they have on hand a team of oxen with iron hooks,—fasten them. Run, boys, to the butt of the tree. Gee! Buck! Out you come, no matter in what shape.' While I have seen in pastures by the roadsides as handsome spruces as any Norway,—one here and there.—and all other trees the same. But it would not pay to hunt those up, while they could be got in the woods growing like rushes, and there, also, it would not pay those gentlemen in their counting-rooms from $7 to $15 per thousand; but if any honest nurseryman would start here and pay an experienced gardener to collect those from the pastures in the way they should be, how many would it save to the community!"

Cuttings—*A. N., New Market, Va.*—Your cuttings were, doubtless, too tender. Try them of a more mature growth.

Names of Plants—*I. Leary, Orange, New Jersey.*—Pyrola rotundifolia.

Seedling Gooseberry—*From Mr. J. G. Youngken, Richlandtown, Bucks Co.*—The fruit is much larger than the Houghton, and gives promise of being a valuable addition.

Seedling Raspberry—*From the Same.*—In flavor equalling the Fastolf, and said to be hardier.

Thornless Raspberry—*Wm. R. Prince.*—"Some time during the past year there appeared a notice in one of the horticultural periodicals under this heading, signed "F. F.," and dated Cunnensville, Pa., describing a wild Raspberry growing near there, free from all thorns or prickles, and the berries very large, but the writer stated that he had not himself seen the berries. Will he not give us further information on the subject?"

[May it not be some of the forms of *Rubus canadensis,* which are often nearly thornless, but of no more pomological value on that account?]

Correction.—In our last issue, in List of Pears, we gave Mr. Earle's address as *Rochester, Mass.* A correspondent objects to the summary manner in which we have removed that gentleman from Worcester, where he has resided thirty years. "His friends do not wish to part with him at any price." But, after all, it was not we, but the naughty types, which did the mischief. In spite of all our watching, they cut queer capers sometimes.

Strawberries, Raspberries, &c.—*Amateur, Evanston, Ill.*—What is the proper name of the strawberry called in Philadelphia and vicinity the Lady-finger? What are its characteristics, and what is your judgment of its merits? (1.)

Also, what is the habit of Brinckle's Orange Raspberry as to hardiness and fruitfulness in northern latitudes? Is it grown extensively for market purposes in your region? (2.)

[1. We believe it is Scott's Seedling. It is a long berry, an abundant bearer, and so firm in flesh that it carries to market without bruising; but it is pasty and flat, and, without cream and sugar, and "fixings generally," is not worth eating. The Jersey fruit-growers praise its profitableness. It does not bear so abundantly in Pennsylvania.

2. Brinckle's Orange is very often hardy, but sometimes not. Mere temperature has not so much to do with the hardiness of raspberries as healthy growth and ripeness of the wood. All this being equal, there is little difference between the hardiness of any kind. It is not much grown for market, as red fruit sells best.]

Newman's Thornless Blackberry.—We had recently an opportunity of seeing this in fruit. It is a slight improvement on the "Dewberry," to which section it belongs.

As this class of blackberries are sweeter, and ripen three weeks earlier than the "High Bush," of which the New Rochelle is a variety, it is well worthy of increased attention.

H. J. H., *Worcester, Mass.*—The proceedings of the June meeting of the Fruit-Growers' Society of Eastern Pennsylvania are not yet officially published.

Ravages of the Red Spider in the Open Air.—In our last we referred to the fact that the red spider was making fearful ravages on trees in the open air in some parts of the country. The following note from Mr. Sargent shows that we have not, by any means, sounded the alarm too soon, and our cultivators will have to exert all their ingenuity to keep down the pest:

"The red spider is devastating my place; not only the *older* Norway Spruces, but all my Arborvitæ hedges, the different Junipers, both old and young

Hemlocks, most of my Espalier Pears, and many of the standard Camellias, Azaleas, and Greenhouse plants.

"In addition to this misfortune, a sort of atmospheric blight or blast has tipped (killed) some half inch of each of the leaflets of all the Pines, most of the Norways, all the outside grape-leaves in blotches, many of the Oaks, and most of the half-hardies; and you may conceive how hard it is to 'kick against the pricks.'"

Names of Plants—*P. W. B., Rock Island, Ill.*—Your plant is Campanula, or Wahlenbergia, or Platycodon grandiflora. The last is its strictly botanical name; the first the one it is generally known by. We do not recognize the leaf. Where a plant is not in flower, a portion of the stem should be sent with the leaves, at least. It looks like a Veronica.

—

B., Cincinnati.—The currants sent are not the Versaillaise, but the Cherry.

Basket Willows—*J. G., Cedar Point, Va.*—You will find the kinds and profits of willow-culture fully detailed at page 27 of present volume.

The Cornelius Propagating Pot.—Many correspondents inquire where these can be obtained. Any pottery that makes flower-pots can make them if the order is given. Our specimen was found in the show-room of Owens & Tilton, Market Street, Philadelphia.

Foreign Gooseberries—*J. G., Cedar Point, Va.*—None of the Foreign gooseberries can be depended on for crop free from mildew in any part of the Union. We would not advise you to attempt their culture with a view to profit until you have tried them some years on a small scale.

Striking Roses—*C., Penfield, Monroe Co., N. Y.*—In striking Rose-cuttings in the fall in a hotbed, will they need protection in the winter? If so, please tell me how I can protect them. I have no green or hothouse, but a good cellar. Will cuttings strike any better in a hotbed than in the open air? If so, at what temperature should it be kept? How can I protect flowers from frost, such as the Petunia, Phlox, Verbena, &c.? Please answer these questions through the *Monthly*, and oblige C.

[Having no glass, you may strike Roses by taking the cuttings as early in the fall as the wood exhibits signs of ripeness, and set them out in the open ground in a sheltered situation. On the approach of frost, cover thickly with dry leaves, and lay on a little brush to keep them from blowing away; all of which remove when the spring-frosts are probably over.

You will do no good with Petunias, Verbenas, &c., in a cellar, unless it is very light, indeed, and then not satisfactorily. Build a small greenhouse or pit, friend C.

Peach-Houses—*G. B., Lansingburg, N. Y.*—Will you inform us through your columns the best and least expensive mode of erecting and managing a peach-house?

[We should build a peach-house on the fixed-roof principle, with ventilators, precisely as we would a vinery. The least expensive mode of arrangement is to plant them in the open ground in the house, a proper border being prepared for them, over which the house is built. In addition, many might be grown in pots; but these would require daily care, and, unless you kept a gardener, (which, after all, might be the cheapest mode of management in the end,) they would be a source of trouble and annoyance to you.]

Gladiolus Brenchleyensis—*Flowers from W. H. Spooner, Jamaica Plain, Mass.*—Very brilliant in color. One of the best, if not *the* best, grown.

Books, Catalogues, &c.

The Woody Plants of North Carolina. By the Rev. M. A. Curtis, D.D. Part III. of the State Survey.

This useful work commends itself to the public at large, for whom it was destined, by the absence of scientific technical terms. The most general reader, at all interested in the subject, will derive pleasure from its perusal.

It is interesting to note how prolific North Carolina is in ligneous plants. Dr. Gray enumerates in his "Manual of Botany" 130 trees, 183 shrubs, and 30 vines as natives of the whole Northern States. Of the Southern States, North Carolina alone numbers 112 trees, 176 shrubs, and 32 vines. North Carolina has nearly as many shrubs as the whole of the Northern United States. The Southern States have, however, a greater comparative number of shrubs over trees than the Northern United States. The whole number of trees is but 126,—four less than the North claims,—while the shrubs are forty-one more in favor of the South, it claiming 224 species.

Dr. Curtis enumerates the species by their popular names as they are known by in that State; and it is curious to note how names that are common in one State to certain plants become appropriated to others in different States. For instance, here the Balsam Fir is the *Picea Fazerii;* the Balsam Fir of the North, P. Balsamea, does not grow in the State. The "Juner" is *Cupressus thuyoides*, our White Cedar. "Mock Orange" is *Cerasus Caroliniana.* The same name is also applied to *Styrax grandifolium.* "Buckthorn" is *Bumelia lycoides.* "Yellow Wood" is *Symplocas tinctoria.* "Ivy" is *Kalmia latifolia.*

Of the scarcer trees and shrubs that are as yet but little known out of scientific circles, *Buckleya distichophylla*, with thin, delicate foliage, resembling a Catalonian Jessamine, would be a desirable shrub to cultivate, though the flowers are inconspicuous.

In speaking of the Loblolly Pine, (*P. Tæda,*) Dr. Curtis describes a variety peculiarly marked, that has, until quite recently, escaped the observation of the botanist. It is called by the residents *Slash Pine.*

Most of the trees and shrubs that inhabit North Carolina are hardy here, and we are sorry that we have so few of these beautiful plants in our gardens. The following are very desirable, and we hope yet to see them more generally cultivated:—Pinus serotina, P. Tæda, P. australis, Quercus lyrata, Q. aquatica, Fraxinus platycarpa, Bumelia lycioides, Andromeda arborea, Tilia heterophylla, Gordonia lasianthus, Rhododendron punctatum, Azalea arborescens, Styrax grandifolium, and Cyrilla racemiflora.

Hand-Book; or, Annual Record of Horticultural and Agricultural Statistics. By W. P. Sheppard. New York.

This is a compilation of facts, collected principally from French journals, the *London Gardener's Chronicle* and our *Gardener's Monthly;* and, being thus presented in one view, cannot fail of being very useful to all in or having dealings with the seed or nursery trade. We hope it will remunerate the publisher, and improve annually.

"Die Farmer Zeitung." Published at Marthaville, Mo., and Edited by Frederick Munch.

It is printed in the German language, and numbers amongst its contributors our correspondent, Mr. George Hussmann, and many other of the best agriculturists and grape-growers of the day.

Nursery Catalogues.—Wholesale.

M. B. Bateham & Co., Columbus, O. With numerous testimonials from satisfied customers.

Joseph Taylor, Newport, Ky.

W. T. Bower, Sharonville, O.

Hooker, Farley & Co., Rochester, N. Y.

E. J. Evans & Co., York, Pa. A fine list, which is, besides, a model of accuracy.

Descriptive.

Prince's Strawberries, Flushing, L. I., describes 150 kinds, and occupies 16 closely-printed pages.

P. H. Baker, Greenville, Ky. A somewhat new, but energetic, firm.

J. W. Manning, Reading, Mass.

Tull, Lionberger & Co., Dallas, Ill. Mostly fruits, but also a fair assortment of ornamental trees and shrubs.

Andrew Bridgeman. Bulbs. Mr. Bridgeman's assortment seems as well selected as it is extensive, judging by the kinds here offered.

Mark D. Wilson, West Bloomfield, N.Y. Fruits, &c.

Railsback & Hutton, Richmond, Ind. Fruits and Ornamentals. Amongst the latter, the Roses make quite a fine show.

Maxwell & Bro., Geneva, N. Y. Fruit and Ornamentals.

P. J. Berckman's & Co., Augusta, Geo. Fruit and Ornamental Trees, Shrubs, Vines, etc. One of the most complete catalogues issued in the South.

Frost & Co., Rochester, N. Y. Entirely Fruits. 54 pages.

Ellwanger & Barry, Rochester, N. Y. Ornamental Trees and Shrubs. 68 pages.

New or Rare Plants.

Alocasia metallica (*Bronze-leaved Alocasia*).—Received from Borneo by Messrs. Low, of the Clapton Nursery. It "exhibits a foliage and hue which nothing of the kind can exceed; there is a degree of metallic lustre on the ample foliage which must be seen to be understood."—*Botanical Magazine, t.* 5190.

Acacia Drummondi (*Drummond's Acacia*).—Native of Swan River. Flowers pale lemon yellow in cylindrical spikes.—*Ibid, t.* 5191.

Callixene polyphylla (*Many-leaved Callixene*).—Known also as *Luzuriaga erecta.* Native of Cape Tres Monthes, in the extreme south of Chili. It belongs to the same natural family as the Lily of the Valley, having like it white flowers; but these resemble more in form the flowers of *Deutzia scabra.* It may be kept in a cool greenhouse or common frame.—*Ibid, t.* 5192.

Oncidium longipes (*Long-stalked Oncidium*).—Native of Brazil, reared by Messrs. Loddiges. Its flowers are more bright in color than the *O. longipes* of Dr. Lindley. It blooms in April, and the flowers, yellow and purple, continue long.—*Ibid, t.* 5193.

Pteris cretica (*Cretan Pteris*).—It has had many other specific names. Although called Cretan, yet it is found from Turcomania throughout southern Europe, the Mediterranean Islands, Arabia, Abyssinia, and even India, Pacific Islands, and in both North and South America. So that no other fern is so cosmopolitan, and fully illustrates the unadvisability of

calling any plant after the place where it was first discovered. Its pinnæ are striped with pale and dark green, somewhat after the manner of Ribbon Grass. —*Ibid, t.* 5194.

Selaginella atro-viridis (*Lycopodiaceæ*).—This is a distinct-looking species, green, with flabellately-arranged branches, which are ramified in a dichotomous manner, and recurved at the tips. It appears to be a dwarf kind, and to have most resemblance in habit to the kind known as *S. Pæppigiana* in gardens, but is quite distinct from that and every other kind. Introduced from Borneo by Messrs. Veitch & Son.

Selaginella Lobbii (*Lycopodiaceæ*).—A new and extremely ornamental Lycopod of tall-growing habit, the main stems producing alternate branches, which, from being quite flat and pinnately branched, and having the branchlets close-placed, have much resemblance to Fern fronds; these branches are of a fine blue metallic tint, similar to that which occurs in some other species of this family. Introduced from Borneo by Messrs. Veitch & Son.

Improved New Chrysanthemums.—Fanny, orange red, a very free bloomer, makes a good pot plant.

Emily, very fine bronzed rose.

Christiana, fawn tipped with orange, good form and habit.

Edith, rosy salmon, very pretty.

Mrs. Turner, fine pure white, hybrid pompone, of good shape and habit.

Eva, canary yellow, bronze centre, delicate color, free blooming.

Madame Pepin, chestnut, very fine.

Miranda, fringed rose, quite a ball, but the fringe gives it rather the appearance of being nibbled.

Distinction, creamy white, much the shape of that fine flower, Madame Fould.

Musidora, mottled orange and chestnut, small and pretty.

Jane Amelia, dark rosy carmine, in colour between Riquiqui and Salomon, free bloomer and excellent form.—(*Turner's Florist.*

Asplenium glaberrimum.—A new tree fern from Java. Is selling in London at *twelve dollars* each.

The following are advertised in the English journals:

Geranium Meteor.—Dwarfer and more compact than Tom Thumb; foliage medium size and flat, broad margin of silvery white; trusses large, on strong foot-stalks, and well above the foliage; abundant bloomer, flowers brilliant scarlet, fine form.

Tydæa formosa.—A distinct and beautiful variety; habit dwarf and compact; very abundant bloomer, the flowers being produced on strong foot-stalks in bunches of about six in number from the axil of each leaf; rich crimson tube, expanding to a broad two-lipped limb; ground-color rosy lake, densely spotted with rich crimson purple. It has continued to flower abundantly since October last.

Begonia blanda.—Olive green and bright silvery grey, the latter color predominating; markings similar to Charles Wagner and several others in that section, to all of which it proves superior under similar cultivation.

New Plants Exhibited at the Botanic Garden, Regent's Park, London, July 6.—Messrs. Veitch sent Caladium Veitchii and Wightii, both handsome additions to that ornamental class of plants; Vaccinium rugosum, described by us in a former number, and two beautiful Gloxineas, named Apollo and Jupiter. From Mr. Ingram, gardener to J. J. Blandy, Esq., came Hæmanthus puniceus, not new, but rarely seen in such beautiful condition as it was on this occasion, its large scarlet balls of flowers attracting numerous admirers. Mr. Woolley had a yellow-flowered Dendrobium, apparently new, and Messrs. Parker & Williams, Anthurium rubronervium and Tydæa insignis, the first a fine-foliaged plant, and the last a pretty variety in its class. A fleshy-leaved plant labelled Senecio, from New Zealand, came from Mr. Standish, of Bagshot; and Messrs. Low had a variously-colored Petunia and other plants described by him in former reports. From Messrs. E. G. Henderson also came some handsome Petunias, remarkable for the singularity of their colors. Statice profusa was shown by Messrs. Parker and Williams, a variegated Callea and Agathea by Messrs. Backhouse, and the handsome Pteris tricolor and other plants by M. Linden, of Brussels. Messrs. E. G. Henderson and Messrs. Milne & Co. had some beautiful new Gloxineas; among them, Reuben, Lady Willoughby, and Mrs. Shepherd were really all that could be desired in that class of plants. We also noticed Orchis foliosa again shown in beautiful condition, the showy Gazania splendens, Dianthus Heddewigii, and one or two dwarf Tropæolums and Phloxes.

Cordyline indivisa attains a height of from ten to twenty feet, in an erect and undivided trunk, on which the foliage is retained with vigor almost to the ground. The leaves are set on to the greatest advantage, and measure from five to six feet in length, and from six to nine inches in breadth. Their color is of the richest description: a broad and prominent midrib of crimson-brown runs through the entire length, and numerous red and white lines run parallel to the midrib; the whole surface is overlaid with a rich golden bronze, producing an elegant effect The under side of the leaves is glaucous. The whole tree is unsurpassed in noble and unique work.—*Gardener's Chronicle.*

Hydrangea cyanea.—A new species, with woolly leaves, and blue flowers with pale rosy calices. Said to be very distinct and desirable.

NEW VEGETABLES.

Peas—*Berkshire Hero* (Sutton's).—The largest and longest-podded pea in cultivation; distinct from all others, and of excellent flavor. This kind should be planted like beans, or sown singly, half an inch apart.

Celery—*Manchester Champion* (Dickson's).—This is highly spoken of. It is a red variety, grows very dwarf, rarely exceeding twenty inches in height, of superior color, and delicate nutty flavor, very solid and crisp; requires less earthing-up than most sorts, and keeps well up to the end of the month of April.

New and Rare Fruits.

Pauline Grape.—Some doubts having been expressed as to the identity of this Grape, Mr. J. P. Berckmans says, in the *Southern Field and Fireside*:—The grape called Pauline has been cultivated many years in South Carolina, and more especially in the vicinity of Aiken, under the name of Burgundy. In fact it is extensively cultivated for wine making—Dr. McDonald and Mr. de Caradeuc having sold Pauline wine, years ago. Its present name of Pauline was given to it in honor of a daughter of Mr. de Caradeuc and to do away with the name of Burgundy which would have implied it to be a foreign variety, whereas it is a pure native. Its season of maturity is middle to last of August, it is a better grape than either the Lenoir or Warren.

Elizabeth Grape.—Originated on the farm of James Hart, near Rochester fifteen years ago, and the "*Rural New Yorker*," says is in good repute in that neighborhood. It is a white grape, and the bunch compact like a Rebecca in size and shape in the cut given.

"The bunches and berries both resembled the Isabella in size and form; skin thin; color greenish white, with a slight purple tinge in the sun; very little pulp. The flavor was good, better than Isabella, we thought at the time, somewhat acid, but pleasant."

Cutter's Seedling Strawberry.—At page 173 of last volume we gave some account of this variety. It was found accidentally by Mr. B. F. Cutter, of Pelham, N. H., the seed having, probably, been dropped by birds. It has been now fifteen years under cultivation, and it is claimed for it that, being a hermaphrodite, it is a better bearer than Hovey, Wilson's Albany, and others; commences to ripen on the 12th of June, and continues from six to ten days longer. It appears to have been better tested before sending out, than some of the new ones, and may certainly not be less in value on that account.

Hartford Prolific Grape.—Has proved the earliest of all kinds cultivated in the South. Ripe in Macon, Ga., 27th of June.

Albion White Blackberry.—We received some berries from Mr. Orange, which unfortunately did not reach us in good order. But they afforded sufficient evidence to give us a very favorable opinion of their value.

Domestic Intelligence.

Sale of Peaches.—Mr. James M. Whitney, one of the most extensive peach growers in Western New York, has sold the entire crop of his orchard at Rochester, at $2 per basket; the purchaser to pick them, himself, from the trees.

Baltimore Park.—The Commissioners have selected a site for the new Park in the north-western part of the suburbs. It comprises 537 acres of land, at a cost of $541,300.

Large Watermelon "Patch."—A market gardener in southern Indiana has 1700 acres, planted in watermelons for the Cincinnati, Louisville, New Albany, St. Louis and Chicago markets.

Large Peach Orchard.—We are informed on the best authority, that there is a Peach Orchard on the Eastern shore of Maryland, that contains 600 acres. The net *profit* of which was last year $40,000 and that the owner was offered $60,000 for the crop of this year, the purchaser to pick the fruit and take it to market.

Watermelon Molasses.—Having been engaged the last season in raising watermelons and making them into syrup, I thought a description of my mode of operation might be acceptable to some of your numerous readers. I think that the Watermelon will not make sugar, in consequence of the waxy properties of the syrup when boiled to that consistency; but for the syrup, it has no equivalent for preserving all kinds of fruit with which our country abounds.—It is also excellent for table use. The process is very simple. I express the juice by hand, by putting the core of the melon in a sack; then boil to a proper consistency in a copper kettle. From experiments which I have made, I think that we cannot get a

better return for our ground than by this process. I made from one acre of ground, the last season, eighteen barrels of syrup. I sold this for eighty cents per gallon, which made four hundred and forty-six dollars for my labor. Now I am aware that this will seem incredible to a great many who have not tried the experiment; but nevertheless, it can be done, and if any one doubting it will call on me, I will convince him of its entire practicability. C. H.

Ross County, Ohio. [*Exchange.*

Nurseries at Coldwater, Michigan:—Mr. *H. C. Gilbert*, has 76 acres under Nursery culture, 59 of which are occupied by the fruit department. He commenced three years ago.

Messrs. *G. H. White & Co.* commenced in 1859 and have sixty acres.

Mr. *Lincoln* has 20 acres.

Messrs. *Brown, Clighue & Hunt, H. M. Wright* and *J. P. Parsons*, have also establishments in the immediate vicinity, all bidding fair to make their village one of the "Rochesters" of America.

Recipes for Fruits and Vegetables.

"The lady who contributes a good recipe for the public benefit, deserves as much credit as he who introduces a new fruit or vegetable."—*Good Authority.*

The Best Tomato Pickles.—Take one peck of green tomatoes, sliced, one dozen onions, sliced also, sprinkle them with salt, and let them stand until the next day, when drain them. Then use the following as spices: One box of mustard, one and a half ounces of black pepper, one ounce of whole cloves one ounce of yellow mustard seed, one ounce of allspice. Put in the kettle a layer of spices and one of tomatoes and onions alternately. Cover them with vinegar, wet the mustard before putting it in; let the whole boil fifteen or twenty minutes, and you will have pickles so good that you will be pestered by all your friends and neighbors asking you for a taste of them and a recipe.—*Ohio Cultivator.*

Preserving Peaches.—Pare the peaches, weigh them, and take the same weight of sugar; boil the syrup until it is clear, then turn it over the fruit; let it remain for one night, then take out the fruit upon flat dishes; boil the syrup again, and pour it over the fruit *in the jars*; again pour off the syrup and boil it—this to be repeated for four successive days—the jars not to be closed until the whole is thoroughly cold.—*Wisconsin Farmer.*

Tomato Catsup.—To a half-bushel of skinned tomatoes, add one quart of good vinegar, one pound of salt, a quarter of a pound of black pepper, two ounces of African cayenne, a quarter of a pound of allspice, six onions, one ounce of cloves, and two pounds of brown sugar. Boil this mass for three hours, constantly stirring it to keep it from burning. When cool, strain it through a fine sieve or coarse cloth, and bottle it for use. Many persons omit the vinegar in this preparation.

To Make a Lemon Pie out of Turnips.—Take a turnip and pare and boil it, add a teaspoonful of tartaric acid and a cup of sugar, season and bake as an apple pie.

Foreign Intelligence.

Strawberry Forcing.—Early in September I make a plantation of the best runners I can get, expressly for the purpose of supplying fine early runners for potting next summer. The ground is preferable if light and in a warm situation. It is well manured, and the runners planted in lines two feet apart, but only six inches between the plants in the row. This close planting I adopt simply for the sake of getting the necessary stock for forcing in as small a space as possible, as it is much more convenient for both laying them and attending to them in the way of watering after they are laid. These autumn runners throw out fine, strong runners early in the season, and these are the runners chosen for the forcing plants. In ordinary seasons they are ready to lay by the end of the first week of June, which is earlier than I have been able to get runners from plants forced the same spring and then planted out; and in ordinary cases, runners from old plantations are wiry, and not at all likely to make fine plants, whereas I have always found autumn-planted runners to throw out, not not only early runners, but fine sappy runners, full of growth and energy, if I may so speak. As soon as these runners are large enough to handle, the necessary number of 2½ or 3-inch pots are firmly filled with equal parts of friable loam and well-decayed leaf-mould, sifted through a ¾-inch sieve. They are filled in the compost-shed and carried to the border, and plunged in rows up the centre of the space between the lines. A single runner is then laid on the surface of each pot and gently pressed into the soil, taking care not to bury the centre or heart of the runner. A small stone is then laid on the stem immediately behind the runner or young plant, to keep it firmly in its place. A peg answers the same purpose; but the stone is the most expeditious way, and it prevents, to a certain extent, evaporation in dry weather. A watering is then administered through a tolerably fine rose, sufficient to wet the soil in the pot through, and during dry weather they are regularly watered every afternoon, and all runners thrown out beyond the young plant in the pot is removed as soon as they make their appearance. In about three weeks from the time they are laid in the small pots they are generally ready for their fruiting-pots. I am never satisfied if I have not shifted them into their fruiting-pots before the end of the first week in July, especially if they are required for early forcing.

The size of the pot which I use for fruiting them in are 5-inch and 6-inch—the former size for all plants that are to be fruited before the first of April, and the latter for those fruited later in the season. I have always found that in small pots they throw up their bloom-stalks more strongly, set better, and yield as fine fruit as in the larger size; and the only reason why I use 6-inch pots at all is, that after April sets in they require a deal of water, and are more troublesome in this respect in the small pots than in the larger size.

The soil I use for shifting them is a friable loam with a third of well decayed hotbed or old mushroom bed dung, and a little soot and coarse sand. And contrary to my general practice in comparing compost for potting, I always sift the loam through a coarse sieve, for this reason that I like the soil pressed into the pot as firmly as I can get it, and when of a coarse and more spongy nature this is not so well accomplished; it moreover facilitates the operation of potting. The pots should either be new from the pottery, or as well scrubbed and clean as brush and water can make them. The young plants should be so well rooted that you can lift them by the leaves without endangering the destruction of the balls.

In potting them, the soil should be crammed into the pot as firmly as thumbs and fingers can make it, and great care taken that the heart of the plant be left quite clear.

When shifted they are allowed to stand in a slightly shaded situation for a few days, and are then removed to the hottest and most sheltered place at command, where they can have the full blaze of the sun all day long. I generally place them on a raised trellis work for the double purpose of preventing worms from entering the pots and the roots from rooting through into the soil. They should have as much room as will allow each plant to stand quite clear of its fellow. In this position they must never be allowed to become dry. The pots being well crocked, and the soil in the pots so firmly pressed, there is little danger during the summer and early autumn of over-watering them. All runners and weeds are removed as soon as they appear, and as soon as the pot is tolerably well filled with roots they are watered every other time with guano or dung water, and always sprinkled over head every fine evening with clean water, which keeps the foliage clean, and refreshes the plant after a hot day. By the end of September the ball, when turned out of the pot, appears literally roots and nothing else, and you might throw it across the garden without breaking it. This, with a firm crown like the end of your thumb, is the proper criterion for a Strawberry being in a proper condition for forcing. Should the weather prove very wet in October, I generally lay them down on their sides to escape a long continued state of saturation, and before frost sets in, I have them put under cover of cold frames, and their pots plunged in coal ashes or sand with good drainage below. The lights are drawn off every fine day, and put on and tilted up at the back during rain. A sharp frost will do them no harm. The pots being plunged, the roots are safe, and all that is necessary is a single mat during very severe frost, and in such quarters they are quite safe till required for forcing.—*Scottish Gardener.*

Horticultural Societies.

PENNSYLVANIA HORTICULTURAL SOCIETY.

The Society held its usual monthly meeting on August 21st.

The Schedule not offering premiums for July and August, there was no display at either of those meetings.

Mr. Pollock, gardener to Mr. Dundas, however, brought a very beautiful and perfect flower of the Victoria Regia; Mr. Matheson, gardener to F. Yarnall, a bunch of Black Hamburg Grapes, weighing about eight pounds, berries large and well colored, and Mr. Noble several specimens of pears of good size and appearance.

We have been informed that the flower of the Victoria Regia exhibited by Mr. Pollock, flowered in a tank or basin in the open garden.

The Committee on Exhibition offered a resolution, which was adopted: That the competition for the premiums offered in the Schedule for September take place on the evening of the regular Stated Meeting of the Society, on September 18th.

This action was rendered necessary, on account of the impossibility of procuring a room at all suitable for the large annual exhibition that was contemplated; had the Committee been able to secure the proper accommodations for the display that was anticipated, one of the largest and most brilliant collections would have been brought together that has ever been exhibited in Philadelphia. There will we doubt not, be a very excellent display at Concert Hall in September, to which we invite the attention of the friends of the Society.

CINCINNATI HORTICULTURAL SOCIETY.

AUGUST 4TH.

FRUIT COMMITTEE—AD. INTERIM REPORT.

To the President of the Cincinnati Horticultural Society:

Sir:—Your committee have, since our last report, visited, by invitation, the grounds, and examined the fruit growing on the trees of the several members, as follows:

Mr. J. E. Mottier—Dwarf Pears.—Mr. M. went into their cultivation a few years since, and they have been steadily growing in favor with him, till he has now several hundred trees, varying in age from three to nine or ten years old, and with very few exceptions, in the most satisfactory condition; many of the older ones loaded down with fruit. The Bartlett and Louise Bonne de Jersey are Mr. M.'s first favorites in the order they are placed.

Apple Orchard.—This we found in a most flourishing condition, and Mr. M.'s worthy sons were busily engaged in picking fruit for market, of Summer Queens, Sweet Junes, Early Strawberry and

Benoni. Mr. M. was one of the first to discover the high quality of the Benoni, which is steadily gaining favor, and taking rank as the best variety of its season, whilst its very handsome appearance, as grown by Mr. M, would attract attention anywhere.

The vineyards show the effects of Mr. M.'s superior cultivation in the abundance and quality of the fruit, as well as in the vigorous growth of wood, giving promise of the ability of the vines to bear a heavy crop next season. There were some evidences of the rot up to the time of our visit; we should judge a fifth part of the crop had been lost. The Delaware—such faith has our experienced *Vigneron* in the sterling good qualities of this comparatively new candidate for public favor, that he has, the last season, planted out a vineyard of fifteen hundred vines, notwithstanding the high prices the vines have commanded. Your Committee deem this fact one of the most conclusive evidences of its merits that has come under their observation. Time would not allow your Committee to note all the desirable practical matters worthy of comment in our friend's grounds, and we conclude with one important item to the amateur grape-growers in this region. Mr. M. is opposed to the continued shortening-in of the lateral growths through the summer, finding the growth of the leaves a help to the vigor of the plant, and thin shade a help to the maturity of the fruit.

M. McWilliams, Esq.—Mr. M. has long been known as one of our most continued and successful competitors for premiums in fruits at our Horticultural Exhibitions, especially in pears. It was from Mr. M. we first became acquainted with the appropriate name of the Flemish beauty, which, as grown by him, is a real beauty, its bright amber-colored skin being painted, on the side fully exposed to the sun, with the most brilliant carmine, fixing the attention as far as the range of vision will command. The Bartlett, Onondaga, Beurre de Amalis and Vicar of Winkfield, are all special favorites with Mr. M., and the trees are generally bending under the weight of fruit. Dwarfs and standards seem to do equally well here; passing from the house to the roadway, some care is necessary to guard the cranium from injury from contact with his White Pippins, which hang in dangerous proximity to the path. In apples, Mr. M.'s first favorite is White Pippin; second, White Pippin, and we believe it is also his last.

From hence we proceeded to Mr. Diserens', about one mile below, where we found a fine, thrifty orchard of standard pears, a fruit the inspection of which was our special object. The trees were in fine, vigorous condition, but in the opinion of your Committee, most awfully maltreated by the cruel manner in which they have been pruned, several of them exposing a naked stem some ten feet high, without a branch or leaf to protect or shield them from the glare of the sun's rays, which was nearly hot enough to broil your representatives, while commiserating the helpless condition of the pitiable objects before them. (Please, Mr. D——, do allow your pet trees to put some clothing on their lower extremities.) Notwithstanding these disadvantages, the trees were generally in a healthy condition, and many of them bearing fine fruit. The Bartlett, especially, here as elsewhere, stood pre-eminent among its fellows for its loads of large, fair, and tempting-looking fruit. The dwarf pears, here, had been served in the same ruthless manner as the standards, every lateral branch cut off up to four or five feet from the ground, suggesting the notion to your Committee that the operator must have been a practical butcher.

F. Fekstein's, Esq., was the next place visited. The trees here found were planted by the late David Loring, one of the earliest members of this Society, and we had here an opportunity of judging of the state of pomological knowledge, in this vicinity, twenty years back. We here found one standard tree of the Louise Bonne de Jersey, with a good crop of fruit, and would here solicit that Mr. E. save some specimens until they are ripe, for the benefit of the community, by this Society having the opportunity of judging the merits by comparison with those grown on Dwarf trees. Here we found White Doyenne, Napoleon, Heathcote, Urbaniste, Summer Bon, Chretien, Vicar of Winkfield, Beurre Diel, with several other varieties, of cotemporary renown; of course, including the Bartlett, of which variety here are larger specimens than we have elsewhere seen, and, as everywhere else, overburdened with loads of fruit. Our visit to these several places strikingly demonstrated one *fact*, viz: That although we may not, in multiplying varieties, have improved on the qualities of the old favorites, of twenty or thirty years back, as the Seckel, White Doyenne and Bartlett, we have much increased the number possessing their superior excellencies, extending the period of enjoying, and enhancing the varieties of our luscious favorites.

Gen. M. S. Wade's.—The General has for many years maintained a high reputation for the handsome specimens of fruits exhibited before this Society; and the appearance and condition of his trees, with their loads of noble fruits, this season, give substantial evidence of the degree of care and skilful management with which his trees are treated, and well do they promise to pay him for such care and skill. We would like all the opponents and detractors of Dwarf Pear trees to see Gen. Wade's specimens, as they appear this season, and if, after such a sight, they did not admit that Dwarf Pears were most eminently worthy of commendation, we would give them up as incorrigible grumblers, or liken them to the reptile who would not listen to the voice of the charmer. (charm he never so wisely.)

The General can point to some remarkable instances of the improvement or amelioration of the fruit of certain trees in his grounds, by a skillful and judicious course of treatment, one the case of a White Doyenne, (standard) which bore gnarly, cracked, and imperfect fruit, such as it is generally condemned for. Our friend had the tree dug around, an application of ashes and other manures on the surface, and a deep trench, cut from near the base of the tree, to serve for a drain, which he partly filled with brush. The tree shortly after started into vigorous growth, and has annually borne crops of fair, sound fruit since, and at the present time is loaded with a bountiful crop. A large Swan Apple tree was renovated in the same way.

Plums and the Curculio.—The General feels confident that he has beaten this insiduous enemy. His forces are an army of ducks, chickens and guinea fowls. In the latter he has as much confidence as another celebrated general had in the invulnerability of his Old Guard. So confident is the General of his ability to conquer his enemy, that he designs enlarging his field of operations by planting more Plum, Apricot and Nectarine trees. The appearance of his Plum and Nectarine trees as at present loaded with their burdens of tempting-looking fruit, would, we believe, set Pomonas' mouth watering.

We should have mentioned in its proper connection, that the General advocates and practices a judicious use of the pruning knife in his treatment of young trees—not indiscriminate—for he pointed to specimen trees which scarcely ever needed it. We can assure the members of this Society that in General Wade's example in his management of fruit trees, they have a model they might safely copy after, and hope he will continue to benefit the members of this Society, and through them the community at large, with the results of his matured experience.

WM. HEAVER, Chairman.

HORTICULTURAL SOCIETY OF MORRISSANIA, N, Y.

Will hold its fourth exhibition on the 3d and 4th of October, under favorable auspices for success.

FRUIT GROWER'S SOCIETY OF EASTERN PENNSYLVANIA.

We learn from the Secretary of this Association that the next meeting will be held at the same time and place, as that of the Pomological Society. Namely, the Assembly Buildings, Sept. 11th We hear that an immense collection of grapes with other fruits, will be in all probability exhibited by the members, and the efforts of both Societies, be much aided by the united efforts of the two.

FRANKFORD WORKINGMEN'S HORTICULTURAL SOCIETY,

The Onion show came off on the 28th of July, being pretty well attended by exhibitors, and others. C. Broadhurst, took first prize for Yellow Strasburg; J. Threlfall, second. For White Silver. J. Threlfall, first. J. S. Lard, second. C. Broadhurst took the first prizes for Seedlings. R. Scott, second.

UNION AGRICULTURAL AND HORTICULTURAL SOCIETY OF TRUMANSBURG, N. Y.

Holds its annual meeting on 11th, 12th, and 13th. It is one of the best managed in the country, and we hope will be well supported. The premiums offered in the Horticultural department are very numerous.

AMERICAN WINE GROWER'S ASSOCIATION.

The regular monthly meeting of the Society was held July 28. President, N. B. Shaler, in the chair.

Mr. Robert Buchanan observed that the wine crop would this season be a fair average one. The vintage was a little early, but not two weeks, as had been supposed. Since the last meeting, he had received Mr. Bright's book, in which the present system of vine-growing was denounced as false, and that more shallow planting should be adopted.

They were not in the habit of practising deep planting. They planted about the proper depth, and were not inclined to change.

Dr. Shaler remarked that he could show this writer where the roots of vines had worked their way through rock (marl, or shale) for a depth of fifteen feet.

Mr. Howarth remarked that there was a medium between the shallow and deep planting, which it would be well to learn and follow.

"This medium, Mr. Howarth," observed Mr. Buchanan, "we are now practicing. Experience, said he, is our best guide; it is better than any theory, and the result of our practice evinces its correctness."

Several members spoke of the Grape rot as prevailing to some extent; but on the whole the crop was considered satisfactory.

A VIEW OF THE WINTER-GARDEN

of E. H. KRELAGE & SON, at Haarlem, Holland.

THE ROTUNDA AND OPEN GALLERY.

THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs

THOMAS MEEHAN, Editor. OCTOBER, 1860. VOL. II.---NO 10

Hints for October.

FLOWER-GARDEN & PLEASURE-GROUND.

The first two weeks in October will be the great tree-planting month of the fall season; and, as we have last month stated, the operation cannot be proceeded with too rapidly. In this region, at least, after the end of this month, every day's delay increases the risk of loss by the severity of winter; and, after the 15th, we would not care to plant evergreens, unless they were comparatively small, and the operation conducted with great care. Occasionally great success follows later planting,—owing more to good luck than sound judgment. Where planting is, of necessity, delayed, the risk is made less by pruning. The later a tree is planted, and the more exposed the situation, the more in proportion should it be pruned. It has become a pretty well settled axiom in American gardening, that the way frost acts in destroying fall-planted trees is by excessive evaporation, by which the moisture is dried out of them; and this is to be obviated by shelter from cold winds, protection from the sun's rays, pruning, and other ways, which will suggest themselves to the reader according to his peculiar circumstances.

All operations connected with ground-work are now being pushed forward rapidly,—grading, road-making, lawn-making, and so on. So much has been said of lawn-making in our past issues, that little remains to be said here. One of the newest improvements in sodding a lawn is not to lay the pieces of sod close to each other. Pieces can be cut into any size or shape and laid down several inches from each other, the soil being loosely thrown aside by the trowel to make the surface of the sod and the surrounding soil be nearly level. On a large scale, a wide drill which any ingenious laborer could construct, or even a shallow furrow with a plough, as in "marking out" for a corn-crop, might be employed, and the pieces of sod, about six inches square, set in four or six inches apart. A bush-harrow afterwards drawn over the lot, levels the loose soil in the spaces between the sods, and the roller afterwards passed over the whole makes a good, firm, plane job. When the grass commences to grow in the spring, it soon spreads into the unoccupied spaces; and before midsummer, the whole becomes one uniform sheet of grass. This method, which may be called sodding by inoculation, saves just one-half the cost of sodding by the usual mode, and is very near as good, in fact, quite as good, after a few months of time, and costs very little more than seeding-down, which, except under the management of one who thoroughly understands his subject, is one of the most unsatisfactory of all regular modes. Where seeding-down is to be the mode, now is the time to see about it.

The greatest difficulty we have to contend against in making good lawns is the coarse, rank weeds with which most parts of our country abound; and no effort that can be made to guard against their introduction, or to provide for their eradication at the outset, will be ill spent. It is often an easy matter at first; but after they have once been suffered to establish themselves, it is often better to dig or plough up the whole surface and lay it down anew. Sometimes much may be accomplished in old lawns by digging out the weeds with a trowel or spade, filling up the holes with soil, into which the grass will soon run and obliterate the traces of the work. We saw a lawn of quite considerable extent last spring treated this way, that, by the use of annual top-dressings of stable-manure had been nearly ruined by the profuse introduction of orchard-grass, but which was renewed to its former beauty by the employment of a man three days in this way.

In all our operations, *saving labor* should be our first consideration,—not that kind of labor-saving which half does an operation; but which will produce an equal result at a less cost. The introduction of grasses that will always remain green, and yet grow so slow as to require little mowing, is one of the new features in this line. Experiments are wanted with many kinds of native plants that are to be found in most localities. Of course, all those who propose new improvements or try novel experiments

will be laughed at and pointed out as "humbugs;" but that should not deter any one from following the path of progress. The *Spergula pilifera* (in recommending which to our readers' attention as well worthy of trial, we almost stood alone,—and which we did simply from analogy; several of our native plants of allied forms growing greenly and compactly on the dryest and most rocky places) proves with us to stand our hottest suns and coldest weather, and all that is now wanted is experiments in actual lawn treatment. Should it answer as well as it promises, a law ncan be very cheaply made of it by the inoculating process before described.

Hyacinths, Tulips, Crocuses, and hardy Dutch bulbs generally, must have immediate attention. Crocuses and Snowdrops are often planted out in the grass on the lawn; the former is not very objectionable, as the leaves have so close a grass-like appearance; but the last should never be so employed, the foliage giving, the whole summer afterwards, a very coarse and weedy appearance to the lawn.

Hyacinths and Tulips may be set out in the beds devoted to summer-flowering bedding-plants, as they will, in a great measure, be out of flower before the bedding-time comes around, when they can be either taken up and transplanted to an out-of-the-way place to ripen, or the bedding-plants can be set in between where the bulbs grow, without either much interfering with the success of the other.

As a manure for these bulbs, nothing has yet been found superior to well-decayed sandy, cow-manure; but where this is not conveniently at hand, well-decomposed surface-soil from a wood will do as well.

Many kinds of hardy annuals flower much better next spring, when sown at this season of the year. A warm, rich border should be chosen, and the seed put in at once. Early in spring they must be transplanted to the desired position in the flower-border.

Few things are more valued in winter than a bunch of Sweet Violets. A few may now be potted, and they will flower in the window toward spring; or a small bed of them may be made in a frame, which should be protected by a mat from severe frost. To have Pansies flower early and profusely in spring, they may be planted out in a frame, as recommended for the Violet.

Herbaceous hardy border-flowers are often propagated in the fall by dividing the roots; but, unless it is convenient to protect the newly-made plants through the winter, it is better to defer this till spring, as the frost draws out of the ground and destroys many. Where it is now resorted to, a thick mulching of leaves or litter should be placed over the young stock when transplanted.

Chrysanthemums now in flower should have their names and colors rectified, against the time when in spring they may have to be replanted, when they can be re-arranged with accuracy and satisfaction, according to the owner's taste.

Dahlias, Gladiolus, Tuberoses, and other plants that require winter protection for their roots in cellars, should be taken up at once on their leaves getting injured by the first white frosts. The two latter should be pretty well dried before storing away, or they may rot. Dahlias may be put away at once.

GREENHOUSE.

Bulbs for flowering in pots should be planted at once. Four or five-inch pots are suitable. One Hyacinth and about three Tulips are sufficient for each. After potting, plunge the pots over their rims in sand under the greenhouse stage, letting them remain there until the pots have become well filled with roots, before bringing them on to the shelves to force.

Where many flowers are desired for bouquets in winter, a good stock of such as flower easily should be provided, especially of white-flowering kinds, without a good sprinkling of which a bouquet has but a very common-place look. Deutzia gracilis and D. scabra, Philadelphuses, and Tamarix are very good hardy plants to pot for winter-flowering. The Iberis sempervirens is also a splendid white to force for its white flowers. Lopezia rosea is nearly indispensable for giving a light, airy gracefulness to a bouquet; and Camellias and Azaleas cannot possibly be done without.

Many kinds of annuals also come well into play; amongst other things, Phlox Drummondii, Sweet Alyssum, Collinsia bicolor, Schizanthuses, Mignionette, and Nemophilla are essential.

We alluded to these matters last month, but there will yet be time enough to attend to them if they have been neglected.

There are but few things in the greenhouse that will require special treatment at this time. Camellias and Azaleas, as they cease to grow, will require less water; but it is now so well known that moisture is favorable to growth, and comparative dryness favorable to flowering, that we need do no more than refer to the fact.

To watch for the first appearance of insects of all kinds, is one of the chief points of immediate interest in plant-culture. If they once become numerous, it is often better to throw away a plant entirely than to doctor it after the old methods. Much is said in the praise of some new compounds for the destruction of insects; but nothing can be more simple or effectual than the *Gardener's Monthly* compound. The following is the recipe:

Aqua font., one tin-boiler full,
Carbo calefacil, ¼ peck.

The former is placed over the latter out in the open air, and when a thermometer, placed in the former, indicates 130°, the plants are inverted and dipped in for four or five seconds. A whole house full of plants can thus, with a man and boy, be operated on in a few hours. Scale, green-fly, red-spider, *et genus omne*, fall before, or rather under, this miraculous compound. To be sure, it is nothing but hot water, but under so common a name it will never become popular or useful. Our people mostly prefer something mysterious that they have to pay high for; and if it come from the uttermost ends of the earth, so much the better.

It is not only "Love"

"——who sees
No gain in trophies won with ease."

It is equally a question whether horticulturists value much whatever good they may get for nothing.

FRUIT GARDEN.

There is considerable art in raising fruit; but there is as much or more in gathering and ripening them. Pears and apples are ready as soon as the seeds begin to turn black, or as soon as they will part easily from the tree by gently raising the stalk, or as soon as the leaves show indications of falling from the trees; indeed, whether they are duly ripe or not, no length of time will avail them aught after the leaves fall. No rules can be given for the exact place to put them away in, but the principle must be applied to each individual case. In the first place, the fruit-shelves must be secure from frost. In the next place, it must be just moist enough to prevent withering, but not too much so, or the flavor will be inferior. Nor must it be too hot, or your fine *Beurres* may become *Fondantes*, or resemble cooked *Pommes des terres*, alias boiled potatoes. If it is too cold,—barely above the freezing-point,—the fruit becomes insipid and tasteless. The happy idea is to strike central to all these extremes. Of course, they must be hand-picked from the tree, as the slightest bruise causes decay. The stock must be occasionally overhauled anyhow to take out such as will be found, from various accidents, in a decaying state. Apples, for commercial purposes, are usually barrelled-up, with chaff or other light substance between each layer; and some pears, such as Lawrence, will bear the same treatment; but such preserved fruit are never equal in quality to those preserved in a more open way on shelves.

PEACHES IN ILLINOIS.—The *Galena* (Ill.) *Courier* is informed that the peach crop in the southern part of that State is immense. A ridge in Union and Jackson counties, twenty miles long, and from five to seven miles wide, produced at least one million bushels, a large amount of which will be distilled.

Communications.

REPLY TO MR. WILLIAM BRIGHT, ON GRAPE-GROWING.

BY G. P. HACHENBERG, M.D., COXSACKIE, N. Y.

In the August number of your valuable journal Mr. William Bright gave us an article on "Grape-Growing." As one of "a set of writers that sprung up" for the sake of truth in science, I beg leave to make somewhat of a review of this gentleman's paper.

He states "that the foreign vine would stand any degree of heat in the grapery, short of 212° of Fahrenheit, provided sufficient moisture were present in the house," and cites an experiment where the heat of 175° or more was applied to his vines, without injury to them. The error here consists in not stating what length of time his vines were exposed to such a high temperature with impunity. It needs no experiment to know that vegetation, exposed to an unusual high temperature for a long period, must die, notwithstanding all the artificial evaporation with which the plant may be surrounded. Plants cannot continue to live in a constant heat of 175° Fah. They will never adapt themselves to a temperature of that kind.

On the other hand, a plant can for a *short time* be made subject to any degree of heat, not only "short of 212° Fah., but far beyond that,—not, however, by several hundred degrees beyond the boiling-point, as Mr. Bright would make it appear by the following remarks:—"The grape-vine can stand the heat better than a human being can." Let us ascertain what heat man can endure. "The workmen of the late Sir F. Chantrey have been accustomed to enter a furnace in which his moulds were dried, whilst the floor was red-hot and a thermometer in the air stood at 350°; and the Chabert, the 'Fire-King,' was in the habit of entering an oven whose temperature was from 400° to 600°." As "the grape-vine can stand the heat better than a human being," will our friend ascertain how far beyond 600° Fah. his grape-vines will endure without injury?

Plants may, with comparative impunity, be exposed to many deleterious influences which would be destructive to animal life. There are plants that can endure any degree of natural temperature better than man, but are not so well able to sustain the extremes of heat and cold. The low standard of sensation in the plant is what protects it from many of those influences which would be destructive to animal life, but the torpidity of the circulation of its fluid is the great obstacle in the way to prevent it from enduring the excesses of heat or cold. The heat of the human body is known to be almost invariably

98°; that of vegetation generally varies with the surrounding air, and, from its languid circulation, becomes a better conductor of heat than animal bodies.

Mr. Bright's views of applying cold water to heated plants with beneficial effects, are obviously correct. Plants will be apt to suffer greatly from depression if warm water is applied to them when in a heated state. The varying effects of warm and cold showers on the growth of vegetation is well known. The application of the *fall* of cold water on a plant exalts its sensitive functions,—warm water depresses it; therefore the beneficial effects in the one case, and the injury done in the other. The laws of animal life are governed precisely upon the the same principles. That Mr. Bright, Russian-fashion, can jump out of the hot bath into the snow with impunity, is owing to the over-excitement of the capilliaries of the skin, which depress the nervous functions to such a degree, that painful reaction is not experienced, and therefore no injury done. However, let that excitement be not in its highest degree, such experiments may sometimes endanger life.

Mr. Bright appears to be a most unconservative pruner of the vine. I never could understand the philosophy of this practice carried to the extremes. Some do not prune enough, others prune too much—so much so, that they become mutilators of plants. The roots of a plant hold a chemico-physiological relation with the branches and leaves. The roots extract from the soil largely carbonaceous substances, the surplus of which are eliminated by the leaves. The object of pruning being to produce new leaves or fruit, with nature it is an effort for the elimination of retained carbonaceous substances. It follows, that if pruning be carried too far, the plant will suffer from a carbonic *plethora*, and, if stripped of all its leaves, it is literally choked to death. Here, again, we find the same principle at play in animal life. In animals a capacious respiratory activity is highly destructive to the carbonaceous constituents of the body; *vice versa*, a less active respiration interferes less with the disintegration of the body. Of this we have a striking example in the hibernal habits of the bear and some other animals, who sleep all winter, and awake almost as fat in the spring as they were when they went to bed at Christmas.

GRAPE-CULTURE.

BY A. MARSHALL, ESQ., WEST CHESTER, PA.

Having been familiar with various attempts at vineyard or field-culture of the grape in this county, (Chester,) running back some thirty or thirty-five years, and noted the various degrees of comparative success and failures with their probable causes, my experience and observations may be useful to those who are about to embark in the business without such experimental knowledge. I would premise here, that I write mainly for the uninitiated, and not for the expert, to whom I would listen with much pleasure to any instruction he might be pleased to communicate.

Within the period of time above enumerated, I have known at least six attempts at vineyard-culture, embracing several acres each, and all have reached that page of the volume signed "FINIS." Some have been located on hillsides of different aspects, and others on the summits of hills, or levels of less elevation. It is true that most of these experiments were made at a time when much less was known about the culture of grapes than now. But there was one feature so strongly marked in all those failures as to be worthy of particular notice. It was this:—If there was a dry spell of weather during the month of August, the vines would cast their leaves, and, as a matter of course, the fruit would not ripen. I have seen large quantities of fruit hanging on the vine about the first of September, sunburnt, unripe, and too bitter for any animal to eat. This occurred so often that the conclusion was soon reached, "It won't pay."

With due submission to the opinion of those who may know better, I have long since come to the conclusion that the dryness of our atmosphere was the main agent in producing this result. I feel fortified in this position by the fact, that near large rivers and lakes this is not so apt to occur; and by another fact, that in the neighborhood of these field-failures, about houses and trees, in door-yards and kitchen-gardens, the leaves are not cast, and the fruit matures. This is owing to the attraction of moisture in the atmosphere by, and the shading and protection of, these objects.

We have all seen that the wild vine flourishes and fruits best along the margins of woods,—that the finest-flavored and best-grown bunches are among the branches with one side open to the sun. Now, let us take a hint from this, and plant trees in our vineyards. An apple tree planted about every fifty or sixty feet each way of some good winter variety, would not interfere with the grape-culture nor diminish the quantity of the crop, and the picking of the apples would come after the grapes were gathered, and add to the profits of the operation. An evergreen hedge of *Norway Fir* or *American Arborvitæ* planted around the vineyard would afford great protection, and also assist in correcting the atmosphere and rendering it more congenial to the vine.

It is not my intention to say a word on the best mode of preparing the soil and cultivating the grape; that has been well done by abler pens. If the foregoing hints shall prove of any service to those who are not within the charmed circle of a lake or large river, and yet have a desire to cultivate the grape on a large scale, the time spent in communicating them will not have been lost.

PEACH TREES.

BY ALPHA, WILMINGTON, DEL.

In your last issue, page 228, I received some useful hints on Peach-Growing, by E. Fryer, Dayton, Ohio, to which, with your permission, I will add a few words.

Standard peach trees, particularly such as are worked on peach stocks, do not live healthily and vigorously, capable of bearing fruit, more than five or six years, even supposing the curculio did not exist, from the circumstance that their after-treatment is in all cases left to nature, which never uses a knife. Trees left to their own inclination soon get "knavish;" the top shoots will plunder the bottom ones of their due proportion of sap; bare poles with gum breaking out through the bark will be the result. The pompous shoots at the top will badly stand a severe winter; they will produce but a scanty crop of yellow leaves the following season, and then death is sued for damages.

In giving my opinion concerning the propagation and after-treatment of peach trees, I would advise, instead of peach stock, to bud on plum stock, as a preventive against the ravages of insects, it being a well-established fact that in England and all other parts of Europe where this is practised, the borer is never heard of. Secondly, when planting a peach-orchard the trees should be in a straight line 18 feet apart in each line, and 9 feet distance between the lines. For this purpose, should formed trees not be at hand, maiden peaches one year from the bud should be planted and headed down to four or five eyes as the young wood advances in growth. It should be formed and tied at regular distances (say a span between) to trellisses from eight to ten feet high, which should be put in the ground previous to planting the trees. The following Spring the last year's growth should again be shortened. It will afford a good supply of shoots to furnish the trees, and will also be able to bear fruit the following season. Each succeeding year the knife should be used freely on the young wood in the lower and centre parts of the trees, which will have the effect of keeping the sap in free circulation at the bottom as well as the top, thereby enabling trees to live eighteen or twenty years in full bearing. A trellised peach-orchard can be easily protected in severe Winters by corn-stalks or any other suitable materials, without taking many other advantages into account. Pears, apricots, nectarines, cherries, and plums would look neat trellissed, and bear better than standards and much earlier. With the editor's permission, I will, at the proper time, have something to say about the pruning of trellissed peach trees.

Nurserymen should in future practice forming dwarf and tall standard fruit trees on their grounds, in order to meet the wishes of such as would prefer them to standards. I intend putting fifteen hundred peach buds this season in plum stocks, which I intend for trellises.

[There is a growing tendency amongst fruit-growers to believe that the bite of the plum-weevil is not in itself sufficient to cause the fruit of the plum or peach to rot; but that when they do rot after being "stung," it is as much owing to previous disease in the tree as to the weevil's operations. The origin of many diseases in the peach is plausibly attributed to over-luxuriance, which grafting on the plum would remedy. In this sense our correspondent's views may be sound. Mere grafting on the plum would not prevent the *attack* of the weevil,—it might modify its effects. We believe ourselves that in some districts it would well pay to grow peaches as espaliers.]

SKETCHES of PHILADELPHIA BOTANISTS

BY L.

IV.—THE BARTONS.

Dr. Benjamin Smith Barton may be considered by his lectures and writings, the founder of the American School of Natural History, which has risen to so high a rank in this branch of science.

This father of American science was born in Lancaster, in Lancaster County, Pennsylvania, in 1766. It is worthy of note that Lancaster County was also the birth-place of Robert Fulton and Lindley Murray; the first the successful subjector of steam to the purposes of navigation, the last the popular compiler of the generally received system of English grammar.

His early life was a struggle with want, but his energetic and elastic mind surmounted all obstacles.* To the patronage of his uncle, David Rittenhouse, he gratefully acknowledges he owed the foundation of his prosperity and the ability to be useful. He completed his medical education at Edinburgh and Gottingen.

His reputation for attainments in Natural Science introduced him speedily to notice, and when only twenty-four years of age he was appointed Professor of Natural History and Botany, in the College of Philadelphia, afterwards changed to University of Pennsylvania, and was thus the earliest teacher of

* As an evidence of his pursuit of knowledge under difficulties, we may relate that he learned to draw under the instructions of Major Andre, at the time a prisoner of war at Lancaster.

Natural Science in America. This office he held zealously and successfully for twenty-six years. He was elected in 1802, Vice-President of the Philosophical Society and succeeded Dr. Rush in the chair of practice of medicine.

Dr. Barton united untiring industry with great natural talents, a warm zeal in scientific investigation and uncommon attainments in many branches of knowledge.

Under the pressure of incessant labors most faithfully performed, his constitution was worn down beneath the perpetual struggle between severe bodily infirmity and an ever-restless mind, till at last, after visiting Europe in a vain attempt to restore his shattered powers, he died in December, 1815, having run a career alike honorable to himself and useful to his country.

Dr. Barton's writings are chiefly on subjects relating to the natural history and antiquities of North America. He published the first elementary work on Botany in this country. His works all evince an ardent zeal for his favorite pursuits and a scrupulous exactness in statement and description, and must have contributed largely to the advancement of American science.

Dr. Barton liberally assisted those laborers in science to whom fortune had been less propitious. At his private charge, the botanist Frederick Pursh, in 1805, explored Virginia and the Carolinas and subsequently part of Pennsylvania, New York and New Hampshire. In 1810 he enabled Nuttall to visit the north-western parts of the United States and adjoining British territories, with a similar object. Both explorations largely contributed to the extension of our knowledge of the vegetation of the districts examined. These two botanists agreed in naming one of the finest of their discoveries in honor of their patron "Bartonia."*

Dr. Wm. P. C. Barton, a nephew of the preceding, was a botanist of considerable reputation, and his successor as professor of botany in the University of Pennsylvania. He published "*Floræ Philadelphicæ Prodromus,*" in 1815. 1817 to 1825, Vegetable Materia Medica, and 1821—3, Flora of North America; the last two illustrated by colored engravings and by far the best that had yet appeared in America, and bearing comparison with those of the most celebrated European botanists. He was author of a useful compendium—Floræ Philadelphicæ, containing a description of plants found within a circuit of ten miles around Philadelphia. This was issued in 1818, and is the most unassuming and perhaps the most meritorious among Dr. Barton's botanical works.

Zaccheus Collins is commemorated in "Collinsia," named by Nuttall in his honor. Though not a founder, this enthusiastic botanist was an early and active member of the Academy of Natural Sciences. Dr. W. P. C. Barton dedicated his Compendium Floræ Philadelphicæ—"To Zaccheus Collins, Esq., a patient and successful cultivator of that science, the interests of which this little work is designed to promote, these pages with esteem for his talents and attainments are respectfully inscribed."

[*The Bartonia of Nuttall, a beautiful plant found on the Illinois prairies, allied to our garden Loaza, has been reduced to *Mentzelia*. by modern botanists, and a genus of little, insignificant, gentianaceous plants, established by Muhlenburg, is now recognized as the true *Bartonia*.—Ed. G. M.]

BRIGHT'S METHOD OF PRUNING THE GRAPE.

BY OLIVER TAYLOR, LOUDON, VA.

Having witnessed the gullibility of the public in matters of new cures for diseases in the human system, and especially the consumption, I feel very much like saying to friend Bright that I cannot exactly get the virtue of his method of pruning the grape so as to make a cure of it.

I have a Concord vine, set out the spring of '59, and now fruiting, and rotting, too, though the ground is perfectly dry, and the Diana and Rebecca by the side of it are not so affected, but a few of the berries have black spots that only affect the skin when first attacked, and often by ripening-time destroy the berry.

I think we will generally find that the same kind of circumstances that produce the rust in our wheat, will produce rot in the grape; and I think experience will prove that we make a sad mistake in planting grapes in warm, sheltered places. I find the north side of a hill the best as less likely to rot, and ripen better.

GRAPE CULTURE ON KELLEY'S ISLAND, OHIO.

EFFECTS OF DEW ON PRODUCING ROT AND MILDEW.

BY M. B. BATEHAM, COLUMBUS, O.

Kelley's Island is situated in the south-western part of Lake Erie, 10 or 12 miles off Sandusky City, with which it has daily steamboat connection. For several years past much interest has been excited among horticulturists and fruit-growers by the large amount and superior quality of Isabella and Catawba grapes shipped from this Island and sold in the cities around the lakes; and those who have made inquiry have learned that the manufacture of wine was also beginning to be prosecuted there extensively with complete success. In fact, it had been found that the grape crop on that Island ripened better than in ordinary localities several degrees farther South, and was almost entirely exempt from injuries by late frosts and the *rot* and *mildew* so often fatal to the crop at Cincinnati and elsewhere.

As the subject is of much public interest at this time, and for the sake of learning more of the particulars, a meeting of the *ad interim Committee* of the Ohio Pomological Society was held there the past month, and the following is a part of the results of their observations: (I should be pleased to hear from correspondents of the *Monthly*, if similar observations have been made by others in regard to the *absence of dew* being a preventive of *rot* and *mildew* in grapes.)

"The number and extent of the vineyards on Kelley's Island, and the progress of grape culture there, far exceeded our expectations. From reliable statistics furnished us, it appears that the number of acres planted previous to 1859, (and now in bearing,) is 62, owned by 23 persons. The number planted in 1859 is 69¼, and in 1860 there were added 99¼ acres, making in all 230½ acres, owned by 57 different persons. A majority of the owners being new beginners, lacking capital and experience, they wisely attempt only an acre or two at first. The largest amount owned by one man, is that of Addison Kelley, 23½ acres, 9¼ acres of which is in bearing, and 10 acres planted the past spring. Mr. George Kelley has 11¾ acres, most of it planted the past spring. Four other members of the Kelley family have also three to five acres each. Mr. Carpenter has 11¾ acres, nearly all in bearing. He is also devoting much attention to the manufacture of wine, and experiments with new varieties of grapes, as the Delaware, Diana, Concord, etc., some of which he believes will supersede the now popular Catawba and Isabella, both for wine and table use. He has also quite a number of seedling varieties of his own raising, several of which give promise of value.

The Island contains about 2,800 acres of land, and 476 inhabitants, as shown by the census. The first cultivated grape vines were planted on the Island seventeen years ago. They are still vigorous, and for fifteen years have not failed of a crop of fruit. The value of the grape crop is found to average about $600 per acre. Much of the fruit has heretofore been shipped to Chicago and other cities, for table use, but the manufacture of wine is now the chief object. Land on the Island is valued at from $100 to $200 per acre. The cost of fitting and preparing the ground, including underdraining, deep plowing, planting and cultivating for three years, and trellising, is only $300 to $400 per acre. The vines are planted in rows about 6 by 8 feet apart, and trained to trellises made of strong wire stretched under cedar posts. The mode of training and pruning differs materially from that practiced around Cincinnati, especially in allowing the vine more wood and leaf.

The peculiarities of soil and climate which conduce to the remarkable success of the grape crop on this Island have been the subject of considerable inquiry among horticulturists in that vicinity and elsewhere, and the attention of our committee particularly directed to these points:—

1. *That the climate* of the Island and parts of the country around is peculiarly favorable for the grape crop, in consequence of the lake ice retarding vegetation in spring, so that all danger of frosts is past when the blossoms appear; and then in autumn the warmth of the surrounding water keeps off the frosts for a month later than is usual in other localities of the same latitude, and secures the perfect ripening of the grapes.

2. *The absence of dews and fogs* is another, and perhaps the chief cause of the excellence of the grapes in this region. It is a fact not generally known abroad, that after about the first of July, or when the water of the lake becomes warm, very little, if any, *dew* falls upon the Island and points of the coast, and *fogs* are of very rare occurrence. This is believed to be the main secret of the remarkable exemption from *rot* and *mildew*, so often destructive to grape crops elsewhere.

3. *The soil* of this region is naturally well adapted for the grape—especially where, as on most of the Island, it consists of a friable calcareous loam, from two to four feet in depth, resting on shale or lime rock, having deep fissures, which afford natural drainage. On such lands, with no manuring and very simple preparation, the grape flourishes and bears finely."

[Some will say that dews and fogs have existed from the beginning, while the grape rot is of comparatively modern origin; but it must be remembered that when the constitution of a vine once becomes enfeebled, a cause that would be insufficient to produce any effect on a strong vine, will injure it, and in this way dews and fogs, by subjecting the vine to sudden changes of atmospheric drought and moisture, may be one serious cause of grape rot. We hope our vignerons will respond to Mr. B.'s call for more light on the subject.—Ed.]

OVERMAN'S PLAN OF BUDDING.

BY F. K. PHŒNIX, BLOOMINGTON NURSERY, ILL.

Were it not so late for budding I would send a sketch of what I call "Overman's style of budding," first taught me by C. R. Overman, of this place, but somewhat modified from my own experience for several years. Briefly, then:—

1. Short perpendicular cut and buds comparatively short—about ⅞ of an inch. 2. *Wood out*, most decidedly. 3. Pushing down the bud, so that the top is ½ an inch or so below the cross cut, and most of the bud also

below perpendicular cut. This brings the bud into very beautiful snug quarters. 4. Wrapping with smallest cotton twine, *only above the bud*, and about twice around, fastening the lower end under the twine and the upper end in a slight hack down in the bark of the stock. Have often had buds to live set in this mode without any tying. This is by far the most perfect style of budding apples I have ever tried. The ordinary mode may be better on cherry trees—which are considered hardest of all to bud at the West; possibly with roses also and some other things which we have not tested so thoroughly.

From the above it follows that in apple-budding according to our experience the five following points usually insisted upon in books or followed in ordinary budding are totally unnecessary:

1. Long buds, as we have often seen them, 1½ inches. 2. Lifting up bark the whole length of bud, at least on free, thin-barked stocks. 3. Leaving wood in, especially when, as often happens in cutting, it becomes loose itself. 4. Close fitting top of bud and cross cut. 5. Close confinement of buds from air. Lastly, let us add, moist weather for budding; give us the very dryest, hottest weather so that stocks and buds are in good order.

[In passing through our grounds with our propagator, a few days ago, he pointed to three successive days' work at cherry budding; here, as at Bloomington, the worst of all stocks to succeed with. The first days' work showed about half failures; the second days', not five per cent.; the third, scarcely five per cent. alive; all by the same operator, same quality stocks and buds. The second days' operation was under a drizzly rain, and the only apparent difference in any circumstances. We mention this to show how uncertainly "rules" work.]

HORTICULTURAL CONSERVATISM: CROCKING.

BY T. W. C., WESTERLY, R. I.

I have read H.'s second article on this subject, and find it to contain no argument to sway what he calls my "very fixed notions on this matter." H. concludes my experience has been "one-sided," and doubts whether I "ever grew a plant except it had been crocked or drained."

I have had the charge of greenhouses a good number of years in my life; four of which I grew plants for market, and during that time found it profitable enough to confer on them all the formula of the order. I have found plants that were not drained, or imperfectly drained, become sickly; washing the roots and fresh earth is a cure—and good drainage always prevents a recurrence of the evil. I think that experience enough of "plants badly crocked and drained." It was not my only argument in favor of crocking, that "it keeps the roots from getting outside the pots;" if H. will turn to my article in the June number he can refresh his memory. I said "crocking of small pots is necessary, not only as *drainage* and for the *circulation of air*, but it also *helps* to keep the roots within the pot."

This is the position I have taken in the matter, and I would add only the amendment, that it is more necessary in large pots than in small ones. Keeping the roots within the pot, I would observe, is but one of my reasons for crocking; another is, that it keeps the water from *coagulating the soil*. As all the food partaken by the roots of plants is soluble in water, frequent watering is of great benefit to them during their growth; but the same quantity of water that will benefit a well drained plant would be hurtful to one of the same kind in a jar that is not drained.

We are well enough aware that the pores of the spongiole on the roots of plants are so small that they cannot absorb a glutinous liquid, and a viscous or thick fluid will clog up the channels of absorption. An over-supply of water in an undrained pot will incur all that danger. On the contrary, a constantly liberal supply of water poured on the surface of a well drained pot will benefit the plant; the water in its descent comes in contact with, melts and conveys, to the roots of the plant the nourishment it requires in a sufficiently thin solution to be readily absorbed without the danger of clogging up or rotting the roots, air being as necessary at the root of a plant as the leaves—water is a channel for the transmission of air to that quarter. All lake or river water is less or more mixed with air, and whether that air be atmospheric or carbonic acid gas, the more water is impregnated with it, the better for watering plants—such water containing a portion of animal and vegetable matter that is left in the earth by the filtering operation of drainage.

Thus, for illustration, draining is like sifting through a sieve; the small particles are ejected and the larger retained. The animal and vegetable matters will be gathered by and mix with the earth, and the soil itself retained by the crocks, while the waste water will percolate through both and escape at the hole in the bottom of a pot more readily than if left to the slow process of percolating through the pores. And here allow me to remark that while water is percolating through the pores of the clay, air can make no inroad in that direction, while crocks would admit a quantity of air directly at the root of the plant that would ascend into the earth as well as gather there; and charcoal, that absorber of ammonia, is porous enough to contain and transmit both air and water. Now that we have seen that water and drainage work in harmony to the benefit of a plant in its season of growth, I have only to remark that drainage prevents water from hurting a plant in its season of rest—a truth that needs no illustration.

That "roots will strike through charcoal as quickly as through earth," is imaginary; that small fibres sometimes grow through charcoal is true, that they mat around it is more so, but, that the roots of a plant will strike through a piece of charcoal as quickly as through an open hole in the bottom of a pot is mechanically impossible. If your correspondent should wander to this obscure Island, I hope he will give us a call at Westerly. We have some fuchsias here in pots, well crocked with charcoal, plunged in the earth, that have been in full bloom ever since the weather would admit of them out doors, and I expect them to continue to the remainder of the season without the roots getting through the bottom of the pots. I can assure you they have not yet, as I have examined them on purpose to let you know.

The most intelligent part of gardeners will back me with this idea, that more plants are hurt by water than for the want of it. That your correspondent and some of his floral neighbors grow plants without crocking, even if they are "perfect specimens of health and beauty," is no argument to gainsay the utility of draining. Some men can model by the eye as well as others can by rule. It speaks well for the individual's skill, but little for his science.

The crocking is evidently dispensed with to save time; for the same end I might swallow a soft diet, or in dressing omit changing part of my underclothes, but it would be a matter of question, though I did look well, would I live as long?

I am inclined to think I could find the indispensable crock in H.'s establishment, and that if he had a very particular plant that he wished to keep very particularly, and make the best of it, H. would have it drained—viz., crocked.

[As both of our excellent correspondents have now said all they can think of to support their respective positions, and the discussion will therefore close, we may observe that, on careful analysis, very little difference will be found between them; neither of them would like to be considered as doubting the immense benefits which drainage, as a general principle in horticulture, is capable of affording, and yet no one would think of draining a sand bank—the benefits usually derived from draining would not result here.

T. M. C. well observes the ill effects of what is called a badly drained pot, and H. would contend that it is rather because the pot was too large.

The true theory no doubt lies in the middle way. In small and delicate rooted plants, in comparatively large pots, draining properly is a very useful process; in more vigorous rooted plants, or in small pots that dry nearly as fast as water is given, draining is of very little or no account. We would not think it worth while to crock coarse growing bedding plants, while we certainly should not dispense with it in more delicate growing plants, or where great perfection of growth is desired.—ED.]

PERPETUAL RASPBERRIES.

BY R. M. CONKLIN, COLD SPRING HARBOR, N. Y.

In your directions for the Fruit Garden in the June number you say that there are some who slyly hint that many of the "*Fall-bearing* varieties of Raspberries" owe their sole reputation to the practice of cutting the canes back severely in June or perhaps earlier; "but this is by no means certain."

I do not find that this mode of treatment is at all necessary to develope the Fall-bearing propensity in the varieties which I cultivate. It undoubtedly facilitates its more perfect development, as cutting back does for the common varieties in fruiting. The French, which is the principal Fall-bearing variety that I cultivate, has received from me the most ordinary treatment; the fruit-bearing or old last year's canes being left in the hills or stools until the season arrives for cutting back the new bearing shoots for fruiting. These last are shortened in the month of April to about three feet; they set entirely too much fruit with this length of cane, and undoubtedly should be cut shorter. But with such faulty management they nevertheless invariably commence to set fruit on the extreme ends of the new canes in August, (some of them are already in blossom,) continuing through all the Fall months. I have had many inquiries about the proper name of this variety; I bought it of a fruit grower under that name, and cannot yet identify it with any known sort; it seems to have been recognized under that name alone at the late meeting of the American Pomological Society in New York.

[There is some mistake existing as to what is the true "French" raspberry of Brincklé in some parts of the country. Downing, for instance, speaks of it as being "later than others." Here, where under the eye of the raiser it should be correctly grown, it is certainly not to be classed with the late kinds.—ED.]

SUGGESTIONS FOR PEACH GROWING.

BY S. N. COATE, PLEASANT HILL, O.

In the August number, Mr. E. Fryer makes some excellent suggestions for Peach-growing under difficulties. The following additional hint may be useful:—

It is reported on good evidence that a cultivator of this now very uncertain crop has met with signal success by training his trees with low heads and at the approach of winter bending down the lower tier of branches all around and covering them up with soil, having the position of the tree so that no water

can stand about it. At the approach of Spring, he removes the soil, and the work is done. It is stated that not only the branches and fruit buds covered by the soil, but those left exposed to the winter's cold, are perfectly preserved from its effects.

HEATING GREENHOUSES ECONOMICALLY.

BY JAMES SKIRVING, ESQ., GERMANTOWN, PA.

During my short residence in the neighborhood of Germantown I have been much pleased in looking at the beautiful and tasty architectural designs of the suburban Villas and Cottages, as well as the laying out of the grounds as regards comfort, &c., but in nearly all cases there is one thing that appears to me a general want of—neat little Conservatories or Greenhouses; they might be made plain and simple, or highly ornamental in keeping with the architectural style of the building. There is nothing more delightful in midwinter when the trees are bare and leafless and the ground covered with snow, and everything out doors looking bleak and dreary, than to open a jib door or French window, and walk in a conservatory moderately filled with flowers in bloom, or if nothing more than boxes of clover or anything green in a mild temperature. I have no doubt that the expense of keeping such places warm prevents many a person from having these things; and yet but a simple contrivance is required to accomplish this. Nearly all houses are warmed by furnaces or heaters, and in nine cases out of ten, 25 per cent. of the heat escapes out of the smoke or gas pipe. Let any one who doubts this get on the top of his house and hold his hand over the smoke flue when the heater is in operation; he will soon satisfy himself. Now instead of the heat passing off in this way, by having a damper in the smoke pipe, the heat can be sent round the conservatory—it being on the grade above, either in brick or clay flues; the former is the best, as by having a proper check, all the heat will be absorbed and diffused in the greenhouse.

A house, say 10 to 12 feet wide and from 20 to 30 feet in length, may be warmed sufficiently to keep hardy plants all winter. Now in some cases when the house is already built it may not be convenient to take the smoke pipe to the south side of the house, but it might be that the heat from the water-back of kitchen range might be used for that purpose (as it is found to be just as cheap to keep up a continual fire, night and day,) by an additional stop-cock and a few coils of small size gas pipes round the place to be warmed, will produce heat sufficient to keep plants requiring a moderate temperature in a healthy condition. Again, a water-back can be put in the back of a parlor, dining or sitting room grate, and would produce the same effect. I have fitted up a number of conservatories in this way, giving entire satisfaction. In one case the house was on the hill-side; the kitchen being on the lower story; a terrace on the side of the house; by means of a damper the draft could be turned off the chimney and up and into a brick flue running round a greenhouse 25 x 16, where a collection of plants were kept blooming all Winter; no gardener was required to take care of the house. It afforded pleasure and a healthful amusement for the family. Any person wishing information, I shall be pleased to give it.

[If we recognize our friend aright, he has "retired into rural life," on means derived from kindred pursuits to that on which he now addresses our readers, and few persons therefore could be better fitted to give sound practical advice than he.

The hint about fitting up water-backs with hot water pipes to connect with the conservatory, is an excellent one; simple inch leaden pipe is sufficient; a small tank for the circulation of hot water could be fitted on the *floor* in the *front* of the conservatory, connecting with the lead pipe, would be just the thing, and a genial, moist atmosphere, for which most conservatory plants languish when warmed by heaters, can be cheaply and readily obtained. We hope Mr. Skirving will pursue the subject further.]

STRAWBERRY SYNONYMS.

BY JOHN SAUL, WASHINGTON CITY, D. C.

Your remarks in the August number of the *G. Monthly*, that "Vicomtesse Hericart de Thury" Strawberry was known in England as "Duchess de Trevise," reminds me that I imported it under both names when first let out; and to these I have now to add a third, namely, "Marquise de la Tour Maubourg," which after fruiting with me two seasons, proves to be identical with "Vicomtesse."

BUDDING THE GRAPE.

BY S. M. COATE, PLEASANT HILL, O.

I noticed an article in the last number, which stated that an individual in Europe had been successful in budding the grape. I had been considering the subject myself, and not having any evidence either for or against the success of such a practice, had come to the conclusion to try the experiment, and had inserted a bud only a few days prior to the receipt of the number containing the information, to *my satisfaction*, that it had already been accomplished. It may not be a "new thing" with many of the intelligent readers of the *Monthly*, but since I consider myself as but a mere novice in matters of horticulture, I should be glad to hear from some of our more experienced men as to its general practicability in this country.

ENTOMOLOGICAL ESSAY.

Read before the "Fruit-Growers' Association of Eastern Pennsylvania at its Meeting in West Chester, on the 13th day of June, 1860.

BY S. S. RATHVON, ENTOMOLOGIST OF THE ASSOCIATION.

Mr. President:

As an amateur naturalist, with few opportunities at present for the *practical* development of natural science, permit me, nevertheless, to offer a few suggestions upon the relations existing between entomology and horticulture, or fruit growing. Without at this moment adverting to the *cause*, it may be sufficient to say, that it is a fact, patent to the commonest observation, that, in at least this section of our country, there is greatly less fruit produced in proportion to the population than there was five-and-twenty years ago. That this is the case in regard to the apple, peach, and plum crops, I think will be generally conceded. Many of us can, doubtless, remember that in the days of our boyhood, and even since we have reached the years of manhood, apple trees, pear trees, peach trees, and plum trees were, at least every alternate year, often loaded down with a superabundance of fruit, and that these products could hardly be disposed of at the one-eighth or tenth the prices they have been selling at in our markets for the last five or six years. Some of us may also remember, that when we first commenced housekeeping, we could usually obtain more apples and peaches at from eighteen to twenty-five cents per bushel than could possibly be consumed in the family; and that the cultivators of these fruits were glad to barter them off for any thing they could make use of,—whereas, for the last five or six years we could not procure them for less than six, and in some cases even ten, times that amount paid down in hard cash. We may remember, too, that small families, consisting of three or four individuals, in those days consumed more fruit during the year than families of ten or a dozen now do, mainly because of the scarcity and high price of these most pleasant, healthful, and useful products of the soil.

There are, doubtless, a variety of causes that have conspired to bring about this result; and, although a number of them have from time to time been suggested, yet there has been no general harmony of opinion elicited in reference to the matter. Waiving all other causes, which may be more intelligently stated and more ably discussed by gentlemen of this Association who have made fruit-growing their speciality for a number of years, I come to the consideration of the subject as it stands in connection with the denizens of the *insect* world; in which I propose to state some of the peculiarities of the different *tribes*, in order that we may form some idea of the extent to which their depredations are capable of being carried, and what checks exist against them, in the economy of nature itself.

Carrying our memories back again to our earlier years, we may recollect that there was as much fruit that fell from the trees *then*, punctured by insects and from other causes, as there is *now;* but, the crops being so abundant, the fruit-grower could better afford it; and it was, therefore, not so observable: indeed, he sometimes felt quite satisfied that, from these contingencies, his trees were relieved from their superabundance without his special intervention. Perhaps we may recollect, too, of the ground under the trees being literally covered with fruit, whilst at the same time the trees themselves overhead were loaded down in far greater abundance. Of the fruit thus lying upon the ground, a portion of it was excellent in quality; but we may remember that far the larger portion of it was either infected with the rot, or contained one or more little white or reddish *worms*, which we may innocently have supposed would remain worms; and therefore any apprehensions about the destructiveness of *insects* probably never entered our minds.

Our situation seems to be a novel one, and may, perhaps, be thus defined:—Twenty-five years ago we were quite willing to allow the insects, the birds, the storms, and other contingencies the one-fourth, third, or even the one-half, of our fruit crops, because we felt quite assured that, in what remained of their great abundance, we should have sufficient for home use and to supply the demands of the market; whereas we are *now* contending with those same insects, birds, and other causes of depletion, for the small moiety that is still left us A profitable subject of inquiry would, doubtless, be to find out what has become of the *twenties* of bushels of fruit that once adorned our fruit trees, after they had deposited, during the summer, their *tens* of bushels upon the ground. Our fruit trees, I believe, bloom as profusely now as they ever did, and the rudimental and elementary principles of fruit-bearing remain unchanged. No organic or functional change seems to have taken place in the last quarter of a century, and yet, with all the additions and improvements in our stock of horticultural material and knowledge, fruit of all kinds is scarcer and higher in price, by at least one hundred per cent., than it should be in such a prolific State as that of Pennsylvania, and especially in localities that have been denominated, by way of distinction, the "garden of the State." Many of us would, doubtless, prefer a return of those old *realities*,—no matter how humble their qualities and their names, if we only had their

abundance,—to the new *ideals*, that, in a great measure, have been, thus far, only flitting like unsubstantialities before our mental vision.

Whatever the other causes may be, either singly or combined, that are in operation and producing an effect which we all so much deplore in regard to the fruit crop, it must soon become obvious to the commonest mind, that the rapid increase of destructive insects may be no inconsiderable one, and may, therefore, be a subject worthy the attention of the fruit-grower; and I wish distinctly to impress it here, that the patient observation and persevering industry of that class of men *themselves* must, in due course of time, develope and demonstrate the practical application of entomology to their calling.

Granting that the fruit crop in this section of country is reduced to about *one-fourth* of what it formerly was, that remaining fourth is now in danger of becoming a prey to insect depredations. An antidote to this state of things is now the great *desideratum* of fruit-growers, and the discoverer of that antidote would certainly be entitled to our gratitude as one of humanity's friends and benefactors. But I apprehend that the discovery of such an antidote would almost be equivalent to calling the dead to life;—not that *nothing* can be done to arrest the destruction of insects; but that, had not provision been made in the general economy of insects themselves, man could thus far have accomplished but little in staying their progress. If a redundancy of insects is to be regarded as one of the causes of depletion in our fruit crops,—whether they attack the trees or the fruit itself,—then that redundancy must *itself* be the effect of a prior cause, and that cause nothing more nor less than a disturbance of the general harmony of nature. In my humble opinion, the superinducing cause of the destruction of domestic vegetation by insects is owing to the rapid removal of the forests of our country and the wholesale destruction of the denizens of the forests. A large number of wood-boring, leaf-destroying, and fruit-puncturing insects that at one time confined their operations to the forest trees, are now found in abundance on our fruit trees. Twenty years even have made a perceptible difference in regard to the numbers of certain species of them; for I now often find insects in the city of Lancaster that I formerly found only in localities remote from the habitations of men and domestic animals; and I apprehend that each succeeding year, in proportion as their natural enemies are removed, they are approaching nearer. To enumerate all the insects that are injurious to man and the productions of the soil, would involve an amount of labor by no means condensable within the narrow limits of a general essay, like the present one must necessarily be, and would impose an extended attention which no audience, under ordinary circumstances, would feel disposed to give. Nevertheless, it may be sufficiently interesting to state here, that the subdivision of the animal kingdom to which entomology specially relates is called the *Class Insecta*, and belongs to the sub-kingdom *Annuloso*, or *Articulata*, because all the subjects of it in their organic structure are *articulated*, or united together in segments or sections, externally, and not by an internal spinal column, as is the case in vertebrated animals, which, on that account, are classified as *vertebrata*.

The class *Insecta* is again subdivided into *orders*, numbering more or less, according to the arrangement of different authors, and these *orders* into *sections*, *families*, *sub-families* or *groups*, and these into *genera* and *species*; and, although these divisions to the novitiate or the uninformed may seem arbitrary, nevertheless they are necessary, scientifically considered, in order to facilitate the study and the arrangement of the multitudes of the little animals that are brought under them. I can do no more at present than mention the names of a few of the prominent orders and families, and add a few passing remarks in relation to each of them.

The most popular classification of insects recognizes the *order Coleoptera*, to which belong the hard-winged insects, usually called "beetle" as the head. The *order Orthoptera* includes the grasshoppers or true locusts, the crickets, the cockroaches, and other kindred species. Both these orders are provided with *mandibles* or jaws, and masticate their food. The *order Hemiptera* is the third, and includes those insects properly called "bugs," as the "squash-bugs," "bed-bugs," aphids, and *their* kind. The *order Lepidoptera* comprises the butterflies and moths. Of the latter two, the Hemiptera are *suctorial*, being provided with a sucker instead of jaws, and the Lepidoptera are only suctorial in their perfect state. The *order Hymenoptera* includes all the various bees, wasps, hornets, sawflies, &c., which both masticate and lap or suck, being provided with jaws and sucking or lapping apparatus. The *order Neuroptera* includes the "dragon-flies," &c.; and the *order Diptera* all the two-winged flies, as the common "house-fly," &c. The larvæ of all the "long-horned" or capricorn beetles (LONGICORNIA)—a family of coleopterous insects—are wood-borers, and were originally only found in the forests. With a number of these we are somewhat acquainted, from their peculiarly mischievous characters; for among them conspicuously are the apple and pear tree borers, (*Saperda bivittata* of Say,) the locust tree-borers, (*Clytus flexuosus*,) and a host of others. Ten years ago already, fifteen species of *Saperda* and thirty-eight species of *Clytus* had been catalogued and described,

and there is no knowing yet how many new ones have been discovered since, or how many may be discovered in the next ten years to come. Three hundred and eighty-one distinct species of these wood-boring long-horned beetles were already known in 1852 as inhabiting the territory of the United States, east and west of the Rocky Mountains, all of which pass the larvæ state in living or decaying trees or wood.

But this is not the only family that is tree-boring in its habits. A number of individuals in other families, especially the "book-horned" beetles (LAMELLICORNIA), and the almost entire families of BUPRESTIDÆ and ELATERIDÆ—which include the old "saw-horned" group (SERRICORNIA)—are essentially wood-boring in their habits, and therefore destructive in their tendencies. Of these, some have found their way to our apple trees, boring up higher than the *saperdæ;* and when we reflect that nearly ten years ago more than three hundred and twenty distinct species of these families were already described and known, the array of insect enemies becomes formidable, indeed. True, a large number of these are now only found in our forest wilds, but they are brought among us in the timbers that are sent to our markets, and when evolved from their long pupa sleep, are as likely to deposit their eggs in our domestic trees, in the absence of others, as the apple-tree borer itself has done. The long-horned pine beetles are frequently met with along the Susquehanna River wherever there are lumber-yards, and I have even found a few of them in Lancaster city.

All the "snout beetles" (CURCULIONIDÆ) are, to all intents and purposes, borers in their habits, and are, perhaps, more destructive to the products of the soil, so far as fruit is concerned, than any others. Nearly four hundred North American species of these "curculios" are already known to entomologists, and there may be a large number that are yet unknown. These insects, however, do not confine their boring operations upon one particular substance,—some boring into wood, fruit, and nuts, some into the different kinds of grain, and others into the leaves and stocks or stems of various kinds of shrubs and plants. I must pass over a large number of coleopterous insects that are more or less destructive to vegetation in their habits, and come to the consideration of the order *Lepidoptera*, which, as I before said, embraces all the various butterflies and moths, including the pernicious peach-tree borer. The larvæ of a large number of these insects defoliate our fruit trees, and, if permitted to continue their depredations, they vitiate the quality of the fruit by depriving it of that element which the leaves alone can furnish. But the operations of the gregarious, leaf-eating caterpillars require very little observation to be detected, and may thus be easily arrested if taken in time. The wood-boring lepidoptera, and also those that are plant-cutting in their habits, are not so easily detected, because their operations are carried on within the body of a tree, or underground, or after nightfall, and also because they are solitary in their habits. All the various cut-worms belong to this division of this order, which is an exceedingly prolific one. The *order Hemiptera* includes a large number of suctorial insects, inconspicuous in appearance, that are more destructive to plants or succulent vegetation than they are to shrubbery or trees, and, therefore, are more interesting to the vegetable-grower than the fruit-grower. This order is almost exclusively destructive or annoying in its habits, and among its individuals may be recognized the before-alluded-to odious "squash-bugs" (*Coreus tristis*), the various kinds of "plant-lice" (*Aphis*), the "bark-lice" or "scabs" (*Coccus*), the "bed-bugs" (*Cimex*), and a host of others. Dr. Harris, in his Catalogue of the Insects inhabiting the State of Massachusetts in 1835, enumerates over three hundred and twenty species of *Lepidoptera*, and about two hundred species of *Hemiptera*, nearly every individual of which is either destructive or hurtful to vegetation, to fabrics, to trees, or to animals. Of course, the intervening twenty-five years must have involved the discovery of many new species not then known. But the end is not yet, although sufficient may have been said to elicit an idea of the legions of insects that may be thrown upon us, without any certain means of diminishing their numbers, if it was not for the intervention of contingencies in the economy of nature, by which an equilibrium is maintained. I have not alluded specially to the *Orthoptera*, which includes that great family of masticating-feeders, so destructive to vegetation when they occur in great numbers—namely, the grasshopper—because fruit-growers, perhaps, are not so liable to their injuries, as a general thing, as those who raise garden and field crops. The strawberry crop comes too early to be injured by *them*. [TO BE CONTINUED.]

PEACH PIE.—Dr. Darlington says, "Judging from observation it would seem to be not generally known to our pastry cooks that a peach pie baked with *the fruit whole*, (simply pared, but with the *nut left in the peach*,) is vastly superior to one made of the mere fleshy portion cut in pieces. The process of baking—as I suppose—elicits the prussic acid from the seeds of the peach, and diffuses it through the pulp,—imparting to it a sprightly and delicious flavor, far beyond what it possesses when the stone is previously ejected."

NORTHERN APPLES IN THE SOUTH.

BY JAMES MAGOFFIN, ST. STEPHENS, ALA.

Having been for a considerable period among the most successful amateur cultivators of the apple, as well as other fruit, and from long residence, (having been raised in Philadelphia,) possessing a knowledge of the different apples much esteemed in the North, I can assure you that all apples from the *North* are found, on careful and judicious cultivation, to improve in this *climate*,—the secretion of oleagineous and saccharine matter singularly increases, the aroma is greater and finer than the same apple produced in my native State or north.

In consequence of this fact being unmistakably ascertained, I have endeavored to possess all the foreign esteemed varieties I can to acclimate, if possible, by grafting and re-grafting, and have *succeeded* singularly on one especially, the "Vermont Greening"—now one of our surest fruits.

It will, perhaps, interest you when I assure you that the *Mammoth Pippin* is found succeeding admirably thirty miles south of Mobile on the margin almost of the gulf.

[The above extract from a private letter we take the liberty of publishing, containing, as it does, information that is novel, and that will highly interest many of our readers.—ED.]

THE OSCAR STRAWBERRY.

BY JOHN HAYS, WEST MERIDEN, CONN.

I send you (August 28th) a peduncle of the Oscar Strawberry, bearing seven berries (the usual number, but two peduncles are always borne together); the ripe berry is much below the regular size. I send it to show the peculiarity of it fruiting at this season. That which I send you is from a plant growing in a pot, and is its third fruiting this season. The plants in pots made no runners, consequently a third crop was obtained. Those planted out fruited admirably early in the season, and continued to bear much longer than any other variety we have.—Scarcely had they done bearing their first crop, when they began to blossom and gave a second; the latter is that which your correspondent noticed, and was much inferior in size to the former. You remarked that keeping the plants in pots during Winter alters their natural fruiting next season. You are, undoubtedly, right; but what can we say of plants grown in pots all the season, and even now are bearing fruit? To have a decision, we must await another season, when I shall watch the columns of the *Gardener's Monthly* with anxiety to hear what others have to say on the subject.

[We should not hesitate to decide beforehand, that the Oscar will not prove a perpetual bearer. Pears, apples, grapes, and other fruits will often produce second and third crops, arising from accidental circumstances, rather than from any fixed nature in the variety. If, however, by any peculiar treatment, the Oscar or any other strawberry could be made to produce Autumn crops regularly, and with little additional cost, very much would be gained to fruit-culture. We hope Mr. Hays will persevere with his experiments. The berries sent came in good condition, and were equal in size to a good Hovey's Seedling, and a long way superior to it in flavor, though so late in the season.—ED.]

AMATEUR OF CORNELIUS' PROPAGATING-POT.

BY S. SWINDELLS, LANCASTER, PA.

In looking over the last number of the *Gardener's Monthly*, I perceive that *many* have been inquiring for the Cornelius' Propagating-Pot. An idea struck me at the time that the following would be a good substitute, if not an improvement, viz:—Take three 12-inch boards of any length, say sixteen feet long, and make a long box or trough; but, before fastening together, in the piece intended for the bottom of the trough make a few augur-holes, and in the piece of board intended for the front make the apertures for the insertion of the cuttings in the following manner: Rip the board with a *saw* at the distance of four inches from one edge, which will then be two boards, one of four, the other of eight inches. Along one edge of the four-inch board make, with a *saw*, notches or cuts in the form of the letter V, one to about every inch of the board. Then, in nailing together, place the notched four-inch board on one side, with the POINTS UP; then place the eight-inch board on the same side, one edge resting on the points of the notches, and, after putting in two end-pieces, you have the *propagating-trough* complete. Put in the bottom some coarse materials, such as broken crocks or oyster-shells; then proceed to fill up with *sand*, *saw-dust*, or *spent tan*. By placing the trough east and west, with the apertures fronting the north, you have the cuttings partially shaded from the *sun*. By attaching a light board with hinges to the front edge of the trough, you can produce any desired shade at pleasure. The trough can rest on tressels, or be suspended on the north side of a fence. By suspending over hot-water pipes, you can obtain any desired quantity of bottom heat.

VICTORIA REGIA.

FLOWERING IN THE OPEN AIR.

BY A., PHILADELPHIA.

Noticing, at a recent meeting of the Pennsylvania Horticultural Society, a beautiful flower of this noble plant on exhibition by Mr. James Pollock, the skillful gardener of James Dundas, Esq., and not having an opportunity to call ourselves at the establishment, we engaged a friend to obtain for us the course of treatment pursued, which, as seen below, Mr. Pollock has kindly given him for us:—

The plant was carefully tended in the Spring, and on the 24th of June placed in a basin, attached to the fountain in Mr. Dundas' garden. The leaves of the plant at this time were eighteen inches in diameter, and, by giving the plant a change into a larger box, with a very rich compost formed of rich loam and well-rotted manure, it was excited to grow very rapidly, and by the beginning of August the leaves were three feet in diameter, and of a very healthy appearance. At this time buds were formed, which swelled rapidly, and, by the latter end of the month, a flower was fully expanded, for the first time, we may truly say, *in* this country. It measured nine inches in diameter, being well formed and very highly colored. Mr. Pollock deserves great credit for his success. Considering that the water at Fairmount being heated to from 75° to 80° by the great surface exposed to the sun's rays, he fully expected that he could succeed in his experiment, and with, as we have seen, complete success.

VINOUS PROPERTY OF THE GRAPE Versus TARTAR.

BY C., PHILADELPHIA.

I could not pass over the extremely lucid chemical article in your last from Dr. Hayes, of West Chester, without making a few remarks on it, as our friend Bright's fertilizer is so deeply concerned; and as scientific knowledge is so far above all practical, particularly in that complicated science chemistry, I was a little (to use a vulgar expression) "dumb-founded," as I am sure many of your readers were, after its perusal. For the sake of Mr. Tartar, and not to make the intricate subject more intricate, I thought if I made a short katalysis of the matter, he might be retained or rejected by future manufacturers of friend Bright's fertilizer; and that he might be induced to alter his ℞ in the next edition.

Chemical reasoning is sometimes paradoxical; and we are often as baffled at the "why's and wherefore's" as Dr. H. is, and cannot see how "tartaric acid is any advantage to the grape" in fact, or any of its constituents. Now, there is mucilage, sugar, aroma, and various other good things grateful to the palate; but Mr. Tartar what use are you? To set our teeth on edge? But to be short, dear reader, Mr. Bright's book is on the *culture of the grape vine*—Dr. Hayes' paper on the *katalysis*. One tells us of soil, manure, water, potting, planting, pruning, pinching, and so forth; while Dr. H. tells of fermentation, "alcohol, carbonic acid, water, &c.;" a mixture that would grow very bad fruit, and I am quite sure would make worse wine. When the *argol* is deposited, is argol the *katalysis* of tartaric acid? for it is given in *italics;* and further, we have "alcohol in high standard of density," and then when Mr. Tartar has taken his departure, we have "alcohol in low standard of density;" in plain English—strong and weak *punch*. Now, German wines are all very sour—dry they call them; and Dr. H. has certainly not made their katalysis very clear, the why and wherefore they are so—entirely by the "elimination from sugar and *bulk of price?*" by putting too much water in the punch—showing that "the wine *per se* has nothing to do with the argol deposited;" and then he says by "keeping the tartar we lose the alcohol," and *vice versa*. But here is the puzzle:—"grapes contain large quantities of *argol* (?) and sugar, and what use is Bright's recommending us to "stuff more argol into the grapes to be turned out by the alcohol? Nor can Dr. H. understand, under any circumstances, a grape wanting argol, for he says "nature gives an excess;" and why should Mr. Bright force his tartaric acid on her to such repletion that the inflated grape has to disgorge? in fact, it is a species of intoxication. O, Bright, Bright, why force poor Nature by your overdoses?

Sour grapes are only for foxes. Dr. H. knows well the ladies are on his side; the sweet creatures like sweet wine; acid wines spoil their teeth. I now see why we cannot import Italian wines—too much tartar or argol; but we buy so much of the article for dyeing, printing, &c., that the Italians, from whom we get the largest supply, must water the volcanic grape soil with tartaric acid, and so it comes to be deposited in argol in their wine cask. True, it is hard now to get a glass of the "Lachrymo Christi," or the fine old *Falernian* we have heard tell of. If Garibaldi got a hint of this abuse, perhaps his great reforming mind might strike out a plan to drive Mr. Tartar from Italy, and let us have good sweet wine from the katalysis of their grapes.

But to conclude; we all owe Dr. H. our thanks for his communication. It opens up new views to the horticulturist, the wine maker and the chemist, extremely valuable; and though I think, or did think, Bright's book a *ne plus ultra* on his subject, yet still he, and I, and all of us will find, and even old Solomon to boot, that there is still "something new under the sun."

[C. having failed to punctuate his own manuscript, we are not answerable if his ideas are not correctly given in print.

We hope our correspondents will not lose sight of the *point* of the discussion, which, after all, amounts

to the inquiry whether any correct theory of fertilization can be established on the mere analysis of the component parts of fruit or vegetation. Dr. H. has confined himself to the point of tartaric acid; but all the other elements will bear the same questioning. While believing that modern chemistry is right in the main, we dissent from much that is claimed for it; and have not the slightest doubt but that many of the theories on which special fertilizers are founded, no matter how useful the compound may prove practically to be in itself, will be incontinently abandoned.—Ed.]

NEW WHITE EGG PLANT.

BY NOVICE.

I send herewith samples of a new Egg Plant which I have received from two sources as the *Chinese* and the *French* White Egg Plant.

The habit of this variety is more erect than the old purple kind; its leaves are of a paler green and entirely devoid of spines; and the fruit, which varies in size from 6 to 10 inches in length and 2 to 3½ in diameter, matures 10 to 14 days earlier than the long and round purple sorts. It is very prolific, yielding 6 to 12 fruit, of a clear white color, sometimes, though rarely, faintly streaked with purple, indicating its descent from the common kinds, probably a hybrid of the old white egg-shaped and the long purple.

All of my friends who have tasted it pronounce it more delicate than the old sorts, and entirely free from any bitter flavor, which often characterizes the large round purple variety.

For its earliness, productiveness, fine flavor, handsome appearance, and *convenient size*, both for cooking and eating, I think it will prove a valuable addition to the present meagre list of varieties of this delicious vegetable.

[The specimens sent proved excellent. The fruit of the Egg Plant bring from 6 to 10 cents each, and not much profit to the grower at that. All lovers of this delicious vegetable will hail that productiveness which may make them cheaper.—Ed.]

NOTES ON THE SUB-GENUS TYDŒA.

BY DANIEL BARKER, GARDENER TO B. K. BLISS, SPRINGFIELD, MASS.

Amongst Summer and Fall flowering greenhouse and window plants, there are few which can claim greater merit than the new and elegant varieties of this interesting and beautiful class of plants; alike adapted for the decoration of the hot and greenhouse, the windows of our dwellings, or portable plant case (which by the way is one of the most elegant objects for the ladies' boudoir or parlor, or the window of the artizan, which have ever been introduced.) Cross-fertilization within the past few years has made a wonderful change in this tribe, comparing those of the present with those of only five years since; there is a great superiority, both in form and color of the flower as well as in delicacy of marking in the foliage. Amongst recent importations there is such a beautiful combination of color, size and substance of flower, harmonizing well with the delicate and elegantly marked foliage, this class of plants was never before exhibited. They are of very easy culture, and when well cultivated are amongst the most beautiful of greenhouse plants, growing from six inches to two feet high, flowering abundantly.

They produce a beautiful effect throughout the Summer and Fall months. For exhibition, nothing can be more charming than well-grown specimens of a few of the best varieties. It requires no more care to cultivate a good variety than an inferior one.

I have, from a collection now in flower, (August,) made a small selection of the best, combining beauty of form and color of flower, with distinct and elegantly marked foliage:

Tydœa *Lady Caroline Kerrison.* A very beautiful variety, growing about two feet high. Flowers, a rich rosy crimson, finely marked with rich violet spots and lines; the interior of the tube being marked with rich, dark crimson bars.

Lady Digby. From one and a half to two feet high. The foliage beautifully diversified with light and dark green; tube of the flower about one inch in length, of a fine crimson scarlet; lobes of the flower a deep rich rosy crimson, marked all over with deep violet crimson spots and bars; a superb variety.

Gigantea insignea. A very ornamental variety; an improvement upon the well-known *Achimenes picta.* From one and a half to two feet high; flowers very numerous, funnel shaped, of a brilliantly shaded crimson, scarlet ground, spotted with deep carmine. A valuable plant for Fall and Winter flowering.

Amabilis. A very delicate and beautiful variety; one of the loveliest of all the section. Color soft rose, with a white throat marked with deep carmine. Fine silvery shaded foliage.

Agathe. A highly ornamental variety, from eighteen inches to two feet high, with beautifully marked foliage. Tube a brilliant scarlet; mouth of the corolla deep rose, marked and spotted with deep red.

Auber. A chaste and beautiful variety, from ten to sixteen inches high. Tube scarlet; mouth of the corolla a deep carmine, distinctly marked with crimson lines. An elegant variety.

Perle des Tydæs. Fine dwarf habit, with very ornamental foliage. Tube and throat rich scarlet.

Princess Charlotte. A fine robust-growing variety, with richly marked foliage. Tube a bright carmine red; mouth of the corolla a rich dark red or carmine, finely spotted with deep crimson. An elegant variety.

Recipes for Fruits and Vegetables.

"The lady who contributes a good recipe for the public benefit deserves as much credit as he who introduces a new fruit or vegetable."—*Good Authority.*

Pickling Plums.—As we all hope for fruit this year, I send a recipe for pickling plums, which I know, by experience, to be first-rate. For a peck of plums, take a pint of vinegar, one ounce cloves, and one of cinnamon buds, tie the cloves in a thin piece of cloth, and four pounds of sugar. Boil together and pour on the plums hot. Let them stand two days, then pour off the liquid, boil, and pour on again.—Cover and set them in a cool place. They will keep longer than preserves, and are far superior in my opinion.—*Rural Register.*

To keep Cucumbers for Winter Use.—The German method is as follows:—Pare and slice the Cucumbers as for the table, sprinkle well with salt and let them remain for a day and night, when strain off the liquid, pack them in jars, a thick layer of salt and Cucumbers alternately, tie up closely, and, when required for use, take out as much as required and well wash in fresh water, dress in the usual way with pepper, vinegar, and oil. The above will be found very acceptable during the winter months, when Cucumbers are not easily obtained.

Drying Vegetables.—The Editor of *London Cottage Gardener* says:—We recollect, some eighteen years ago, receiving from Hamburgh or Holland, we forget which, a few packages of Sugar Peas, Kidney Beans, and other vegetables, in a dried state, which, when cooked, were as well-flavored as they would have been in the green state. These, we believe, were obtained by drying in chambers through which currents of heated air were introduced; they were completely dried and shrivelled up, and had the appearance of strips of thick parchment or leather, until they were boiled, and then they swelled out to their usual dimensions. We have also seen Kidney Beans preserved by first boiling them tender, and afterwards drying them in a warm, airy place, when they may be kept for any length of time in bags or boxes, till ready for use. This drying process may be applied to Peas, Beans, Kidney Beans, Cabbages, Cauliflowers, Spinach, Beet, Parsnips, Carrots, Potatoes, &c., the latter being cut in slices.

Cucumbers Preserved.— Pare thinly the Cucumbers; cut them in two, lengthwise, and take out the seeds; lay them in cold salt and water for twenty-four hours; then wash them and lay them in alum water for twenty-four hours longer, when they are to be taken out and drained. To each pound of Cucumbers take a pound of sugar, of which make a syrup, by putting a teacupful of water to each pound of sugar. Skim it well, put in the Cucumbers, and boil slowly till they are quite clear; take them out, lay them on a dish, and continue to boil the syrup till it is thick, adding the juice of two lemons and two races of ginger. Put the Cucumbers into jars and pour the syrup over them. Let the jars be kept air-tight.—*Cottage Gardener.*

New or Rare Plants.

At a recent meeting of the London Botanic Society, the following new plants were exhibited:

Clarkia pulchella Tom Thumb, a very pretty dwarf and very bushy plant, a complete mass of bloom.

Linaria Macroura splendens, a very fine, dark purple variety.

Polystichum aculeatum corymbiferum. It is a very ornamental form of this Fern, having tassels at the ends of the fronds.

Cordyline erythorachis, is a variety of C. stricta, and has long, gracefully curving leaves, with a bright red midrib. As an ornamental-foliaged plant this was much admired.

Tachiadenus carinatus, a pretty free-blooming plant, with flowers of the same character as Laisianthus Russellianus, but smaller and of a dark purple color.

The Fuchsias which attracted the greatest attention were Garibaldi, with large flowers, scarlet reflexed sepals, which are rather coarse, and light purplish slate-colored petals, a fine habit and profuse bloomer.

Lord Elcho, a fine large flower, with reflexed deep coral-red sepals, and very dark violet-purple petals.

Prince Leopold is somewhat similar to the preceding, and received a First-class Certificate.

Minnie Banks is a very fine light variety, with white reflexed sepals, and scarlet petals.

Negro (Banks,) a bold, beautiful dark mulberry corolla, and scarlet reflexed sepals.

The *Cottage Gardener* says:—"Messrs. Charlwood & Cummins, of Covent Garden, sent to the recent meeting a basket of *Brobdignag Sugar Pea*, which bears considerable resemblance to the *Géant* of the French, but is more constant and not so apt to sport as that variety. The pods are of an immense size, five to six inches long, and an inch and a quarter broad, and crooked like a ram's horn."

The Gardener's Monthly.

PHILADELPHIA, OCTOBER 1, 1860.

☞ All Communications for the Editor should be addressed "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

TO ADVERTISERS.

☞ Copies of Advertisements, *when they occupy an entire page* of this paper, will be furnished to the advertiser, printed on good paper, for private distribution, at the low price of THREE DOLLARS per thousand. *Nurserymen* will find this an economical way of getting their *Wholesale Lists* and *Abstract of Catalogues* printed.

WHAT KIND SHALL I PLANT?

Those who have the public ear are popularly supposed to write from "a sanctum," and it is foolishly imagined that their epistles are indited in an "easy chair." It may be so in general, and for ourselves in particular we have no cause to complain. Our correspondents are reasonable, and our intercourse with them in the main is pleasant and agreeable; for all this we are never asked the question that heads our article, but we feel a few thorns amongst the rosy-petaled cushion on which we sit; and the *cacoethes scribendi* becomes so strong within that we cannot, however unwillingly, any longer restrain our pen.

What kind shall you plant? What a load of responsibility the answer involves! Perhaps it is a strawberry, and we say "Albany Seedling." "What!" exclaims our right hand neighbor, "you might as well recommend him to eat a pickled gherkin for his dessert as Wilson's Albany." "Oh!" say we, "you want something nice; try Peabody." "Too great a luxury," says neighbor on our left hand, "it wont do when you are hungry, you can get only enough for a taste." "And I," says No. 3, "would sooner have a bee-sip from a 'sac of mellifluous syrup,' than a whole dinner out of those 'bags of acid' you would have me grow." Dare any man to plant on good authority a kind as "the best in cultivation?" scarcely has he the crop planted before his neighbor advises him to root out "that worthless variety," and plant "Somebody's Perfection," or "Anotherbody's Wonderful," as "really the most *extraordinary* thing of the kind ever raised." So he roots it out, installs in its place the new favorite, and has "poor luck;" roots it out and "tries another;" next year repeats the process; and so continues, ever seeking for the *best*, missing the *good*, and always gathering *nothing*.

Amidst this Babel of opinions, is there to be no one voice that shall speak with authority, commanding universal respect? Is there really no rule by which the novice about to plant shall be guided in the selection of varieties? Certainly there is, and that is the rule of collective experience.

No one man is capable of forming a reliable opinion on what is best for general cultivation from his own experience alone. We would take for "no more than it is worth," the opinion of any editor of any horticultural journal, or of any committee of any one horticultural society; they seldom see any more than the fruit, and this fruit only at one particular time, or on some particular occasion. Soil and climate and circumstances attending each grower's mode of culture, each have so marked an influence on the character of any variety, that a simple opinion is little above valueless for general purposes. The Concord grape, which was pronounced by competent and impartial judges worthless in the locality where it originated, has since been proved by the same gentlemen of great value in the climate of the Middle States. An Englishman would turn up his nose at a Bartlett pear in his own and its own country; but here, where it came as an emigrant, it holds a position which many a competitor of native origin envies.

It does not follow, therefore, that because a variety does well in one locality or one season, that it will always and everywhere do as well. There are two opposing principles extant in all plants—that which looks only to the present in gross and luxuriant growth, and that which looks to the future in the preservation of the species in the fruit. Providence and extravagance thus come into competition in the vegetable as in the animal worlds. Though neither can exist without the other, each flourishes only at the other's expense. If a plant have a tendency to produce free and vigorous growth or foliage, it is so much absorbed from the fruiting principle; and if it bears more than a fair proportion of fruit, the growth becomes correspondingly weak, and the tree stunted, and often worthless. Some manures and some climates favor growth, others favor fruitfulness; so the character of a fruit must necessarily vary with the conditions of its growth.

We have drawn a comparison between vegetable growth and the animal kingdom, and the illustration will serve us yet further. We all know what is meant by a well balanced mind; the physical and the mental character is so nicely adjusted that neither has the power to draw from the other more than its due share of sympathy and support; and the owner of such a character goes through the world less influenced by changing external circumstances than others more yielding, who seem to be little else than the footballs of fate. The latter stand well before their fellows in particular positions where there are no temptations, like the pilot who earns a good character for seamanship in a channel that has no shoals for his vessel to become wrecked upon; but the former holds his own under the most unfavorable auspices and commands respect in whatever situation placed. And amongst plants the exact parallel is found. A new fruit makes its appearance. It was "the best amongst a thousand seedlings;" testimonials of its excellence flow in to the raiser; and it was a really meritorious production as it then appeared. It is let out to the public and proves worthless. We believe there was no desire to defraud. Its superior merits were fully believed in. But its constitution was not "well balanced,"—it became but the "football of fate."

These are annual occurrences, and what are the inferences to be drawn by those who inquire what kinds shall we plant? Simply to plant only those kinds which have been found by experience to do well in their own individual locality; or those which by having been tried in many different and widely extended parts of the country, prove worthy of a good character in all,—have a well-balanced constitution, and can be universally relied on.

It is the ability to afford this extensive experience that renders the meetings of the Pomological Society so interesting, and their proceedings so valuable. A kind that does extremely well under some special circumstances, and has justly its warm advocates, soon finds its true level amidst voters and votes from all sections of the country, on the question whether to recommend it to general cultivation. Axes for grinding are occasionally introduced, and the society dexterously employed to turn the stone; but with so many eyes intent on spoiling such sport, the chance of obtaining a keen edge to the instrument is extremely small.

Horticultural societies have been in their day amongst the best guides in the inquiry—what kinds shall I plant? But they have been standing still. The publication of their proceedings in any form that will benefit the public is rarely even thought of. In this active world, where all stand-still projects are rapidly thrust aside, pomological gatherings become a necessity, and are in more harmony with the age. But they are not what the necessities of the age demands. We want EXPERIMENTAL GARDENS in some half a dozen points on the continent, before the public shall reliably know "what to plant;" not only in fruits, but in trees and flowers also. This we must and will have before long. What city will be the first to have the honor of inaugurating them? The great problem hitherto has been how to make these gardens self-sustaining and worthy of the objects of their existence, and yet not merely do no injury to, but actually receive the support of, commercial gardeners. It has never yet been successfully accomplished in Europe, where we are accustomed to look for most of our ideas in the gardening line; but we are well assured that we can do it here nevertheless, and hope some of our readers will weigh the matter over in their minds, and make whatever suggestions in our pages they may have to offer bearing on so desirable an end.

INTERIOR ARRANGEMENT OF GREENHOUSES.

(*See Frontispiece.*)

We have repeatedly suggested that much more interest might be manifested in the arrangement of greenhouse plants than there is. Usually, glass houses are mere depots for the winter storage of plants. By tasteful arrangements of staging, the introduction of ornamental brackets, and the employment of trailing vines and hanging plants, beautiful effects can be accomplished with small means, even in houses with the most formal arrangement of the staging, the plants may be so varied in heights and in collections as to give great variety and naturalness to the appearance.

We have, through our back numbers, called attention to the subject, and frequently given illustrations so as to afford hints for improvement.

The present shows the interior of Messrs. Krelage's Winter Garden at Harlaam, where the principal plants relied on for show are Dutch bulbs.

MR. RATHVON'S ESSAY.

The immense amount of injury annually inflicted by the attacks of insects, not only on the fruit grower, but on the whole agricultural and horticultural interest, is constantly on the increase. The knowledge of the habits and peculiarities of these noxious insects, becomes, therefore, of the first importance.

But there is also a class of insects that aid the fruit grower; a carnivorous section that makes war on the other division, and fattens on the spoils. A knowledge of the characters and habits of this portion of the insect world is scarcely second in value.

Mr. Rathvon's essay embraces both these branches and is believed to be the most complete and comprehensive effort to make the whole subject plain to those uninitiated into the technicalities of science ever attempted. In addition to the practical value of the essay, Mr. Rathvon's distinguished position as one of the leading entomologists of the continent, enhances its merits as a scientific production.

In preparing it for the Fruit Growers' Society of Eastern Pennsylvania, no idea was entertained of its being published in the present form. Its rare merits caused a universal desire amongst the members to have it extensively circulated, and the manuscript has been placed in our hands for the purpose of publication.

Fully entering into the Society's opinion of its value to the general public, we have determined to do it full justice, and have therefore, by the kind assistance of Mr. Jacob Stauffer, had plates prepared of the insects to accompany the text. We shall incur a much heavier expense than we contemplated, when we projected the *Gardener's Monthly;* but our past experience teaches us that when we give our friends, as we have often done, more than we bargained to do, they in turn do even more than we can expect of them to increase our circulation, and we feel rewarded.

DISCUSSIONS & TRANSACTIONS OF THE EIGHTH SESSION OF THE AMERICAN POMOLOGICAL SOCIETY.

We are gratified in being able to lay before our friends, in an extra, the verbatim report of the proceedings of the late session of this most excellent and useful society. It was made by our own reporter, and will be found well worthy of perusal. The address of the President, Marshall P. Wilder, is also replete with useful advice and timely suggestions, and is a most able and eloquent exposition of the aims and objects of the society.

This report has been procured and published by us at considerable expense, and this fact will, we are sure, be appreciated by our patrons as another proof of our desire to make this periodical not merely an *aid* to the horticulturist, but a *necessity.*

Extra copies of these transactions can be furnished to non-subscribers at the rate charged for single copies of the *Monthly*, viz., TEN CENTS.

Questions and Answers.

RAISING WHITE PINE SEEDLINGS.—*W. A., Groveland, Ind.*—You will oblige me by saying in your October number of the *Gardener's Monthly* if putting *glass* over beds of White Pine seed will be essential or advantageous in causing them to germinate; and, after germination, how long should the glass remain?

[White Pine, as well as all conifer seeds of a similar nature, are best sown very early in the Spring—say February or March. A bed of light, sandy vegetable-mould should be prepared, and frames set on, raised from the bed at the four corners, so as to admit the air. The glass on the frames should be whitewashed, and kept always on for the purpose of keeping off heavy rains and retaining a moist atmosphere over the seedlings. It is not well to sow thickly. If not sown till April or May, the seedlings damp off in hot weather.]

PEACHES, ROSES, &c.—*J., Nashville, Tenn.*—Will the peach succeed on the stock of the common wild plum? If so, could we not avoid the "yellows" and the borer by a resort to that practice, and thereby produce peaches in soils and situations not naturally suited to the peach stock, and procure greater longevity for the tree? (1.)

At what time should roses which have been bedded-out in the Spring be re-potted for the greenhouse or for transportation? (2.)

Is not the "Tear Blanket," spoken of by Mr. D. O. Reeder, in the August number, the *Aralia spinosa*, instead of *Xanthoxylum fraxineum?* (3.)

Does the essay of Ida in the August number come within the design of your valuable periodical, which is usually so eminently practical? (4.)

[1. Our belief is, that whatever tends to injure the sap of the peach tree brings on constitutional diseases, of which the "yellows" is one of the worst forms. Excessive luxuriance, followed by severe Winters, is one of the most frequent causes of this natural weakness, and which is removed by employing a stock which checks exuberant growth. We have no doubt plum stocks will come into extensive use for the peach, though it also is not free from some objections.

2. As soon as the first frosts cause the leaves to drop.

3. Mr. Reeder's description would apply to either plant. The suggestion of "J.," he being a "Tennessean," is more likely to be right than our own.

4. It is very difficult to decide what is the point beyond which an essay ceases to be "practical." "Ida's" essay was certainly on the boundary; but we gave it the "benefit of the doubt," and we are sure it was read with pleasure by many of our readers. With such a great variety of tastes that flock to their monthly meal around our table, we have to provide a variety of dishes,—fish, flesh, and fowl.

"Ida's" sketch was a little too long,—not altogether her fault, however, as she was certainly not aware how greedily every inch of our journal is devoured by horticultural epicureans; but we know she will take "J.'s" hint in all kindness, as we are sure it is meant, providing "J." will occupy with his practical pen the portion of space she resigns to him in shortening the length of her pleasant lectures.

TRITOMA UVARIA—*N. H. R., Springfield, Ill.*—I have a Tritoma now flowering finely. I cannot find in the periodicals which I take, practical instructions as to the treatment of the plants during the winter, and I write to suggest to you to prepare an article for the next *Gardener's Monthly*, giving, in a plain, practical form, directions for the culture of this desirable plant in our country.

Our winters in Central Illinois are very cold commonly, the thermometer generally touching 10° to 12° below zero, and sometimes going down to 20°, while our rich, deep soil and late autumnal rains occasion vegetation frequently to remain in full growth until the time for severe frosts. Many things which stand out well with you during winter are in consequence winter-killed with us.

We are advised, in the works on horticulture, to "take up" or "lift" various tender and half-hardy plants in the fall. An article from your pen on this subject, giving the details of the process as applied to the very different kinds of plants which may advantageously be "lifted" for winter-keeping, the time for each kind, etc., and their treatment in cellars, cold frames, etc., during the freezing weather, and also when they are returned to the open ground in the spring, would, I have no doubt, be very acceptable to many of your readers.

What *your* readers want generally is, *your advice.* This, I think, we are mostly quite willing to follow, without troubling one of your judgment and knowledge for reasons.

[Reasons for our practices are useful in this, that no method of procedure that is successful in one case invariably produces the same result in another. By understanding the reasons for a practice, one is better able to adapt that practice to varying circumstances. Certainly it is a common fault to give too many reasons and too few facts.

Tritoma uvaria is very easily managed. As soon as the first frosts have injured the ends of the leaves,—here about the first of October,—with a spade lift up the plant as you would a carrot,—shake off all the soil. If you wish to propagate, take part of such suckers or offsets as will readily separate with roots to them. Then cut away about two-thirds of the leaves from both old plants and offsets, and set into pots just large enough to hold the roots without cramping them. Any light garden-soil will do. Water well immediately after potting, and set in any light shed for a few weeks, till the approach of severe frost, when they may be placed in a pit, or cellar, or any place protected from frost till April, when they should be taken out and at once planted in a border of rich garden-soil. While in the cellar they will need only so much water as will barely keep the soil from turning to dust, and no more warmth than will just keep out frost.

Plants "lifted" or taken out of the ground and repotted, always wither afterwards, more or less. The less they wither, the more successful the operation; not to let them wither if we can help it, is, therefore, the secret of success.

First cut off any young green succulent shoots that may yet be in a state of growth at the end of the branchlets; make a basin around the base by drawing away the soil, and pour in enough water to soak thoroughly down about the roots of the plant; then lift carefully with the spade, getting all the roots possible. If the plant has an abundance of roots, it will not need any more shortening of the branches; but if the top seems out of proportion, cut away more. Pot as soon after taking up as possible; water well to settle the soil about the roots, and set at once in a cool, shady place, where the air is not dry.—Gardeners generally use their potting-sheds for the purpose. Every day sprinkle the plants with water to check evaporation. Any leaves that seem to continue withered for a few days, should be constantly taken off till the plant seems able to maintain all the rest without suffering them to droop. After remaining as long in the shed or shade as the weather will safely permit; all with firm, hard wood may go to the cellar, and the more succulent kinds to the pit or greenhouse, where they can have light occasionally through the winter.]

DEMOCRAT PEAR—*Mr. R. A. Grider, Lehigh Co., Pa.*—Very fine specimens, and equal in quality to those we have the two past seasons spoken favorably of.

BLOOM GRAPE—*From F. F. Merceron, Catawissa, Pa.*—Very fine, showy bunches, nearly equal in beauty to the Union Village. We think it well worthy of trial, as locality, after all, determines flavor.

HARDY RASPBERRIES—*W. S., Fairy-mead, U. C.*—New Rochelle or Lawton Blackberry is quite hardy here. Occasionally, in soils where growth continues late, the tender points get killed.

Brinckle's Orange, Old Red Antwerp, and the Allen are amongst the hardiest of raspberries in this section. Your notes on Lawn Plants will interest, and shall appear next month.

AMATEUR PROPAGATING-POT.—We continue to receive inquiries where these are to be obtained. S. Maupay & Co., whose advertisement will be found in the proper column, inform us that they have undertaken their sale, and will receive orders for them.

SEEDLING STRAWBERRY.—August 28th a small box reached us, with some strawberries of good flavor and of medium size, but with no name or date to indicate from whom or whence received.

GRAPES—*Wm. Aldrich, Groveland, Ind.*—A neighbor of mine has an Isabella Grape on a Balm of Gilead tree, bearing full crops of grapes, while vines on a Black Locust generally rotted. Another neighbor had a vine, one branch of which extended from a Locust tree to a Balm of Gilead tree, with the same result between the different branches of the same vine, though on the two respective kinds of trees.

[Grapes invariably thrive better when their branches get to run over trees. The reason for this is not very clear to any one. We never noticed that they preferred any one kind of tree to another, and we should judge that the branches on the Locust owed their weakness to some other cause independent of the Locust tree. However, the coincidence is certainly suspicious, and it is worth further observation.]

A Subscriber, Rochester, N. Y.—In the July number of the *Gardener's Monthly*, the lithograph of the New English Strawberry, the Wizard of the North, *(or more properly called the Humbug of the North,)* does not correspond with the description of our English nurserymen. Inclosed is the advertisement of Mr. Turner, England, who describes it as *rather small, medium flavor, good cropper.* Please correct, and you will confer a favor on the public. (1.)

You say, in the description of New and Rare Plants, that the Eleagnus parviflora and E. reflexus are the same. This is not correct. I have seen them both at Messrs. Ellwanger & Barry's Nursery. The E. parviflora you describe correctly. The E. reflexus has curious spotted or rusty-looking shoots, and is a native of Japan. It will not stand our winters, while the E. parviflora is hardy. (2.)

Last spring I saw a new Willow imported, under the name of Salix Babylonica violacea pendula, which has turned out to be nothing more or less than the new American Weeping Willow. (3.)

[1. "Our English nurserymen" are often no better authority than any other. Our plate was from a copy taken from a plant on exhibition, and we have since seen a party who saw it in Scotland, and who assures us the size is not exaggerated. Mr. Peter Mackenzie, florist, of this city, fruited one in a pot,—the plant was imported this spring; and we are assured by a member of our Fruit-Growers' Society's Committee, who saw it, that it "was but very little inferior" to our drawing in size. We have noticed the quarrels going on in the English journals regarding it, and to which our correspondent alludes; but we have seen too much of "trade-quarrels" in our time to be ready to cry "humbug" on the faith of one party in a dispute. We want experience, not so-and-so's "say so." In the mean time strawberry-growers should act with caution, and not plant largely until it is proved all right and adapted to our climate.

2. If our correspondent means E. parvifolia, one of the plants in Ellwanger & Barry's Nursery, must be wrongly named. All botanists agree in considering E. reflexa but a synonym of E. parvifolia.

3. And the "New American Weeping Willow" is nothing but *Salix purpurea* grafted on a tall-growing species. "Our English nurserymen" may be no no more reliable in strawberries than our "Subscriber" finds them in willows.]

Names of Plants—*A Subscriber, Harper's Ferry.*—Will you please give the name of the shrub of the leaves and seeds inclosed. The seed look like some that I purchased from F. Trowbridge & Co., Nurserymen, New Haven, Conn., for the Hop tree seed last year, and which failed to come up after planted. If these should be the Hop tree seed, we have them here in the greatest abundance.

[They are the Hop tree—*Ptelea trifoliata.* Unless the seed are sown as soon as gathered, they seldom grow till the second year after sowing. We insert the above note entire, as it shows how a little botanical knowledge might have saved a purchase, and more horticultural experience saved the destruction of a seed-bed, which was probably good.]

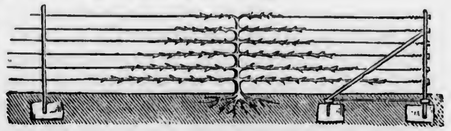
Books—*L. S. H., Holland, Mich.*—Is the Year-Book of Agriculture, by D. A. Wells, A.M., vol. I. published 1856, discontinued? I have not seen vol. II. yet. (1.)

What kind of a work is the Year-Book of the Farm and Garden, by A. M. Spangler, and what is its cost? (2.)

[1. We believe it is discontinued.
2. 25 cents; useful, and well worth the money.]

Espaliers.—*B., Newport, Ky.*, asks:—"I often see allusion made in your journal to the term 'espalier' in the management of fruit trees. I should be obliged by information how trees are trained in this way."

Trees planted along fences or hedge-rows in France are called "*espaliers*," and the term has been adopted by English fruitists to designate trees trained in a direct line along stakes or wires.



The annexed illustration shows one trained on a wire, and the manner in which the wire frame is fixed in the ground. Poles of cedar, locust, or any durable wood, however, serves very well to train the trees to.

Wisteria sinensis.—*J. F. S., Lewis Centre, O.*, says:—"What shall I do with my Wisteria sinensis? Every winter it dies down to the ground or below it, and every summer it makes a weak growth of three or four feet, but does not bloom. Last fall I laid it down and covered six inches deep, but found it dead, as usual, this spring. It is now about five or six feet high. I have Catawba and Isabella grapes on a strong (not gravelly) bank, with southern exposure, made rich by being an old yard, and they act precisely like the Wisteria. In summer they make a weak growth, which the winter kills. Of course I get no fruit.

[The wood evidently does not ripen,—why, we cannot say. The soil may be too rich, or it may be near a drain where water is continually emptying, or some other cause that induces rank growth. The other question about cold pits was answered in our last number.

Names of Plants—*T. M. H., Lancaster, O.*—Not Chamœbatia foliosa, but an Acacia, probably A. Farnesiana, a native of Florida, and probably taken from there first to California.

Solanum capsicastrum—*C., Philadelphia.*—We thought so ourselves at one time; but plants we received in the spring from Hovey & Co., Boston, proved it to be very distinct from the common kinds, and we think it will prove desirable.

Leached Ashes—*J. H. C., Toledo, O.*—What is your opinion about the value of ashes made at the soap factories, as manure, particularly to mix with muck or swamp-mud? Is not all the available potash exhausted by the caustic materials used in the leaching? Is there much phosphate and carbonate left? How does it compare with unleached in value?

[We regard leached ashes as worth no more than the cost of hauling.]

Hickory Pear—*W. B., Baltimore, Md.*—There must be some mistake. No pear with such a hard name can be found "in the Philadelphia markets."

Books, Catalogues, &c.

Flora of the Southern U. S., containing abridged descriptions of the Flowering Plants and Ferns of Tennessee, North and South Carolina, Georgia, Alabama, Mississippi, and Florida. By A. W. Chapman, M.D., 8vo. New York, Ivison & Co. Pp. 621.

Some years ago, when the mammoth trees of California were first discovered, and specimens were taken to England and there determined to be a distinct genus of plants and named Wellingtonia by Lindley, the national spirit of our countrymen was vexed that the noblest species of the American forest should be dedicated to the honor, not only of one who had never done anything towards the study of botany, and whose only known connection with botany was in mistaking the application of Mrs. Loudon for permission to look at his celebrated beeches, for an application to view the "celebrated" *breeches* he wore at Waterloo, but of one whose whole life was spent in opposition to principles dear to every American; and that aroused spirit expressed its preference loud and deep for the time-honored name of Washington in the connection. The English journals retorted, that if we wished our plants named after our own worthies, we should produce a race of botanists equal to the task of properly naming and describing them. Justly as this reproach might have then been deserved, we are well assured that it is now in a fair way of being wiped out. The great number of botanical works that almost weekly follow each other from the press, shows a widely pervading taste for botanical pursuits, which after all forms the real basis of more elaborate botanical works. No man can afford to spend his life in the study of any scientific pursuit for the benefit of the community, unless the public award him some means of subsistence in return for the benefits he confers. The purchase of his works is usually the only way in which society can return this obligation. The rapid appearance of scientific works shows that there is great encouragement for them; and it is a fact of which we may well feel proud.

Dr. Gray's "Flora of the Northern United States," has already reached two editions, and the demand for a more extended knowledge has now produced this work of Dr. Chapman's. The Flora of the Southern States has hitherto been somewhat of a mystery. With the exception of Elliott's Botany of South Carolina, and Walter's works, there has never yet appeared a work of original merit. Darby's Botany of the Southern States, made up mostly from the authors above noted, and the works of Nuttall, Michaux, Pursh and others, has been the principal text book, and has done good service in its day.

Dr. Chapman brings to the task *thirty years* of personal examination of the subject he has now written about; and it is needless to say that the manner in which he has accomplished his task has placed him in the foremost rank of American systematic botanists.

By Dr. Chapman's work we are now enabled for the first time properly to estimate the richness of the Flora of the United States. Adding his list to those described by Dr. Gray, we find there are east of the Mississippi, *three thousand, five hundred and nine* species; 817 exclusively Northern, 1084 exclusively Southern, and 1608 common to both North and South. In this it will be seen the South has by far the greatest preponderance of species. This is, however, in a great measure, due to Florida, which, with the half tropical climate which the Gulf Stream and the waters of the Gulf of Mexico secures for it, gives it a peculiar vegetation of its own. We note in a hasty glance over the work at least sixty genera that are confined exclusively to Florida. With such plants as Palms, Zamias, Epiphytal orchideæ, and other plants which

we are here accustomed to look after only in our hothouses, no wonder Florida presents so peculiar a front in the display of her vegetable beauties.

There are a great many species described which appear to us to be published here for the first time, especially amongst the grasses and cyperaceous plants; and amongst the trees which more particularly interest us, we notice a new Pine, not given in our old text book, Darby—*P. glabra*. One genus appears entirely new, called *Leitneria*, and which is allied to our Comptonia or Sweet Fern.

We can only hope the work will have a good sale; the most unexpected results in this line could scarcely reimburse the author for the many years of study and research of which it is the result.

Mr. Cope's Grape Essay.—In the last number of the *Farmer and Gardener*, Mr. F. J. Cope takes exception to our notice of his essay on "Both Sides of the Grape Question." He does not seem to have much to complain of; indeed, he thanks—not the writer of the review—but "the Editor" for his candor and fairness in stating his argument; but as we did not think that Mr. Cope was ever likely to "achieve greatness" in his crusade against settled practices of grape propagation and culture, he feels called upon to make a personal attack on the Editor of this paper and his antecedents.

We shall not follow Mr. Cope into a discussion of the principles on which we presume he has obtained his *cue* to *cope* with the subject. If he did not, as he tells us, become an American citizen by his own choice and free will, as adopting for his home what he believed to be one of the noblest of countries; but owed his citizenship to the fortunate accident of birth alone; it is nothing to us, and we cannot, nevertheless, judge of his book by any other rule than that of its own merits.

It is obvious from the tenor of Mr. Cope's remarks that all he has to complain of is that we did not praise his book; and this he attributes to what he calls "ill nature." We can assure Mr. Cope that we entertain no other feelings than respect for him personally, and notwithstanding his philippic against "Mr. Meehan," if he should again appear before the public in an author's capacity, and produce anything we may deem meritorious, we shall be among the first to praise it.

Mr. Cope does not appear to be aware that it does not necessarily follow that a literary review must be written by the editor of the journal in which it appears. In the present instance it is not of much consequence, as his inference as to the authorship is correct; but the suggestion may save him from errors in the future.

Fruit Preserver's Manual. By S. Culver, Rochester, New York.

A very useful little tract; but the whole treatise is so evidently written with a peculiar species of fruit jar in view, that the directions lose much of their force however good they may be in themselves.

There is a growing species of literature which, while professing to be written solely for the public information, and for which the public are charged full price, but which, after all, is really an advertisement of some peculiar ware, the merits of which the whole work is shrewdly diluted with. We rarely now read an article in a magazine, or listen to a public lecture, or take up a new work, without being constantly reminded as we go on that there is "something beyond the work" more important to the writer. We have forborne to allude to any one case, because the evil is so common it would be unfair to particularize. The process is being so thoroughly "ventilated" by the press, and the schemes therefore,

"Gang sae aft aglee,"

that we hope for a purer species of literature in future.

Book-makers comfort their consciences by assuring themselves that it is as easy to tell the whole truth in a book with their own individual interest uppermost in it as not; just as the old farmer told his son Jock, that it was "as easy for him to look out a good and handsome girl for a wife, who had the 'siller,' as one who had none." But "Jock" and the public will not believe these things. They are firm in the faith that they get the best bargains when they get only what they pay for; and we are sure they are right.

Renewal System of Training the Grape Vine. By W. Martin, Sr. Pittsburg, 1854.

The advantages of a gardening journal is in no way more apparent than in the number of facts and ideas it is continually bringing up and retaining before the public view. Here is a little brochure which appears to possess considerable merit, that has been six years before the public, and yet, we question whether one-tenth of our readers ever heard of it.

From a cursory glance, we judge the system is different from the old alternate renewal, as well as Bright's alternate plant renewal. We have received it too late for a careful perusal this month, but will refer to it again in our next.

Architects' and Mechanics' Journal. Published by Alex. Harthill & Co., New York.

This is an excellent publication, devoted to Art, Science, Mechanics, Building Progress, Engineering, and Sanitary Reform; and, we are sure, there are numbers amongst our readers to whom such subjects are of the first importance.

WHOLESALE LISTS.

Bristol & Williams, Dansville, N. Y.

W. R. Prince & Co., Flushing. Bulbs.

James Pentland, Baltimore, Maryland. Roses. No less than 136 kinds are here offered at wholesale.

C. Reagles & Son, Schenectady, N. Y. Extensively in the Plums.

H. Southwick & Co., Dansville, N. Y.

W. C. Strong, Brighton, Mass. New hothouse grapes particularly.

Smith & Hanchett, Syracuse, N. Y. A well-known firm, with their usual full and excellent list.

H. C. Freeman, Ravenswood, N. Y. Small-fruits mostly.

W. Hacker, Philadelphia. Agent for Fairhead & Sons, London. Vegetable Seeds.

O. B. Maxwell & Co., Dansville, N. Y. We notice that they propagate their cherries largely on the Early Richmond.

W. Day, Morristown, N. J. Trees, Seeds and Evergreens.

J. L. Darlington & Co., West Chester, Pa. Besides the regular stock, largely in Seedlings.

Hoopes & Bros., West Chester, Pa. Contains much that is rare and valuable.

Evans & Co., York, Pa. Amongst many good things, the native grape list is very select.

Hoopes & Bro., West Chester. Grapes and Clematis; over 60 kinds of grapes are enumerated.

R. G. Schræder, Rochester, N. Y. Horticultural Agency.

Asher Hance & Sons, Red Bank, N. J. Peaches.

Petersen Bros., Herman, Mo.

DESCRIPTIVE CATALOGUES.

Fahnestock & Sons, Toledo, O.

Atwood & Cooper, Lake Mills, Wis. Descriptive List of grapes adapted to their latitude, which will be read with interest.

Peters, Harden & Co., Atlanta, Georgia.

C. P. Hale, Calhoun, Kentucky.

Lewis Nicholson, East Rockport, O.

T. C. Maxwell & Bro., Geneva, N. Y.

D. Maupay, New Orleans, La. Seeds, &c.

J. Van Buren, Clarksville, Geo.

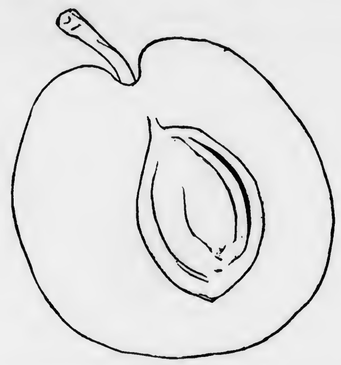
D. Griscom, Woodbury, N. J.

W. Bright, Rising Sun, Pa. Descriptive of foreign grape vines.

We are indebted to numerous Horticultural and Agricultural Societies for their schedules, reports, &c., and also to many invitations to attend, of which we have availed ourselves whenever circumstances permitted, regretting that in many cases where we would gladly have been present we were unable to do so.

New and Rare Fruits.

Kohlenkamp Plum.—A seedling raised by Mr. Kohlenkamp, of Philadelphia, and fruiting this season in the ground of Mr. Peter Raabe. The tree is represented as being of a vigorous growth, the fruit borne somewhat in clusters, giving the tree the arching habit of the pear, and produced in the greatest abundance. The fruit sent us is punctured with curculio marks, but are ripe and perfect nevertheless.



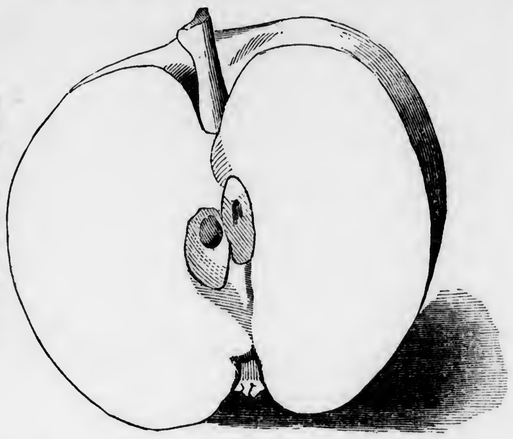
The following description we make from the specimen sketched:—Fruit rather large, roundish oval; suture running; skin amber brown, profusely sprinkled with deep cherry dots, (giving the fruit a reddish appearance,) and covered with a pale glaucous bloom; stalk rather short, in a rather deep basin; flesh amber color, solid and firm, of "good" flavor, with a rather large free-stone; ripe early in September. The Philadelphia Committee of the Pennsylvania Fruit Growers' Society consider this a distinct and valuable seedling, and we know of no one that it closely resembles; it approaches Denniston's Red in general character and appearance nearer than any other.

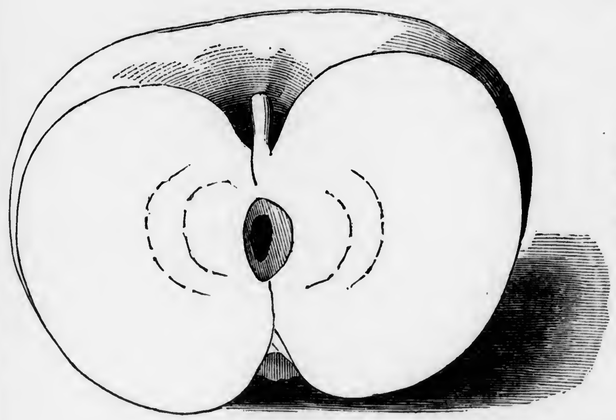
Another New English Strawberry.—*Ingram's Prince Arthur*, we notice, received the highest prize at the meeting of the British Pomological Society. There is no description given of it; but Mr. Marnock, one of the most reliable of British Pomologists, says of it:—"Prince Arthur is beyond doubt one of the finest strawberries in cultivation." It is getting to be a serious question whether we have not too many of the "finest" kinds.

Miles' Grape.—A West Chester, Pa., correspondent says:—"I went to see the *Miles' Grape* to-day; it is very nearly ripe; it is certainly the earliest grape we have about here." August 30th.

New Southern Apples.—The following apples, received from Mr. Thomas Carter, Raleigh, N. C., appear to merit all that is claimed for them:—

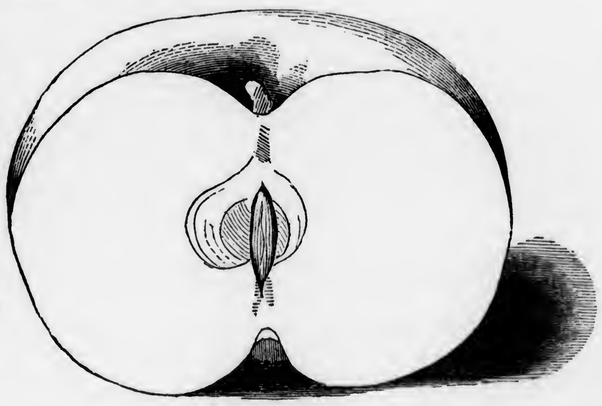
Olive Apple.—Origin, Wake Co., North Carolina; tree vigorous, straight grower; fruit medium, slightly conical, skin smooth, crimson with grey dots; calyx open; stem rather long and stout, in a deep narrow irregular basin; flesh crisp, juicy, sub-acid. Very popular apple here, ripens last of October, and hangs well on the tree.

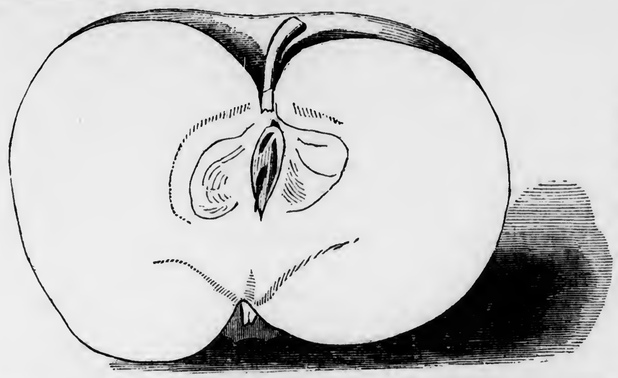




Billy Barker.—Origin, the farm of William Barker, Wake Co., N. C. Tree a splendid erect grower and good bearer; fruit large, green, oval, sometimes elongated; stem short in a deep narrow cavity, surrounded with russet; calyx open; flesh yellowish, juicy, tender, brisk vinous flavor; ripens last of August.

Nectar.—Origin, near Raleigh, N. C. Fruit medium, oblate skin smooth, thin and quite green; calyx generally closed stem short, in a large shallow basin, surrounded occasionally with a little russet; flesh yellowish, extremely juicy, with a rich, saccharine flavor. Decidedly a No. 1 dessert apple. Tree a constant and abundant bearer. Ripens last of August.





Robert Bruce.—Origin, Wake Co., N. C. Tree of vigorous upright growth and good bearer; fruit rather above medium size, oblate; crimson shaded; calyx open, stem short and crooked in a round shallow basin, surrounded with green; flesh white, rather coarse, juicy and pleasant; a good eating apple. Ripens last of August.

FOREIGN CORRESPONDENCE.

PLANTS FOR ADORNMENT.

Sheffield, England.

I have frequently been solicited by several parties to furnish them with a list of select, beautiful, and interesting plants for the adornment of a pet stove and show house, many having experienced considerable disappointment in purchasing plants which turned out contrary to their expectations in more ways than one. Of course, those who commence ornamental gardening must expect disappointments,—cherished objects will die, in spite of all our best efforts to keep them alive; and we must be prepared to take the rose with the thorn in the same manner as we do with all our other pleasures or recreations. We should not calculate on large profits. We must rather seek for the higher enjoyment of receiving the knowledge we can obtain from them of their peculiar habits, etc., and accept their beautiful foliage or their sweet blossoms as an expression of their gratitude to us; and from these, coupled with the fact that we are sheltering and protecting the choice children of God, we must draw our gratification and derive our pleasure, and allow their influences to exert on us all the good they can give, and we receive from them. At the same time a judicious selection is of great importance. A person commencing business may purchase articles which are of little worth to him in extending his connection, and brings him more disappointment than profit. It is something similar in plant-growing. Some spend much money and reap disappointment; others are more fortunate. No doubt *all* plants are more or less interesting. No doubt many are very beautiful, which only can show their full beauty when afforded space, only attainable under peculiar circumstances. Palms, for instance, are a most noble family of plants, having much that is fine in their habit and deeply interesting in their history; but for to purchase Palms by one who is only favored with the convenience of a low house, suitable for the culture of Ferns, etc., the mistake becomes palpable. Before they can arrive at the beauty point, they become too tall for the house, and they are displaced, and nothing remains to be seen for the labor which has been lavished on their culture. This point is not always considered beforehand. We must not attempt to grow every thing; some try this, and, of course they fail in some, perhaps in many. If we go about our work rationally, we will attempt to grow such varieties as experience warrants us in believing will produce satisfactory results. Some make strange mistakes in this matter. Instead of considering the peculiarities of the objects of their choice, they consult their own fancy merely. However we may pet plants, we cannot prevail on them to bend to our pleasure, because they move in obedience to natural laws, and must, of necessity, pursue one course, or sicken and die. For instance, a lady of our acquaintance, who, having been to see one of our great London exhibitions, was much delighted with a fine group of Heaths she saw there in bloom. She copied the names of about thirty varieties, and, on her return home, had forwarded the above number of very beautiful plants, in nice bloom and perfect health, which were furnished with a neat new green shelf in a fine, large plate-glass window in her own select sitting-room. One would have thought that any plant would (out of consideration for a lady's kindness) have bloomed for ever in such comfortable quarters; but they would not do so. In a few months they showed unmistakable signs of failing health, and we were told such a sorrowful tale of symptoms. They were watered with tea-water even, but to no purpose, and we were obliged to say they would not live unless certain conditions could be observed, which would not have been comformable to a sitting-room; and, until a suitable place was found for their

location, they continued to fade. We cannot expect plant-fanciers to *know* the difficulties there are in plant-culture; nor can we expect them, by reading, to understand all the requisites so necessary to insure success. It seems so easy to succeed when we are only reading, and, fancying what we wish to come to pass will do so, we sometimes forget the difficulties there are in the road, which are never insurmountable, if the governing agents of light, heat, moisture, and geographical position be taken into account, and means adopted to surround our pets with their proper and congenial element. Then we find plants are no respecters of persons or places. Their best looks and sweetest perfumes are freely bestowed upon those who care for them, and their radiant beauty is their quiet way of expressing their thankfulness. The first point to decide on is this—which class of plants is my favorite? The second point is—have I a suitable accommodation for the development of my favorites? When these questions are answered satisfactorily, success may be supposed to follow. Should we decide on growing Ferns, fine-foliaged and variegated-leaved plants, and have not a house suitable, then nothing better can be done than build one according to the plan furnished by us in a late number of the *Gardener's Monthly*, for which we subjoin a list of plants suitable, distinct, rare, beautiful, deeply interesting, and not costly.

Climbers.

Cissus discolor—one of the most beautiful of climbing plants, particularly when grown in the shade.

Echites pictus—leaves most beautifully veined with golden ramifications, which it keeps best when grown in a small pot with poor soil.

Ipomæa pentantha—a beautiful, free-growing, and prolific blooming plant, with bunches of most beautiful blue blossoms.

Passiflora kermesina—a neat free-blooming plant, with crimson blossoms.

Lygodium scandens—the climbing Fern; grows freely and forms a charming ornamental plant either for pillar or rafter.

Lycopodium saliginella umbrosum—this elegant plant will grow several yards high, and, when deeply shaded, the fronds are beautifully tinged with a variety of colors.

Basket Plants.

Æschynanthes pulchra—a bright vermilion flower.

Tapinia splendens—a free grower, fine green foliage, with small brilliant scarlet blooms.

Cyrtocerus reflexus—this very interesting plant is best seen when grown in a basket.

Achimenes—of different kinds for summer.

Some of the Ferns may be used to good purpose as basket-plants, several of the Lycopodiums being very suitable for this purpose. We might name violacea or denticulata. We should also advise some of the Gymnogrammas or Gold and Silver Ferns for suspension. These are frequently spoiled by handling the fronds, in order to look at the beautiful gilding underneath the leaves. This operation is rendered unnecessary when the plants are hung up. The pots in which they grow may be merely plunged in baskets of moss, and hung up so as to be within easy distance of the eye. The baskets may be made of wood, cork, wire, or terra-cotta, or the plants may be suspended by fastening wires round the pot.

Plants of Peculiar Interest.

Sensitive Plant—raised from seed, and is sensitive to the touch.

Hedysarum gyrans, or Desmodium gyrans—this plant forms a nice companion to the above when kept in a good moist temperature; the leaves are in constant motion up and down, taking, as it would appear, spasmodic leaps, and seems more curious than the Sensitive Plant on account of its motion being voluntary. Known as the Jumping or Whirling Plant.

Venus' Fly-Trap—A most interesting little favorite, closing up its wonderful jaws when touched; generally grown under a bell-glass.

Ouvirandra, or Lattice Plant—an aquatic; a most wonderful plant; one of nature's select treasures; generally grown in glass pans, so that the skeleton texture of the leaf may be better examined.

Oncidium papilio, or Butterfly Flower—may be grown on a log of wood, or in a basket or pot, and should be placed in a prominent position when in bloom; we hide ours behind Ferns, etc., and the butterfly then seems as if it was on the wing, and about to settle. The coolest end of the house will suit this plant well.

Cypripedium, or Ladies' Slipper, or Mocassin Plant—there are some splendid varieties of these, but some of them are very costly; C. insignis and C. barbatum are more reasonable in price; they keep a very long time in bloom, and are general favorites.

Nepenthes, or Pitcher Plants—these are all worthy of careful cultivation; their extraordinary pitchers are objects of constant attention, and the skill, wisdom, and design so clear, that they have been described by a great writer as "an open chapter in nature's book which blind men may read." N. distillatoria and lævis make a nice pair, and are not so costly as some others.

Australian Pitcher Plant—this little treasure grows best under a bell glass; it only grows a few inches in height, and should be surrounded with moss.

Sarracenia Drummondii and S. purpurea form an indispensable and desirable addition to the latter group; they are allied to them in habit and form, and are, when well-grown, most beautiful.

Papyrus antiquarum, paper plant—grows tall, sometimes ten or twelve feet high; if room is no object, it is interesting.

We will leave this list open for any or many kinds which we might name.

Fine Foliage.

Cyanophyllum magnificum—the finest foliage of any plant in cultivation; indeed it is hardly possible to imagine any thing more grand and noble than this, and, as it grows fast and will occupy much room, we shall not extend our list of others in this class.—This plant should be potted frequently, and the leaves *should never be handled.*

Variegated Plants.

Dracœna terminalis—a fine plant for ornamental purposes.

Aspidistra lurida variegata—a plant of pretty variegation and easy culture.

Pandanus argenteus variegatus—a very graceful and striking plant.

Goodyeara discolor—a very handsome plant, having a very dark leaf.

Sonerila margaritacea superba—this is an improved variety; good.

Maranta vittata, and M. regalis—pretty striped plants of easy culture.

Caladium discolor, C. Chantinii, C. argyrites, and C. picturata—all worthy of culture, being distinct in character, color, and shape, and forming a very interesting feature in a collection of plants.

Tillandsia splendens and zebrina—two plants worthy of careful cultivation.

Begonia grandis, B. Marshallii, and B. Gem—beautiful plants, of endless varieties, easy culture, and useful for decoration.

Anæctochilus argenteus, A. zanthophyllus, A. setaceus, and A. Lowii—the most beautiful plants yet introduced; of rather difficult culture; should be grown under a bell-glass, and kept well shaded in sunny weather.

Ferns.

Davallia canariensis, the Hare's Foot Fern—curious.

Adiantum trapeziforme, A. concinnum, A. cuneatum, A. macrophyllum, A. pubescens, and A. formosum—all these belong to the Maiden Hair Fern, and are worthy of room in the smallest collection.

Cassabeeria farranosa—beautiful silvery Fern, very fine.

Nothoclœna chrysophylla—neat and elegant golden Fern.

Gymnogramma chrysophylla—large golden Fern; *fine.*

Blechnum Braziliense, Tree Fern—makes a handsome centre plant.

Pteris argyrea—new variegated Fern of beauty.

Platycerium grande, P. stomaria, and P. alcicorne—the Stag or Elk Horn Ferns; a most wonderful and striking portion of nature's most striking plants; will grow on blocks of wood or in pots.

Polypodium aureum—a most noble Fern, of easy culture.

Aspidium falcatum—a bright, glossy, bold-looking plant.

Ceratopteris thalictroides,—the Water Fern; most interesting.

Cheilanthus farinosa—prettily powdered or frosted.

Gleichenia dichotoma—charming, but rather costly.

Hermionites palmatum—very distinct.

Nephrodium molle—very common, but pretty.

Nephrolepis pectinata—a fast-growing and elegant Fern.

Platyloma cordata—very chaste and beautiful.

The above have been selected because they are handsome varieties, distinct, and affording to the student an abundant opportunity of studying and examining, and so becoming acquainted with the classification of these wonderful productions of nature, with the aid of a moderate microscope, in the dull winter time; and the above varieties, there will be provided abundance of recreative employment, which cannot fail to surprise the observer, and cause deep reverence and admiration of that Power which could work so wonderfully, minutely, and well. For decorative purposes, they are most useful; their light and elegant foliage always looks fresh and pleasing, and, when mixed judiciously with other plants, they are the most effective and useful plants we know of. They can, in a general way, be grown amongst other plants, so as to occupy little space. They love the shade, and are satisfied with a corner in which other plants would not prosper. This is the way we treat them; but when we find one which we deem too beautiful to be left unseen, we make it a more prominent object by elevating it in some prominent place. When it becomes less pleasing, or when we have seen it until we care little about seeing it, we replace it in the shade,—not to neglect, or despise, or forget it, but to remember that we shall again want its beauty another day. Ferns are the most easy of culture of any plants, requiring only shade, heat, and moisture. They readily reproduce themselves, without any extra care or attention whatever, and these little ones are very useful in furnishing "Wardian" and other ornamental cases, which are now so frequently seen in many respectable drawing-rooms. We may say that scrap-books formed of tinted paper, with specimens of Fern-leaves, are often considered very acceptable remembrancers.

We conclude this article with a list of Lycopodi-

ums, also very useful for decoration, and may be grown in pans or pots, as fancy dictates. We beg to say we have tested the merits of all we have named, and can confidently recommend them.

Lycopodium denticulatum, L. umbrosum, L. Schottii, L. Wildenovii, L. Lyalli, L. plumosa, L. lævigata, L. apodum.

The last named variety is very useful for many purposes, such as planting round Anæctochilus, &c. We have also seen it beautifully introduced in the collection of A. Jowitt, Esq., as a covering for the pot in which he grows his Caladium argyrites. The effect is charming.

PENNSYLVANIA HORTICULTURAL SOCIETY.

The society decided to have no annual exhibition this year, as announced in our last report, but the articles shown at the monthly meeting on the 18th were of such superior merit and interest that the committee in charge decided to keep it open for the public another full day, but the want of sufficient announcement prevented the attendance its great merits deserved.

In the flower line, the novel points of interest were the variegated plants. In Mr. Buist's collection we noticed *Elæodendron indicum*, a plant with something of the look of *Pavetta borbonicum; Caladium argyrites*, a small-growing species, with numerous small leaves profusely spotted with silvery white; *Begonia* Griffithii, rex, amabilis, lazulii with a rich velvety surface, picta and grandis. There were other kinds, but these struck us by their distinctness. Mr. Joyce, gardener to Mr. Baldwin, had a very fine plant of the striking *Tradescantia discolor variegata*, one of the best of leaf plants. *Caladium Chantini*, in Mr. Eadie's collection, was considered one of the handsomest kinds of caladium yet exhibited.

Of the plants exhibited for the first time, a variegated althœa, by Mr. Buist, promises to be popular, as it stands the sun well. The same gentleman exhibited *Solanum purpureum*, with very striking foliage, and four new leaf *Caladiums: C. Neumannii, C. Verschaffelti, C. Houlletii*, and *C. saggittafolia pictum*. Mr. Pollock, gardener to J. Dundas, Esq., had *Rhododendron* Princess Royal, with very striking waxy pink flowers. *Sternbergia lutea*, an old but very scarce bulb, was in fine flower, from Mr. Dreer.

One of the most improving points in the exhibition was the number of Ferns produced. The greatest fault struck us in growing the coarse kinds of rampant growth instead of the finer and more graceful kinds; a collection of this latter class by Mr. Buist, consisting of *Pteris argyrea, Cheilanthus viscosa, Gymnogramma chrysophylla, G. argyrophylla, Pteris scaberula, Nephrolitium molle corymbiferum*, were very much admired. Those of the other exhibitors showed very superior growth and merit.

Among the collection of plants we noted nothing novel; the plants were all well grown; one of them—Lantana alba floribunda in Mr. Eadie's collection, about 8 feet high, was probably the handsomest thing of the kind ever seen at any exhibition. The Dahlias made a fine show; the first premium was awarded to Mr. Buist, consisting of Grand Turk, Fanny, Lollipop, Surpriser, Bagatelle, Lord Everley, Mrs. Church, Emperor, Mrs. Seacole, Napoleon, Baron Alderson, Espartero, King Loden, Dr. Gully, Cheltenham Queen, Papilio, Lady Popham. In Mr. Meehan's list, besides some already named, we noticed as very fine, L'Original, Mad. de St. Laurent, and Adrian Carwail. Mr. R. Scott and Mr. Dreer both had admirable collections of Roses; in the latter lot, *canari* commended itself to our notice by its deep yellow color, and David Pradel, a fine blush purple tea. A design of grasses by Mr. Raabe was an original production, and a basket by Mr. Goehring, in which grasses and ferns were interspersed with flowers—had a fresh and charming appearance. Mr. Sherwood's *Hedychium gardnerianum* charmed by its beauty and fragrance, and Mr. Dreer's seedling Verbenas were decidedly good, though not superior to other kinds.

There were a few items of novelty in the vegetable line:—Mr. Harrison's White Egg-plants being most conspicuous; and next, Mr. A. Felton, gardener to Mr. Duhring, had a curious production labelled new Red Egg-plant, which looked like a tomato stuck on an egg-plant, and on which many who thought they "smelled a mice," exercised their ingenuity in looking for the place of inarchment.

In the Fruit line many excellent collections were presented; among Pears, we noted in Mr. Noble's, Fredericka Bremer, which made something of a noise a few years ago; and in Mr. Parry's, Beurre superfin, which is becoming highly prized. Onondaga and Beurre Nantais were also attractive. Mr. Sherwood's Louise Bonne de Jersey, were very highly colored and much admired.

Amongst the collection of Apples we noted in Mr. Noble's, one marked "Carver," a red apple in the way of Baldwin, which we note here as there is another apple like the White Doctor, which is being disseminated under the same name.

The great show of the evening was the *Grape*. Mr. Raabe's collection of natives embraced twenty-one kinds:—white, 1 Rebecca, 2 Maxatawny, 3 Clara, 4 Cassaday; black, of the Isabella type, 1 Christie's Isabella, 2 Paign's Early, 3 Louisa, 4 Graham, 5 Isabella, 6 Logan, 7 Canby's August; black, of the Clinton class, 1 Mary Ann, 2 Elsinburg, 3 Marion, 4 New Cape; red grapes, 1 Diana, 2 Delaware, 3 Catawba, 4 Raabe, 5 Powell. As they were all ripened together in the small yard of Mr. Raabe, we thought it a good opportunity to test their merits as to quality, and have numbered each section in the respective order that they suited our taste. After all mere flavor is but one of many qualities that should stamp a good grape, and if all the necessary properties were weighed, the order of precedence would no doubt be considerably changed.

Amongst the curiosities of this department were a collection of six kinds of foreign grapes, from open air vines, by Mr. Baxter. Mr. B. had also amongst a collection of selected or improved wild grapes, a reddish variety very much like Delaware, but very foxy and worthless, and reminding us strongly of forms we have seen years ago in the woods along the Delaware, beyond Trenton and Easton.

Mr. Thomas, gardener to J. D. Whetham, Esq., had enormous bunches of Isabella, Diana and Rebecca, very tempting to the eye, but extremely worthless to the taste, and produced, we presume, by the ringing process, done too late to secure goodness of quality. The following is the award of premiums:—

The following persons had either plants, flowers, fruits, or vegetables:—W. H. Wayne, John A. Goehring, A. M. Spangler, S. W. Noble, James Eadie, Robert Buist, Henry Duhring, Robert Kilvington, William Joyce, L Chamberlain, R. R. Scott, Thomas Meehan, James Matheson, John Pollock, William Parry, T. T. Firth, M. Hegarty, James Astley, John Sherwood, John Cook, J. B. Baxter, William Randall, P. S. Bunting, Charles Harmar, William Saunders, James D. Whetham, John Perkins, John Landers, John Joyce, A. W. Harrison, George Penn, Peter Crans, and Henry A. Dreer.

The several Committees made the following awards:—Collection of 20 plants, best to J. Eadie, gardener to Dr. Rush; second best to M. Hegarty, gardener to Joseph Harrison; third best to John Pollock, gardener to James Dundas; fourth best to William Joyce, gardener to M. W. Baldwin. Collection of 10 plants, best to Geo. Penn. Collection of 6 plants, best to James Eadie; second best to John Pollock. Specimen plants (pair), best to Jas. Eadie; second best to John Pollock. Specimen plant, best to M. Hegarty; second best to John Pollock; third best to J. Eadie. Collection of Variegated Plants, best to J. Pollock; second best to J. Eadie; third best to R. Buist; fourth best to W. Joyce. Collection of Ferns to R. Buist and to J. Eadie; the same premium for best, the former being the most rare and the latter the largest and most beautifully grown, therefore equally meritorious; third best to J. Pollock. Special premium to J. Pollock for new plants—Rhododendron, Princess Royal and Bœhmeria argentea; also to R. Buist for Solanum purpureum and Achmea discolor, and four beautiful Caladiums: also to R. Buist for a collection of twelve well grown and beautiful Begonias and four variegated plants. The committee cheerfully testify to the skill shown by all the competitors, in producing such rare and beautifully grown specimens, which, as a display, has probably never been exceeded by this Society.

Dahlias—twenty varieties—best to R. Buist; second best to Thomas Meehan. Hardy Herbaceous Plants—twelve specimens—best to Thomas Meehan. Roses—twenty varieties—best to Henry A. Dreer. Designs formed of Fruits and Flowers—best to Wm. Joyce; second best to William Randall, gardener to James E. Mitchell. Design formed of Grasses—best to Peter Raabe. Design of Cut Flowers, best to John A. Goehring. Basket formed of Cut Flowers, best to R. Kilvington; second best to J. A. Goehring. Bouquets—pair, best to James Matheson, gardener to F. Yarnall; bouquet, single, best to R. Kilvington. The committee call the attention of the Society to a fine display of Seedling Verbenas exhibited by H A. Dreer, also a very fine display of Camellia Balsams by George W. Earl, and a beautiful collection of Cut Roses by R. Scott, as well as a very superior display of Cut Petunias, over forty varieties, by John Sherwood.

MELONS, Citron, best to Wm. Parry; second best to Jas. Astley. PEARS, Collection, best to J. B. Baxter; second best to Wm. Parry. Pears, native, 12 varieties, best to J B. Baxter; 6 varieties, best to Wm. Parry; second best to S. W. Noble. Pears, foreign, 6 varieties, best to J. B. Baxter; second best to J. Landers, gardener to S. T. Altemus; third best to John Sherwood. APPLES—General collection, best to John Perkins; second best to William Parry. Apples, 12 varieties, best to S. W. Noble; 6 varieties, best to Wm. Joyce. QUINCES—One peck, best to Wm. Parry, and a special premium to Mrs. Liggett for fine Regnier Pears, and one of $5 to Chas. Harmar for fine Seedling Pear, Bartram.

PINE APPLES—Three specimens in pots, best to Wm. Joyce. PEACHES—One peck, best to J. B. Baxter; second best to John Landers. PLUMS—24 specimens, best to Peter Raabe. GRAPES—Grown under glass, general collection, best to John Landers; Grapes, grown under glass, five bunches, 5 varieties, best to J. Matheson; second best to J. Landers. Grapes, native, grown in open air, general collection, best to Peter Raabe; second best to J. B. Baxter. Grapes, native, grown in open air, twenty bunches, best to J. D. Whetham; special premiums to A. M. Spangler for the Flora seedling grape, a fine copper colored, high flavored, pleasant grape, represented to be perfectly hardy in open air; also, to the same, for a moderate-sized, compact, juicy black grape, not named; also to J. B. Baxter, for 6 varieties of foreign grapes under glass; also to Peter Crans, for the Maxatawny grape, a highly flavored, sweet white grape, represented to be hardy in the open air. Potatoes, one bushel, best to Anthony Felton, gardener to H. Duhring. Celery, 12 stalks, best to the same; second best to John Cook, gardener to Rev. J. M. Richards. Tomatoes, Lima Beans, Dwarf Beans, Okra and Peas, half peck each, best to Anthony Felton. Squashes and Pumpkins, three each, best to the same. Cabbage, six heads, best to James Matheson. Egg Plants, six specimens, best to John Landers. Beets, Carrots, Parsnips, Salsafy and Turnips, twelve each, best to Anthony Felton; second best to James Matheson. Vegetables, general collection, best to A. Felton.

EIGHTH SESSION OF THE AMERICAN POMOLOGICAL SOCIETY.

Pursuant to notice, the Society met at Philadelphia on the 10th of September, and it is generally conceded that it was one of the most successful, in every point of view, ever held. The contributions of fruit were very large, the greater part of the Union being represented.

Hon. Marshal P. Wilder, Dorchester, Mass., contributed 150 varieties of Pears; J. H. Stuart, Quincy, Illinois, 182 Apples; William Reid, Elizabethtown, N. J., 126 Pears; John Chambers, Burlington, N. J., 112 Pears; Smith & Hanchett, Syracuse, N. Y., 100 Pears, 30 Apples; Ellwanger & Barry, Rochester, N. Y., 240 Pears, 140 Apples, 68 Plums; Franklin Davis, Virginia, 75 Apples; H. R. Roby, Virginia, 22 Pears, 25 Apples; Oliver Taylor, 12 Apples, 6 Grapes; Col. Walter L. Steele, North Carolina, 11 Apples and Pears, Scuppernong Grapes; T. T. Lyon, Plymouth, Mich., 109 Apples, 19 Pears; Prof. J. J. Mapes, Newark, N. J., 24 Pears; Frost & Co., Rochester, N. Y., 20 Pears and Apples; Samuel T. Altemus, Philadelphia, Pa., 8 Pears, 5 Grapes; Col. D. S. Dewey, Hartford, Conn., Apples and Grapes; Wm. Parry, Cinnaminson, N. J., 22 Pears, 22 Apples; Buffalo Horticultural Society, 9 Grapes, 37 Pears. 22 Apples; B. Stratton, 40 Pears and Apples; Ellwood Thomas, Pennsylvania, 100 Apples and Pears; Hovey & Co., Boston, 25 Pears; I. B. Baxter, 30 Pears; Rev. George B. Ide, Springfield, Mass., 21 Pears; Dr. Boynton, Syracuse, 55 Pears; T. W Field, Brooklyn, N. Y., a branch of Flemish Beauty Pears, 18 inches long, containing 24 Pears, weighs 19 pounds, tree planted two years. Mr. Loomis, of Indianapolis, Ind., Mr. Harrison and A. M. Spangler, of Philadelphia, and other parties also contributed to make up the splendid display.

The hall was beautifully decorated, and reflected much credit on the Committee of Arrangements,—Messrs. J. E. Mitchell, W. Saunders, and T. P. James. The names of some of the principal worthies in pomological science were emblazoned in laurel-wreathing,—Van Mons, Coxe, Duhamel, and Downing occupying the foreground. The decorations themselves attracted no less by their worth than their brilliancy,—not the worth which the diamonds and jewelry of general society give to such meetings, but the jewels of pomology. Some of these, in the shape of Peaches and Plums in pots, from Mr. Wm. Saunders; four and five pound bunches of Grapes from Mr. Matheson, gardener to F. Yarnall, Esq.; magnificent Isabellas from Mr. Thomas, gardener to J. D. Whetham, Esq., which many lookers-on could scarcely believe were not produced by some conjuring process, gave a degree of interest to the Exhibition which the public well appreciated.

Among the matters which seemed to create most public interest in the body of the hall were first the Flemish Beauty Pears of Mr. Field. They were produced to their great perfection by having all the fruit taken off the side shoots while very young, and leaving none but these, which were retained on the strong leading shoot in the centre. Mr. Landers', gardener to Mr. Altemus, hot-house Grapes also attracted notice, for the fine size of their berries and excellent maturity. Specimens of Isabella Grapes on the cane, exhibited as having been raised under Bright's new system, formed also a centre of interest to an admiring crowd, who listened to the explanations of the exhibitor. In another corner a Cornelius Propagating-Pot, described in a late issue of our paper, was stocked with cuttings in a growing state and in various stages of development, and its originator, Mr. Cornelius, was kept pretty busy explaining his theory, and the principles in which his pot was one of the elements. Mr. Cornelius won golden opinions from all by the kindness and affability with which he took the trouble so disinterestedly to explain to the company assembled what his philosophical mind has so long and so successfully been studying. In addition to what we have already given of his experiments, he exhibited specimens of a mode of grafting, which, in a measure, combined the advantages of inarching with common grafting. We have only space here to show, by an illustration,

the idea. Next month we will describe the process. Dr. Boynton, of Syracuse, had some beautifully colored fruit, which had evidently been so produced by some special treatment. The Doctor kindly explained the process so far as he felt warranted in the experiment, and attributed the color to the application of mineral manures; but he considered his experiments had not been of long enough continuance to warrant him in deducing any theory therefrom.

Of the new or rare fruits, though there was much to interest, there was very little that will probably stand the test of time. The Maxatawny Grape was in better condition than we have before tasted it, though not quite ripe. The Crevleting or Bloom Grape, raised by Mr. Merceron, of Catawissa, Pa., also looked promising; and one exhibited by Mr. Spangler, from the garden of Mrs. Hineman, of Philadelphia, since called the Flora, created considerable attention. We think none of the Grapes exhibited as novelties were superior in quality to others already existing; but other advantages were claimed for them by the raisers, such as hardiness, earliness, or other points of which the company present could not judge. Of Pears, one raised by Nathaniel Clapp, of Dorchester, called the Clapp Pear, struck us as being one of the most superior.

Miss Percival contributed a very rich design for the ornamentation of the fruit-tables, made of fruit and flowers, and which was very much admired.

In the evening of the second day's meeting, Mr. T. P. James, the Treasurer of the Society, gave a soiree to all the members present, which will be long remembered by the happy participants.

We are under great obligations to many of the exhibitors and officers of the Society, who kindly placed at our disposal every facility for adding to our individual stock of information, on which we shall draw as occasion offers.

Of the discussions at the Society's meetings we have taken a full and complete report for our readers, which we present, in addition to our regular number, in the form of a Supplement.

We also annex a synopsis of the proceedings.

OFFICERS ELECTED.

TO SERVE FOR THE NEXT TWO YEARS.

HON. MARSHAL P. WILDER, Boston, President.

Thirty-eight Vice-Presidents, one from each State and Territory of the Union.

THOMAS P. JAMES, Philadelphia, Treasurer.

THOMAS W. FIELD, New York, Secretary.

The Treasurer made a report, from which we learn the following:—Balance on hand in 1858, $258.94; received September, 1860, $357; the total amount of expenditures $418.30, leaving a balance of $197.64 in the treasury.

A number of standing committees were announced by the Chair to serve for the ensuing two years.

The place of holding their next biennial session was then taken up and debated at length. It was finally agreed to hold the next session in Boston.

Mr. Field offered the following resolution:

Resolved, That the thanks of this Society are tendered to Mr. T. P. James, Mr. J. E. Mitchell, and Mr William Saunders, the Committee of Arrangements for the Meetings of the Society, for the excellent accommodations and polite attention which its members have enjoyed.

The fee for Life Membership was reduced from twenty to ten dollars.

The list of Apples *which promise well* was taken up. None were stricken off; it, therefore, remains as follows:

LIST OF APPLES WHICH PROMISE WELL.—Broadwell, Buckingham, Coggswell, Fornwalder, Genesee Chief, Jefferis, King of Tompkins County, Mother, Smokehouse, White Winter Pearmain, Winter Sweet Paradise, Winthrop Greening.

To which list the following were, during the subsequent discussions, added:

Summer Sweet Paradise, Canon Pearmain, Fall Wine, Early Joe, Willow Twig, Limber Twig, Bonum, Stansill, White Pippin, Pryor's Red, Keswick Codlin, Rawle's Jeanette, Maiden's Blush, Pomme Royal, Summer Queen.

CURRANTS.

The previous list of this fruit comprises only three varieties which promise well—Versailiaise, Cherry, and Fertile de Palinau. Two varieties, the White Gondouin and Imperial Yellow,—the latter a new French variety,—were highly recommended, and, by vote, added to the list.

STRAWBERRIES.

The present list of varieties which promise well being Genesee, Le Baron, McAvoy's Superior, Scarlet Magnate, Trollope's Victoria, Walker's Seedling, and Triomphe de Gand; only one addition was made—the Jenny Lind.

RASPBERRIES.

The present list of those that promise well comprises only four varieties:—the Cope, Catawissa, Thunderer, Walker. The additions are the Hornet and Belle de Fontenay. The Allen was, after much discussion, and with a strong minority vote in the negative, placed on the list of *rejected fruits*.

For the remainder of the fruits, see Supplement.

FRUIT-GROWERS' SOCIETY OF EASTERN PENNSYLVANIA.

This Society held a meeting at the Session of the American Pomological Society, pursuant to announcement, and adjourned, without transacting any business, till the first Wednesday in February, the place of meeting to be hereafter announced.

CINCINNATI HORTICULTURAL SOCIETY.

Meeting on August 25.

Amongst other matters the following interesting report by Mr. Heaver was read:—

S. S. Jackson & Sons' Nursery. Our visit here was pleasantly edifying and instructive. *New Grapes.*—We here saw for the first time fruiting in the West—the Rebeccas, Garrigues, and several others of the new popular varieties, as the Delaware, and one which Mr. J. calls Longworth's Delaware, varying slightly from the other in the foliage, and scarcely as sweet, yet possessing characteristics so similar to the first as to require close observation to detect the difference. The Diana Mr. J. discovered the birds had such a partially for this variety, to save them, he found it necessary to enclose them with mosquito netting. The shrubbery is fruiting here beautifully. Mr. J. has a nice stock of fine thrifty looking vines of the different varieties. We here also found a fine collection of Pears, fruiting on the Dwarfs, including among them several new varieties, of which we must not omit noticing, his seedling Elizabeth, which there is little doubt originated from the Seckel, bearing a strong resemblance in the habit of the tree and color of the fruit to that popular variety, but of more thrifty growth, and the fruit nearly double the size of its parent, whilst in color and general appearance it is much more prepossessing, although not quite equal to it in its pre-eminent qualities of rich spiciness. We consider it a valuable acquisition to our list of native Pears. The Hanover, a new variety from Pennsylvania, was another new variety with which we were favorably impressed. The Andrews, too, is a variety whose merits, your committee think, has not been sufficiently appreciated; we ate it here in perfection. Neither must we overlook the Kirtland, one of the most beautiful *Russet Pears* grown; superior to all the above in size and noble appearance, if not of first-rate quality, is the Onondaga or (Swan's Orange). This variety, in all the various places seen by your committee this season, stands out a worthy compeer of our favorites, *Bartlett* and *Louise Bonne de Jersey*. We think we must place this No. 3 on our list. This, with the Stevens' Genesee and others before mentioned, embrace a list of *native* origin which may challenge competition with any equal number of the best *foreign* varieties.

In the nursery we found a fine stock of trees of the varied kinds, and in fine condition. Respectfully submitted by

W. Heaver, Chairman.

The following paper was read:—

To the President of the Horticultural Society.

Mr. Pierson's resolution calls for a list of the best pears for amateur culture—two varieties for each month—during the period of ripening. The following comprises only such as I have grown and tested myself. Better kinds may doubtless be substituted for some of them. A list, for market purposes, should contain more of the larger and showy varieties.

July—Madeline, Bloodgood.
August—Julienne, Bartlett.
September—Seckel, Belle Lucrative.
October—White Doyenne, Duchesse d' Angouleme.
November—Dix, Winter Nelis.
December—Beurre Diel, Vicar of Winkfield.
January—Glout Morceau, Lawrence.
February—Jaminette, Easter Beurre. R. Buchanan.

HARTFORD HORTICULTURAL SOCIETY.

AUGUST 16TH.

The Horticultural Exhibition, was the most successful ever held. The fruit growers appeared to have taken a sudden interest in the matter, and not only were the tables all filled, but extra tables had to be provided to accommodate the exhibitors who contributed to the show.

Several bunches of well-ripened Hartford Prolific grapes were exhibited by D. S. Dewey. In the floral department, the show far outstripped that of any previous exhibition. Mr. J G. Barker had an extensive and most beautiful display of Gladiolus, Verbenas and Phlox. His Verbenas were seedlings, and much handsomer and more valuable than any collection of imported or other variety we have seen in Hartford yet. Fuchsias in pots were numerous, the principal exhibitors being C. S. Mason, P. Fagan, gardener to C. H. Brainard, and James Boyes, gardener to George Beach.

The list of articles on exhibition numbered nearly 250, and it would be a lengthened task to specify the meritorious. The committees have decided as to which, in their opinion, were most so, and awarded the following premiums:—

Apples.—Sweet Bough: T. C. Austin, 1st., $1; A. W. Birge, 2d, 75c; Jas. Boyes, 3d, 50; Strawberry—P. D. Stillman, 1st, $1; C. T. Webster, 2, 75c.; Red Astrachan—D. S. Dewey, 50c. Pears.—Bloodgood—Jas. Boyes, 1st, $1; Thomas Brennan, 2d, 50 c.; Tyson—P. Jewel, $1; Hebran—Thomas Brennan, 50 c.; Beurre Giffard—P. D. Stillman, $1, Early Catharine—A.W. Birge, 1st, 75c; L. A. Barber, 2d, 50 c.; Dearborn Seedling—W. W. Turner, 50c. Apricots—J. B. Russell, $1. Black Hamburg Grape—Thos. Brennan, 75c; Lawton Blackberries—J. H. Most, 50 c.

The Hartford Prolific of Col. Dewey was, we understand, ripe on the 18th of August, pretty good for lat. 42 deg. north.

INDIANAPOLIS HORT'L SOCIETY

The first annual exhibition of the Indianapolis Horticultural Society was held at the State House, on Wednesday, Sept. 19, commencing at 10 o'clock, A. M., and continued throughout the day and evening. In the list of premiums offered, we perceive that the *Gardener's Monthly* figures prominently and we hope this example will be followed by other societies. The officers of the society are: *Executive Committee*—George W. Mears, David V. Culley, Erie Locke, Alfred Harrison, Austin H. Brown. *President*—Alfred Harrison. *Secretary*—Austin H. Brown.

POMOLOGICAL SOCIETY OF GEORGIA.

A meeting of this Society was held at Athens, Tuesday, July 31st. The show of Fruit was very creditable.

The officers of the Society were re-elected, and consist of L. E. Berckmans, President; Richard Peters, Vice President; Wm. N. White, Secretary; James Camak, Treasurer.

Fruit Committee, *ad interim.*—Wm. N. White, Chairman; Richard Peters, J. Camak, Dr. M. A. Ward, E. Bancroft, J. Van Buren.

The exhibitors were as follows:—

E. Bancroft, Athens, 52 varieties of Peaches, 14 cling and 38 free; of these the Chinese Cling was the finest and most striking Peach shown. The Large White, the Old Mixon, and the Elfe Cling, a seedling, were also very fine. Walters' Late, Old Mixon Free, Chevreuse Tardive, were among the best of the freestones. Mr. B, also had 4 varieties of Nectarines, 4 do. Grapes, 3 do. Apples, and 3 do. Plums—total, 62 varieties.

P. J. Berckmans, Augusta, 22 varieties of Grapes, 5 do. Apples, 24 do. Peaches and 11 do. Pears—in all 62 varieties. Of these, among the Grapes, Pauline, Emily, Anna, Concord, Hartford Prolific, Delaware, Brinckle, and Rebecca, are American Seedlings, which were now for the first time exhibited, and attracted great attention. Among the Peaches were Huntley's Favorite, a seedling, and another large unnamed variety, worthy of special mention.

J. Van Buren, Clarksville, 21 kinds of Apples and 23 of Pears—45 varieties. The King Tom Apple and Democrat Pear were new to all present. A fine collection.

D. Redmond Augusta, 1 Peach, (Chinese Cling,) and 11 varieties of Grapes, including Pauline, Concord, Venango, De Caradeuc's White, and the Ontario. The latter is certainly of remarkable excellence, and of the largest size. Total—12 varieties.

J. E. McDonald, Hamburg, S. C., the Pauline, and Black July Grapes—2 varieties.

Dr. J. C. W. McDonald, Woodward, S. C., 8 varieties of Grapes, among which were Pauline, and Mary Isabella, a fruit introduced by him, but certainly very like, if not identical with, the Isabella; also, Purple Malaga and Beau Jacques, the latter one of the Chasselas tribe.

A. De Caradeuc, Woodward, S. C., 6 varieties of Grapes, including among them Pauline, and Caradeuc's White, a seedling of Mr. De C.'s, resembling a loose-bunched Warren, with white transparent, rather small, berries, still too far from ripe to judge of their quality, but very promising as the first of an entire new race of white Grapes.

J. Grey, near Athens, 4 sorts of Apples, 1 Pear—5 varieties.

Mr. Ware, near Athens, 1 Apple (Shockley) of the growth of 1859.

Mr. Daniel, near Athens, 4 varieties of fine Apples.

Mrs. L. A. Franklin, Athens, 10 varieties of Pear, 1 Nectarine, 3 Grapes, 3 Apples, and shoots of a new California Raspberry—17 varieties.

Col. J. R. Stanford, Clarksville, 3 varieties of Peaches, 3 of Apples, 5 of Pears—13 varieties. Some of the Apples were of remarkable size and beauty.

J. Camak, Athens, Camak's Rousselet, a fine Seedling Pear—1 variety.

Wm. N. White, Athens, 43 varieties of Pears, 3 Apples, 1 Nectarine, 3 Plums, and 12 of Peaches—62 varieties.

Dr. H. Hammond, Athens, 1 of Grape and 1 of Peach—2 varieties.

Mrs. Dr. Hull, Athens, 2 of Grapes and 3 of Peaches—5 varieties.

Mr. Stevenson, near Athens, 1 Watermelon.

In all there were 311 varieties shown, embracing some 200 distinct varieties, nearly all of which were correctly named. The greatest advance made is in the Grape, of which, at the meeting ten years since, only about one third the number of varieties were exhibited that were shown at this meeting, and none equalled the excellence of the Delaware and Emily, now first shown.

William N. White, *Secretary.*

PROCEEDINGS AND DISCUSSIONS

OF THE

EIGHTH SESSION

OF THE

AMERICAN POMOLOGICAL SOCIETY,

HELD IN THE

ASSEMBLY BUILDINGS,

PHILADELPHIA,

ON TUESDAY, WEDNESDAY & THURSDAY, 11, 12 & 13 OF SEPTEMBER, 1860.

PHILADELPHIA:
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1860.

ADDRESS

DELIVERED AT THE EIGHTH SESSION OF THE

AMERICAN POMOLOGICAL SOCIETY,

HELD IN PHILADELPHIA, PA.,

September 11th, 12th and 13th, 1860.

BY MARSHALL P. WILDER,

PRESIDENT OF THE SOCIETY.

Gentlemen of the Society,
and Friends of American Pomology:

By our Constitution, my official position requires me, at the opening of this session, to address you on the art or science of pomology; on the interests, progress, and present condition of our association.

In the performance of this duty, I am happy to meet you in this city of brotherly love, the birthplace of that Declaration which gave us an independent national existence; of that Constitution also, which embodies the wisdom of our venerable fathers, and is the charter by which we hold the inheritance we seek to improve, enjoy, and transmit. Here, too, by a former inhabitant of Philadelphia,* a few years later, was first exhibited the application to vessels of that invisible agent, which now propels thousands of steamers through our navigable waters, which has wrought such wonders in all the useful arts of life, and is progressing upon a stupendous scale of development. Here was organized the first society for the promotion of American Agriculture. Here, also, originated the first association for the advancement of American Horticulture, having, for one of its leading objects, the introduction and cultivation of new and choice varieties of fruit.

Most of the venerable men who were the authors of these institutions, the founders of these civil and social compacts, have fulfilled their earthly mission; but the institutions which they inaugurated continue, diffusing through the land and the world, the blessings of progressive art, of rural life, of social order, and of civil liberty. These fathers have fallen in the great battle of life; and since our last biennial session, others, more intimately associated with us in our favorite pursuits, have passed away never to return. Two of the founders of the society, who have occupied official positions from its formation, will meet with us no more.

Deceased Officers.—Andrew H. Ernst, of Cincinnati, Ohio, one of the Vice Presidents of this society, died at his residence in that city, February 13th, 1860, aged sixty-four years. He was a gentleman of foreign birth, but thoroughly nationalized; being a great admirer of American character, and a firm supporter of American institutions. He was a pioneer and champion of our cause in the northwest section of our country; a gentleman favorably known and highly appreciated by all who knew him for his pomological knowledge, for his characteristic modesty, for suavity of manner, and for his eminent Christian virtues.

We have also to mourn the death of Benjamin V. French, of Dorchester, Massachusetts, a member of the Executive Committee, who died April 10th, 1860, aged sixty-eight years. Mr. French was ardently devoted to the cause of terra-culture, in its most comprehensive sense; and has, for many years, held important official positions in the Agricultural and Horticultural Societies of his State and country. Few men have been more interested in the cultivation of the soil, and few have been so strongly attached to rural life and rural happiness. Even to the close of life, these were his most cherished objects.

In reflecting on the usefulness and example of our departed friends, on their labors and contributions to the cause of pomology, their honorable life and peaceful death, we shall ever retain a high appreciation of their worth. We cheerfully accord to their memory our gratitude for their valuable services, and enrol their names among the benefactors of mankind. We mourn the loss of these worthy associates, but our institution still lives, and other friends survive to co-operate with us in advancing the cause so dear to our hearts.

Eighth Session.—This is the eighth session and twelfth year of our association. Much has been accomplished since its organization, but how wonderful the improvement in every branch of husbandry, and in all that concerns the progress of society, since the formation, in this city, of the first association for the promotion of rural art, just three quarters of a century ago! It is profitable to look back occasionally, and see what has been achieved in the past.

Most sincerely do I congratulate you upon the general interest now awakened in fruit culture—on the zeal, enterprise, and industry of cultivators in the acquisition and production of new and choice varieties—on the multiplication of local associations and publications, all laboring with us for the promotion of pomology.

In this presence, and on this occasion, I have no speculations or doubtful theories to promulgate. We have had already enough, and perhaps too many of these for our own benefit or others. What we especially need, are the results of the ripe and united experience of the best cultivators, guided by the deductions of science. Some of the recommendations in former addresses I desire to reinforce, for it is "line upon line, and precept upon precept" that makes a deep and lasting impression. New topics, as they arise, are entitled to respectful consideration, and the discussion of them will undoubtedly elicit important information.

Revision of Catalogue.—Great advantages have already resulted to the country and the world from the catalogue of this Society, which classifies our fruits, registers those suited to general cultivation; those adapted to particular localities; those which promise well; and those that are pronounced unworthy of cultivation. It has been our custom on former occasions to enlarge and revise our General Catalogue by a discussion and vote on each variety.

* John Fitch, in 1788. To his steamboat Perseverance.

It will be remembered that, at the last biennial session, the Chairman of the General Fruit Committee recommended the appointment of local committees in each State and Territory, charged with the duty of producing and submitting to a special committee a list of the fruits cultivated in their respective localities.

From these local catalogues, embodying the ripest experience of the best cultivators in all parts of the country, it will be easy for the Society, at its next session, to transfer fruits to the corresponding department of the Society's General Catalogue.

I therefore respectfully recommend,

First, That no revision of that portion of our catalogue embracing fruits for general cultivation be attempted at this meeting.

Secondly, That local committees be appointed, each of which shall be charged with the duty of preparing a catalogue of the fruits in its own locality, on the same general plan as the Society's Catalogue.

Thirdly, That a special committee be appointed at this time, to whom these various local committees shall make their report during the year 1861.

Fourthly, That the Special Committee be charged with the duty of compiling, from these local catalogues, and from the present catalogue of our Society, full lists of all the fruits therein named, properly classified and arranged, with due regard to nomenclature and terminology, and shall submit the same at the next biennial session for its consideration and action. This labor, well performed, will redound to the honor of American Pomology.

These recommendations are not intended to preclude a discussion of the merits or demerits of any variety now on our catalogue. On the contrary, they call for a full and free expression of opinions in respect to any department of the same, as this may aid the labors of the several committees. Neither are they intended to preclude the addition of varieties to the list which *promise well*.

If this association had rendered no other service except to give to the world its present catalogue of fruits, it would have fulfilled an important mission; but it has done more; it has encouraged and originated many kindred associations, has brought together experienced cultivators, and made them teachers of each other.

By this action and re-action of mind on mind, many of the first principles of judicious cultivation are now fully settled and well understood. Among these are the following, to which I will now only briefly allude, as they have been more fully considered in former addresses:

Culture of Trees.—1. The healthful development of fruit trees, as of other living substances, depends on the regular reception of a certain quantity of appropriate food. This food, whether derived from the earth, air, water, or other natural elements, is conveyed through the medium of the atmosphere and the soil. While we have only an indirect and imperfect control of the atmosphere and other meteorological agents, the Great Arbiter of Nature has committed the *soil* directly to our care and treatment.

2. To this I may add the general sentiment in favor of thorough and perfect drainage, beneficial to all cultivators, but indispensable to the fruit-grower.

3. Not less uniform is the experience of the salutary effects of a proper preparation of the soil for fruit-trees, both in the nursery and in the orchard.

These principles are settled in the minds of all intelligent fruit-growers; but they need to be often promulgated and enforced. It should be equally well understood that success depends upon the adaptation of the habits of the tree to the constituents of the soil, the location, and aspect or exposure. A disregard of this principle, and the fickleness of seasons, are among the most common causes of failure, not only among inexperienced cultivators, but among professed pomologists.

More attention should be given not only to the location, but especially to the aspect of trees. A common error is to disregard the time of ripening. We plant our early fruits in the warmest and most genial locations. These should be assigned to our latest varieties. For instance, we, at the north, have too often placed our late fall and winter pears, like Easter Beurre, or Beurre d' Aremberg, in northern aspects and exposed positions, where they are liable to injury by the gales and frosts of autumn, whereas we should have given them a southern aspect, and our most fertile soils to bring them to perfection. The most favorable locations are not so indispensable to our summer fruits, which mature early under the more direct rays of the sun, and in a much higher temperature. This rule may require modification and even reversion to adapt it to the south or southwest portion of our country. And here I cannot refrain from expressing the earnest hope that our local catalogues may be framed with a wise reference to this principle, and that the day may not be distant when the Society's Catalogue shall designate the particular locality, aspect, and soil, adapted to each variety of fruit.

But, however important these considerations may be, the subsequent cultivation of trees must receive a passing notice, even at the risk of repeating some opinions of myself and others, which are already before the public.

The sentiments contained in the communication of Mr. J. J. Thomas, at our last session, against the growth of any other crop in orchards, especially against relying upon small circles dug around trees in grass ground, as a method of culture, deserves to be held in perpetual remembrance. Equally injurious, in my own opinion, is the habit of deep digging or ploughing among fruit trees, thereby cutting off the roots, and destroying the fibrous feeders, which frequently extend beyond the sweep of the branches. However necessary the practice may be of cutting off roots in old orchards, in the process of renovation, it should be carefully avoided in grounds properly prepared, and where the trees are in a healthy or bearing condition. From experiment and observation, I am persuaded that working the soil among fruit trees, to the depth of more than three or four inches, should be carefully avoided. The surface should only be worked with a hoe, or scarifier, for the purpose of stirring the soil, and keeping out the weeds. Thus we avail ourselves of the advantages of what, in farming, is called flat-culture, at present so popular. For the same reason, manure should not be dug in to any considerable depth, and some of our wisest cultivators now recommend its application on the surface. So favorably impressed with this practice is the Massachusetts Board of Agriculture, that it has ordered a

series of experiments with cereal grains and other products in the application of manures on the surface as compared with specified depths beneath it.

The practice of surface manuring is no novelty of our day. An eminent cultivator of fruits, nearly two hundred years ago, said, "Manures should be applied to fruit trees in the autumn upon the surface, that the rains, snow, and frosts may convey the elements of fertility to the roots;" and "that, by this method, one load will do more good than two used in the common way of trenching in to the depth of one foot." Other distinguished cultivators and scientific gentlemen recommend the same practice. Hence we are of opinion that our orchards and gardens should be manured in the autumn, and on the surface, so that the manures may be thoroughly decomposed, made soluble during the fall and winter, and suitable for the nourishment of the tree early in the spring.

In the history of this art, as of most others, it is wonderful how human opinions change. What were once considered as fundamental, are now rejected as unphilosophical or injurious; and those once rejected are now adopted as wise maxims. The doctrine has prevailed, from the time of Columella and Varro, that manures should not be exposed to the air, but should be incorporated with the soil as soon as laid out; whereas, we have now the opinion of cultivators and chemists in favor of exposure to the air and other external agents of decomposition, and that it is not a source of nutrition to the plant until it is thoroughly decomposed. This opinion is certainly corroborated by the practice of skilful gardeners in all past time, who will never use green manure in the potting or cultivation of plants, and only that which has become old and fine.

New Native Fruits.—Changes of opinion have also taken place in regard to the acquisition of new sorts of fruits. Formerly we looked to other countries; now we rely more especially on our own seedlings for the best results. When we reflect upon the great number of new varieties which have, in our time, been raised from seed, and the progress which has thereby been made, no apology need be offered for repeating what has been said in former addresses in commendation of this branch of pomology. It was my first, so it shall be my continual and last advice: "*Plant the most mature and perfect seed of the most hardy, vigorous, and valuable varieties, and, as a shorter process, ensuring more certain and happy results, cross or hybridize your best fruits.*"

What wonders this art has already accomplished in the production of new and improved varieties in the vegetable kingdom! How much it has done for the potato, the turnip, and other vegetables,—producing, from a parent stock of inferior grade, numberless varieties of great excellence! How it has brought forth, from the hard, acrid, and foxy grape of the woods, the delicious varieties that are now obtaining notoriety and extension; from the bitter almond, the luscious peach and nectarine; from the austere button-pear of the forest, the splendid varieties that command our admiration; from the sour crab, the magnificent apples which now constitute the dessert of our tables; from the wild raspberry and blackberry of the hedge, from the native strawberries of the pastures, those superb varieties which crown the tables at our exhibitions. We believe it is now admitted that our native varieties are more hardy, vigorous, productive, and free from disease than most foreign sorts. Thus we have seedling gooseberries free from mildew, and pears that never crack. Why can we not breed out the black wart from the plum? It has been suggested, by a gentleman of great knowledge, that, by taking the common wild plum, the *Prunus Americana*, of which there are several varieties, varying in color, size, and flavor, we may produce kinds not subject to disease, if judiciously crossed with our best garden sorts; or, if bred between themselves, we might perhaps add new varieties to our species of cultivated plums, which would be healthy, productive, and delicious. This suggestion is certainly worthy of consideration and experiment.

Let not this recommendation, however, in regard to cross-fertilization, discourage the sowing of other seeds, because they have not been artificially impregnated by the hand of men, for they may have been fertilized by the wind, or insects conveying the pollen of one variety to the style of another. In this way have been produced most of the superior sorts of American fruits. How extensive and inviting is the field here opened even to the most common fruit grower, who, practising upon this principle through a series of years, can hardly fail to produce some good fruits, although he may not be acquainted with the higher and more delicate process of artificial impregnation. But infinitely superior and more promising is the sphere of enterprise which opens before the scientific pomologist. It is broad as the earth, free as the air, rich as the land of promise. In his hands are placed the means of continual progress without the numerous uncertainties which must ever attend accidental fertilization. He has the sure guide of science, which never misleads her votaries, but elevates them from one degree of excellence to another towards absolute perfection. By these processes, new varieties are multiplying with unparalleled rapidity throughout our country. We rejoice in the intense zeal which has been awakened in this pursuit. It augurs well for the future, whether prompted by the desire either of fortune or of fame. But the spirit of adventure, thus awakened, needs occasionally a little wholesome discipline, lest it foster an undue reliance on immature experience, and tend to quackery, imposition, and fraud.

While we refrain from all personal reflections, we cannot forbear exhorting all, and especially the officers and members of this association, to increased vigilance and caution in the recommendation of novelties, until they have been thoroughly tested by competent judges. As it is human to err, so it is natural to be partial to one's own offspring and friends, and this partiality often sways the judgment of honest and good men.

But a more common and serious difficulty under which we labor, is the promulgation of seedlings by individuals and associations that have not the information requisite to form an intelligent, and therefore reliable judgment. Another evil which increases with the mania for what is new and rare, is the exposure for sale, by flaming advertisements and speculating agents, of old varieties under new and specious names, varieties which, like Jonah's gourd, were known in their day and place, but have long been consigned to oblivion.

As in the past, so in the present and in the future, let it be our purpose and practice to reject those that are worthless, to withhold our approbation from those that are doubtful, and to encourage the multiplication of those only which are of decided and acknowledged worth. Thus shall we elevate the standard of judgment, and fulfil the mission providentially assigned us. We might enlarge on this and other topics, but the brief period which it is proper for me to occupy in this opening address, restricts me to one or two other considerations.

Affinities.—I would here again recommend a more careful study of affinities between the stock and the graft. Whatever be the opinions in regard to the manner and degree of influence which the scion has upon the stock, or the reverse, the fact of that influence is undeniable. For example, we have seen certain varieties of the pear, as the Cross, Collins, and others, which would not readily assimilate with the stock, however vigorous. We have, in many instances, seen healthful trees, sicken and eventually die, by the insertion of these uncongenial grafts. So great was the want of congeniality, that we have seen the stocks throw out successive crops of suckers, and although these were frequently removed, yet the scion would refuse to receive and elaborate the sap in sufficient quantity to nourish it, and the trees would finally die. In such instances the only way to restore the health of the stock, is to remove the graft for a scion of its own or some other appropriate sort.

As I have formerly directed your attention to this topic, I have only space to embody a few general rules to guide practice.

In deciding upon affinity between the tree and graft, consider—

First, The characters of the woods to be united, as whether of fine or coarse texture, of slender or gross growth.

Second, The wood-buds, whether abundant or sparse, plump or lean, round or pointed.

Third, The seasons of maturity, whether early, medium, or late.

These suggestions will suffice to indicate the direction of thought and the kind of investigation to be pursued. A better knowledge of the subject will, no doubt, hereafter be attained, and will reveal some of the inexplicable mysteries which now attend this branch of fruit culture.

Grape Culture.—Let me for a moment call your attention to the cultivation of the grape. This is now assuming so much importance in our country that it seems entitled to special attention at this time. Its progress is indeed marvellous. Until within a few years, it was supposed that Providence had assigned grape culture and the manufacture of wine to countries in the south of Europe, and that the soil and climate of America were not at all adapted to their production. Still later, the theory was promulgated, which has not as yet yielded in full to a more enlightened judgment, that no good grape could flourish on our eastern slope. Now it is known to succeed in almost every aspect where soil and cultivation are suitable, and it is believed that no country on earth is better adapted to the extensive cultivation of the grape than the United States of America. This branch of fruit culture is yet in its incipient state, but it has progressed so far as to authorize the belief that the grape can be grown with success in almost every State and Territory of the Union.

With the progress already made in raising new sorts, it is only a question of time when we shall have varieties adapted to almost every locality. Thousands of cultivators, scattered over our extended country, are each of them raising new varieties from seed in the expectation of success. While some of them may be valuable, many must, of necessity, be failures, having been originated from natural and accidental impregnation, without any settled or philosophical plan. The laws of reproduction in this department are the same as in other branches of the vegetable kingdom. For instance, in northern latitudes, the great object should be to produce good kinds which ripen early and are perfectly hardy. To procure these from the limited number of our native grapes, we must resort to the art of hybridization, taking for the parents those sorts which contain the characteristics we desire to combine. This work has already been commenced in good earnest, and is progressing rapidly in the hands of many practitioners. Illustrations have occurred under our own observation, proving the immediate and happy results from the crossing of native with foreign grapes. A gentleman in my own vicinity has taken, as the mother parent, the *Vitis Labrusca*, a common native grape, and crossed these vines with the pollen of the Black Hamburg, and the White Chasselas grapes. Of forty-five seedlings, thirty-seven have borne fruit. All progeny of these has proved perfectly hardy, and have stood without protection for several winters, where the Isabella and Diana have been much injured. Of the seedlings produced from impregnation of the Black Hamburg, most of them inherit, in a good degree, the color and characteristics of the male parent; while those fertilized with the White Chasselas, all were of a reddish color, intermediate between the natural colors of the parents. Thus we see the positive and powerful effect of the art of hybridization in the hands of scientific cultivators, who can, in a measure, control the process of reproduction, and render it subservient to their purpose.

But, to prevent discouragement and sustain perseverance, it should be remembered that in conformity with the experience of Van Mons, Knight, and other pioneers, a seedling does not attain to perfection at once. To arrive at its culminating point of excellence, it must often be fruited for several years. Others maintain that a number of manipulations are requisite to bring a new variety to perfection. Some varieties attain this much earlier than others, and the same variety reaches it earlier or later in different localities. Hence an originator should not reject a seedling of some apparent good qualities simply because it may have some defect; for this may result from local or external influences. He should, therefore, cause it to be transferred for trial to a different soil and climate. Even grapes of acknowledged excellence are improved by this change. The Concord and Diana of Massachusetts, valuable as they are at home, acquire a superiority in the south and southwest unknown in their original locality, even rivalling the Catawbas and Isabellas of those sections.

It seems to be a general law of nature, illustrated in our forests and fields, that some trees and grains will flourish in nearly all localities and latitudes,

while others are particularly restricted to certain districts. By this arrangement an all-wise Providence diffuses blessings over our country and clime. Each has its appropriate share in the general munificence of the Creator, together with luxuries peculiarly its own. The grape is common and almost universal; but the varieties of this fruit are mutable and local, capable of endless adaptation by human skill. Hence this field for the culture of the grape, upon the borders of which we have scarcely entered, is to the intelligent cultivator, full of promise and reward.

While it was formerly supposed that the peculiar, and, to many, the disagreeable aroma of our common grapes disqualified them for the production of choice fruits and wines, it has been proved, we think, beyond a reasonable doubt, that the characteristic designated, by way of contempt, as the fox or polecat flavor, will hereafter constitute one of the chief excellencies of our new varieties, when, by the art of hybridization and civilization, this flavor shall have been modified and changed, by alliance with other grapes of excellence that are destitute of this quality. This flavor, thus improved, seems destined to form a distinctive characteristic of an important class of American grapes, even to give them a marked superiority over such varieties as the Black Hamburg, Sweetwater, and such other foreign sorts as are destitute of any especial aroma, and consist mainly of sugar and water. It may yet make our seedlings rivals of the Muscats, the Frontignacs, and other highly flavored foreign grapes of the Old World. Multitudes of seedlings, deriving their origin from our native vines in various stages of civilization, and with a special view to this result, are now on probation in various parts of our country. From these must necessarily arise, in coming time, many sorts of superior quality.

What if the desire for new varieties has become a mania? What if it produce, here and there, personal sacrifices and disappointments? What if, from want of skill, or from adverse causes, many inferior or even worthless varieties are produced! The result is certain. The time fast approaches when the ultimate good will be realized, and when America will become the great grape-growing and wine-producing country of the world.

I admit, in respect to all our fruits, that as the number of varieties increases, more judicious and severe discrimination in the selection of very valuable, and in the rejection of comparatively inferor varieties, will be demanded. This is the lesson which past progress teaches us. What would the gardener of fifty years ago have said, if he had been told that his favorite Bon Chretiens, Muscats and Blanquets, were soon to be thrown into the shade forever? He would have shown as much incredulity as some of our modern amateurs do when we talk of future progress. The Duchesse d'Angoulême, the Beurré d'Anjou, Doyenné Boussock, Beurré, Supefin, Bartlett and Seckel, had not revealed to him the vast extent of improvement in fruits which was to be made. What was true, in this respect, fifty years ago, is equally applicable to present varieties. The impossible has no place in the history of progressive science, whether relating to natural arts, or to mechanical industry.

Conclusion.—But, gentleman, I have occupied my share of your time and attention, yet I must beg your indulgence in a few concluding remarks.

We have spoken here, and on former occasions, of the advancement which has been made in pomology in our age and country. This is to be ascribed in part to the great scheme of Providence which has developed such stupendous results in the march of civilization and all the arts of life. Human pursuits are allied by affinities so intimate, that a remarkable discovery or improvement in one advances them all. Never before has the public mind been so profoundly moved, nor the energies of mankind so concentrated upon efforts to relieve toil, to perfect skill, to reward labor, and to multiply the comforts and blessings of life.

Truly we live in an age of transition and wonder! The invention of to-day supersedes that of yesterday, and in its turn is to be supplanted by that of to-morrow. No enterprise, however bold, adventurous, or vast, whether the construction of a railroad from the Atlantic to the Pacific; the laying of the mystic wire in old ocean's bed, or threading it through Behring's Straits and winding it around the Globe, is too great for the capital, energy, or intelligence of the present generation.

How wonderful the scale of development in modern society. The old wheel and hand loom of our mothers have passed away, and given place to the busy hum and clatter of our princely manufactories; the needle of the weary housewife, plied by day and night for clothing her family, has been exchanged for the ingenious sewing-machine, turning off its ready-made garments, and performing the labor of months in a day; the old printing-press of our Franklin, working off by the sweat of the brow only a few hundred newspapers per day, has yielded to the steam-press of our time, throwing off its twenty thousand impressions per hour; the brush of the artist patiently filling up his outline, touch by touch, through toilsome days, to the pencils of light in the hand of the King of day, picturing at a flash the image of yourself, and of all around you; the coaster creeping cautiously along the shore, dependent on wind and tide, to thousands of steamboats which now dash over our lakes, rivers and oceans, despite of current or tempest; the old stage-coach, making only fifty miles per day, to our despatch and lightning trains, running fifty miles per hour; the horse express and carrier pigeon, hailed as wonders in their time, to the electric telegraph, which, quick as thought, speaks with a tongue of fire, the languages of earth.

Discoveries, inventions and improvements equally remarkable characterize all the arts of husbandry. Witness, in place of the forked stick of the ancients, or the wooden plow of our boyhood, the improved iron plow of every model, and adapted to all kinds of soil and situation; and, still more marvelous, the Steam Plow, moving as a thing of life across the broad prairie, turning up its numerous furrows at once, and leaving behind it a wake like that of a majestic ship. Witness also, instead of the rude hook, the sickle, or the scythe of the farmer, slowly and tediously gathering his crop, our mighty mowing and reaping machine, cutting down its ten to twenty acres per day.

The great industrial pursuit which this Society seeks to promote furnishes testimony of progress not a whit behind the most favored of the arts.

Behold the improved methods of cultivation; the vast number of nurseries and orchards, springing

up everywhere, as by enchantment; the novel process of reproduction, multiplying plants in endless profusion, and as by the stroke of a magician's wand. Witness the interminable lists of varieties now in cultivation, increasing with each revolving year; the restlesss and anxious desire to obtain everything new and promising from whatever country or sea-girt isle it comes; the refined taste for choice fruits rapidly extending through every gradation of society; the standard of Pomology, like the star of empire rising in the east, moving still onward to the west, and exciting the attention and astonishment of mankind.

But this progress results from no supernatural power. It is rather an illustration of human capability, acting in conformity with natural laws, and in harmony with the benevolent designs of the Great Husbandman for the amelioration of society, and the display of his infinite wisdom and love, "sought out of those who take pleasure therein." It exhibits the conquest of mind over matter, the dominion of man over nature, improving, adorning and elevating her to the highest and noblest purposes of her creation.

Inspired with these sentiments, let us take encouragement, and press on in the career of improvement, ever remembering that study and experience make the man; and that for the highest attainment and the greatest success, we must depend upon the culture of the mind as well as of the soil.

"Survey the globe through every zone,
From Lima to Japan,
In lineaments of light 'tis shown
That CULTURE makes the man.
All that man has, had, hopes, can have,
Past, promised, or possessed,
Are fruits which CULTURE gives or gave,
At industry's behest."—T. GREEN FESSENDEN.

WEDNESDAY, *September* 12, 1860.

The Society met at 9½ o'clock, A. M. The President announced the order of business to be the discussion of the list of fruits that promise well.

BROADWELL APPLE.

DR. WARDER, of Ohio, moved that it stand on the list.

BUCKINGHAM.

MR. LYON, of Michigan, moved that the Buckingham, of Illinois, or Winter, remain on the list.

COGGSWELL FORNWALDER.

MR RUTTER, of Penna. I view it as one of our finest apples, in east Pennsylvania at least. It bears very well. I planted one hundred and twenty-five of this kind. They are now bearing. The fruit sells higher than any other. They were sold last year at one dollar per bushel. They are large, and keep well. I have had fine apples in April. It is one of the most saleable in the market but it is not equal in quality to others. I think in Pennsylvania it does well.

MR. BALDWIN, of Penna. I agree with Mr. Rutter concerning its certainty of bearing. It is a good and reliable tree; just such as we need.

MR LYON. I have cultivated it for some years, and have found it to be a very fine apple. They are of a good size, and are fine keepers. My trees bear well, and the fruit is coming into great favor in our State. They are in demand, and are sold at good prices.

GENESEE CHIEF.

DR. WARDER. I move that it be struck out of the list. It is an apple that comes at a season when we have many others. It is a large, coarse apple; it is sour and light. It will do to cook, as it has little flavor besides its acidity.

MR. BARRY, of N. Y. I think if we reject it we should reject many others. The only objection I have is its name. It is one of the largest we have, and when ripe is of a very superior quality. It is not only a fine fruit, but a fine eating apple. I wish it may remain on the list.

MR. HARRISON, of Penna. I can only speak of its quality. With me it has been the best of fifteen or twenty varieties I have grown.

(Ordered to remain on the list)

JEFFERIS.

MR. HOOKER, of N. Y. My experience this season has been that it has proved one of the finest apples. I object to its being struck out.

DR ESHLEMAN, of Penna. In East Pennsylvania it would seem to succeed. The trees in my orchard are bearing when twenty others are destitute of fruit. I believe it does well also in Western New York. It is very delicious, medium-sized.

MR LYON. It is a very fine, fair sized apple.

MR. STEELE, of N. C. I wish to make a suggestion. That is, that gentlemen shall address the president. This will be according to Parliamentary usage.

MR. RUTTER. I give my testimony in favor of this apple. It originated in Pennsylvania. It is one of our finest fruits. It ripens in September, and is equal to any other we have. It was brought into notice by the Horticultural Society of West Chester. It received the first premium of five dollars in Massachusetts, and secured commendation as a seedling fruit. I only regret to say that we are not prepared to look into the list of apples recommended for general cultivation. Why are we excluded from discussing other fruits?

THE PRESIDENT. The Committee who have had this matter in hand reported to this effect, that we should confine ourselves to the list.

(Allowed to remain on the list.)

KING OF TOMPKINS COUNTY.

THE PRESIDENT. Can any gentleman say anything against it? I think it is an apple worthy of all commendation.

MR. LYON. It is not much thought of as a market fruit. It's only fault is its size. It is too large for market.

MR. BATEHAM, of Ohio. We have found that it ripens too early to be profitable with us in Ohio.

THE PRESIDENT. Does not this quality arise from soil?

MR. BATEHAM. It is the same in all soils. It is better in the Northwest part of the State. It will speck; but that is no detriment to any fruit, in my judgment.

DR. WARDER. I wish to confirm what Mr. Bateham has said. I have seen it in all soils, in sand, clay, and in limestone. We cannot yet form an opinion, but our impressions are unfavorable. It is prone to have the rot, and to decay. When we find this sentiment universal, we must draw our own conclusions.

THE PRESIDENT. I believe that it is an excellent apple in New York; other better apples abound, and we don't care to have any on our list unless they are superior.

MR. TAYLOR, of Va. It is one of our winter apples, and ripens well. It is a good fall apple.

(Allowed to stand on the list.)

MOTHER—SMOKE HOUSE.

MR. BALDWIN. The Smoke House we consider the best apple in Eastern Pennsylvania, both in regard to purely domestic purposes and for the table. We know of no apple we would prefer to it, and I should be very sorry to see it stricken off the list, as it is decidedly one of the best apples we have.

(Allowed to stand on list.)

WHITE WINTER PEARMAIN—WINTER SWEET PARADISE.

MR. RUTTER. I cannot conceive how it was, or who ever proposed the White Winter Sweet Paradise, (we don't mention sweet in the designation of it, but it is sweet,) to be put upon the list of those that promise well. I have had it fruiting for the last fifteen or eighteen years, but the property on which the trees were planted, I sold some years ago to its present owner, who has cut the tops all off, which he did at last year's crops, as he did not consider it (the crop) worth anything. I do not consider it worth cultivating at all, for, when winter comes, it is used for nothing but to make cider. In the neighborhood of Lancaster, I have known in the spring of the year, during the months of March and April, quantities of this apple bought by the boys and girls, who sell them on the railroads. It is a pretty fair apple, small, rather handsome, but I think a decidedly inferior fruit to hundreds of others that have originated in Pennsylvania. How it produces in other sections I do not pretend to know, because I have not seen it out of Eastern Pennsylvania. I move it be rejected from the list of PROMISING WELL.

MR. TAYLOR, of Virginia. I object to that motion. This apple cooks better than any other grown in this portion of the State.

MR TAYLOR, of Ohio. It is evident from the remarks of the gentleman (Mr. Rutter) that there is no difference between the two classes of apples of this species. The Sweet Paradise, which came from Pennsylvania, is a sweet apple, and very savorable, and a very good one.

(A voice, "all true.")

MR. RUTTER. I cannot be mistaken in regard to this apple, because it is a vigorous apple, and originated in or near Paradise, in Lancaster County. It is well known in that section of the country. The Pennsylvania Sweet Paradise is rather a flatter apple, with a blush on one side, and quite acid in taste. There are some more of our Lancaster County friends here, who may tell us more in regard to this particular fruit, but in Chester County it is considered a very poor apple.

MR. BARRY. I have seen that apple (the Winter Sweet) in Washington. It was very large, and I thought the handsomest I had ever seen in my life. In Columbus, Ohio, I have also seen it frequently, and always thought it one of the most delicate, eatable, sweet apples in a raw state, I ever handled. It is far superior to the Tallman Sweet, or any of our popular sweet apples. I can say nothing about its success in Western New York, but I know in the South and Ohio it is one of the finest we have.

MR. SAUL, of N. Y. I have some knowledge of this apple; I have known it, I suppose, twenty years. The apple is correctly described by Mr. Rutter, so far as the shape is concerned, but its manner of growing I never saw: where Mr. Downing lives it has been always a fair handsome and good bearer, and, as one of the gentleman has said, one of the best sweet apples of the season.

MR. SCHLAY. I would suggest, if it be in order, that samples of the apples, under consideration, be presented by gentlemen making remarks relative thereto. (Mr. Schlay presented a specimen of the Winter Sweet Pearmain as grown in Ohio and Pennsylvania.)

MR. ESHLEMAN. There are two sweet Paradise Apples, both originating in this State. There can be no difficulty in distinguishing them, from this fact, that the one is ripe and past at this day, and the other is a winter apple; so, of course, the one before us now is not a winter apple. We consider it a very superior fruit in Lancaster County, where we call it the Autumn Sweet Paradise, while the other we call the Autumn Paradise.

MR. BALDWIN. It is a very slight bearer on my place, and I believe that to be the general character of the fruit.

(Ordered to remain on the list.)

WINTHROP GREENING, OR LINCOLN PIPPIN.

THE PRESIDENT. The Chair would state that this apple was introduced upon the list of those which promise well, six years ago, at a meeting of the Pomological Society in Boston, on motion of a gentleman from the State of Maine, who gave it a very high recommendation as an apple suited to that region. I do not know that I have heard of it in any other section of the country, that is the reason that it was placed here, rather as a matter of courtesy to the State of Maine. It is undoubtedly a very good apple.

SUMMER SWEET PARADISE.

MR. LYON. I suggest that the Summer Sweet Paradise be added to the list of those which promise well. I have cultivated it for several years. It is quite a large, very fine, sweet apple. Its color is yellow.

(It was added to the list.)

MR. HOOKER, N. Y. I hope that no gentleman will introduce a fruit here that does not feel confident that it is worthy of general cultivation.

MR. BATEHAM. I wish to know whether the Summer Sweet Paradise and the Autumn Paradise are one and the same fruit, or whether they are different. I wish to know what we are discussing.

MR. SCOTT. The names of these two fruits are too similar.

MR. PRINCE. These two names apply to the same fruit.

(THE PRESIDENT exhibited a specimen,) this is the Summer Sweet Paradise recommended by Mr. Lyon.

MR. SAUL. I know this apple. I pronounce it a first rate one.

(Added to the list.)

BEN DAVIS.

DR. WARDER. I have not a specimen with me to show you, but it is useless for me to say much to you

about it. If any gentleman here knows much about it I would like to hear his mind.

Mr. Berckmans. I am acquainted with the apple. It is pronounced as a fine keeping apple in our country, where winter keeping apples are not very plenty As a grower, it is good. It is rather an acid apple, of medium size and fair quality.

Mr. Noble. Is this apple called the New York Pippin in some sections?

The President. No, it is not.

Dr. Warder. I move it be added to the list.

Mr. Barry. When such a fruit as this is brought up, I, like many others, feel embarrassed in regard to placing it on the list. My impression is, that where an apple is not well known but to one or two persons in this convention, it would be very well to hear a description of its qualities and leave it be on record and not add it to the list of those which promise well. According to our own rules, it ought to be known well, in several districts of the country. I think therefore when an apple like this is known to only one or two persons, it would be well that those persons should give their opinions, and let their statements go before the public, and thus give the subject all the justice that can be done to it.

The President. Those are my views, and it is conformable to our previous practice.

Dr. Warder. I have a list of apples here which is of considerable length. It contains names of those I consider worthy of being placed upon the list of those promising well. If we wait until these apples struggle their way through their native woods, they will never be put on that list. We have instances enough to show the truth of my assertion. Take the "Cooper apple," that cannot live out of its naturally limited kingdom. There is an instance of an apple, which for fifty years has been cultivated upon, and is absolutely necessary to every household on the Muskingum River, but is scarcely ever found away from that river. The Society did me the honor to place the Buckingham which was not known to any other member of the Society upon the promising list, and in consequence of that kind action, I have been led to gather specimens of many valuable fruits throughout the south and west, hoping to have them similarly treated. The gentleman who preceded me alluded to the discussion. Who reads the discussion but a favored few, who receive the Biennial Report for the price of their membership, two dollars per year. The list for general cultivation and that of promising well are common property; they are published in every newspaper in the different sections of the country, and therefore, I would have certain fruits that promise well put in one of those lists, that they may have, not only a local reputation, but a certain degree of public notoriety. If this course runs counter to the rules of the society, I will fold up my list.

The President. There is certainly no objection to adding to the lists those fruits well vouched for by gentlemen having a sufficient knowledge of them, such as Dr. Warder has already communicated to us in relation to certain varieties, although those kinds have applied to his own region.

I understood Mr. Barry to intimate, that in cases where the variety was somewhat less known, the opinion of gentlemen relative to it should be recorded, but the name of the variety should not be placed on the list of promising well.

(The consideration of the Ben Davis was here resumed, when)

Dr. Warder said: As Mr. Berckmans is well acquainted with this apple, more so than myself, and as he does not highly recommend it, I ask leave to withdraw the name.

The President. There is no necessity for withdrawing this name. The opinions of gentlemen speaking to the subject will be placed on the record, which action I believe meets our wishes in the settlement of the question.

Mr. Cummings. We have no description of the apple under consideration. I would like to hear some of its characteristics.

Mr. Berckmans. The Ben Davis is an apple very well known in Kentucky, from which State I came. Mr. Downer introduced it. I have had it in cultivation four years. The fruit is not yet ripe. From other sources, I have collected some information in regard to it, and all those who have tried the apple recommend it as very good, especially as a winter keeping apple. The size is medium. It is rather a flat apple with a red cheek and stripped. As to its quality it is fair, not of the first order. The tree is a fine grower, and I move that it should be recommended for cultivation.

Dr. Warder. I would ask if it has any synonym?

Mr. Smith. I wish to make a suggestion in relation to those fruits recently introduced by members of this convention. It seems to be desirable to get certain fruits before the public to be noticed by them, for unless so introduced, they will be unaware of their existence. I would suggest whether it would not be well to recommend certain fruits for trial.

The President. That is precisely what the list entitled "promising well" is intended for, simply to put those fruits on probation, as it were.

PRESS EWING.

Dr. Warder Introduced the Press Ewing as another of Mr. Downers' apple. Mr. Bergman probably knows this apple better than myself. It is globular, yellow green with alternate stripes. It has a good deal of yellow flesh and plenty of juice; is kept very soundly and well in winter. Its season is midwinter; is grown on the borders of Tennessee.

Some of the apples I have presented here I have never seen on the tree, and this is one of them. The tree is a fine grower.

Mr. Barry. I think when we have only seen a single specimen of an apple, and have not seen it on the tree—its bearing or hardiness, those qualities actually necessary to give value to any fruit—it is hardly worth while to introduce it here.

There is a difficulty about this thing that some people do not comprehend. An apple or fruit is brought here before this convention by gentlemen who have just seen a specimen. It is spoken very highly of, and then a great many persons catching the contagion, run after it to get specimens, which by and by having obtained, they get disgusted, and thus are led into much trouble. I think that unless gentlemen have a full knowledge of the tree and fruit, and can conscientiously come forward and recommend the article to cultivators for trial, that they ought not to bring it into notice. I am willing to take a fruit on the recommendation of Dr. Warder; but because I have only seen a specimen of it, that is no reason why I

should now approve of its qualities. Nor does that fact justify me in coming in here and giving it a place in our catalogue. It would seem to me that if every gentlemen in this room would place on this catalogue the fruits which they have seen or tested, we should have a list longer than could be contained in the Biennial Report.

That is what I want to avoid in making the remark.

Mr. Rutter. In looking over the list of the actions of former conventions of the Pomological Society, I find thirty-six apples recommended for general cultivation, and in turning to the list we have just gone over, I enumerate twelve or sixteen more recommended for trial. Now if forty-eight kinds of apples are not enough for any man who intends to plant an orchard of one hundred trees, I do not know what a man wants in this world. There may be other apples, but it seems to me we should have some intelligible stand point, and that stand point, speaking politically, would be, that we should not introduce nor recommend an apple, unless it have some superior qualities, or were superior to some we had heretofore recommended—unless it stood a head and shoulders above any thing else we have recommended. You may take up your catalogues of nurserymen all over the country, and see two, three or four hundred kinds of apples there laid down. Talking about introducing an apple when but one gentlemen has seen it! and when we have a list of thirty-six specimens "recommended" to twelve "for trial." Now, let us rest here, and see whether those which have been recommended all over the country heretofore, will answer. I would recommend the suggestion made by the Chair, and adopted by the committee, that a committee be appointed who will take the list that has been recommended, and examine any fruits the gentlemen here may choose to speak of. Let us wait until we get the action of that committee reported two years hence, and rest upon our oars. Let us take this list of forty-eight apples recommended for culture and trial and rest upon them. Unless gentlemen have some apples of very superior qualities, which he can attest, let them be held back

Mr. Steele. It occurs to me, that if there are thirty-six varieties recommended for general cultivation, it might be very well to have more than a hundred for trial I think a fair proportion would be, that if thirty-six of cultivation, at least one hundred are worthy of trial. Does any gentleman, who wishes an advancement in the science of Carpology—I beg pardon for the use of that word—desire to restrict the amateurs in this country, to twelve varieties of those that promise well for trial. I believe in progressiveness; and it occurs to me, that if we really desire to get what are the best fruits to be found in the different sections of the country, we are obliged to call attention to those different varieties that command approval in different sections of the country. Let them go elsewhere, and the probability is, that they may supersede a number of those varieties recommended for general adoption. I believe it a matter of policy, to call attention to these things, in as emphatic a manner as we can; by this means, the attention of those interested in this matter will be arrested. I know it to be the fact, as does every one who has paid attention to the subject, that more than half of those recommended by this society for cultivation, are utterly worthless in one-half of the geography of this Union. I am speaking particularly of Winter Paradise. But I think it is to the interest of gentlemen cultivating the Winter Paradise—or apples appertaining to this parallel of latitude, that whenever the winter apple supposed to have originated in a latitude further south, they should examine it well, for it may be that it will be of great service to them hereafter in winter varieties. I believe the very apple to which attention has been called by my friend from Ohio, will be a very excellent apple in portions further north than Cincinnati.

Mr. Harrison. I would suggest, not wishing to endorse any thing said in regard to new varieties which have come under the observation of only a few of our members, it should be recommended for trial. Of the three classes of apples, only two have been published, the third class being reserved for trial. Specimens are certainly worthy of trial, while it is at the option of the society to afterwards adopt or reject them. But in placing samples on the list for trial, the society merely recommends them, in the same manner as would one gardener recommend a fruit to another.

The President. The Chair would simply state what he believes to be the intention of this congregation. It is to elicit information from the various sections of our country, allowing every gentlemen, if he has any particular knowledge in regard to any special fruit, to state that knowledge. If his description of the article entitles it to a very fair character, we shall all be anxious to try it. This course is alluded to as the best to be adopted, in order that we may obtain a knowledge of the fruits being disseminated throughout the length and breadth of the land. A record is made of the various statements in relation to certain kinds of fruit, and when we come together, two years hence, as in the past, we shall know more of them.

FALL WINE.

Dr. Warder. I offer, to be placed on the list of promise well, at the option of the society Fall Wine. Mr. Downing has had this specimen for thirty years, and yet it is not on our lists, in our book or in any eastern book. It is first rate; a good bearer, fine grower, and very fine apple in September, for cooking, for the table, for the market, or anywhere.

Mr. Downing. I believe it one of the best fall apples we have.

Mr. Barry. I know it to be a very fine apple.

Mr. Lyon. It is inclined to be specked, and is of an uneven size.

Dr. Warder. In our markets, it is as even-sized an apple as any we have.

Mr. Loomis. We consider it the finest apple of the season in our State (Indiana.) A regular bearer, and good for all purposes for which apples may be used.

(The Fall Wine was then placed on the list.)

COMMON PEARMAIN.

Dr. Warder. I move to add the Common Pearmain. It is an excellent keeper; will withstand the roughest treatment. It may be kept without any difficulty until March, and is good until May. One of our very best Southwest keeping apples; not of the very highest quality, but infinitely better than anything I have seen, from Boston to Virginia, in the Spring season of the year, when we generally are obliged to undergo the mastication of grindstones.

Mr. Taylor, (Va.) I would inquire if that specimen apple was not grown in Virginia?—(Pointing to

the specimen produced by Mr. Warder.)—It is there a heavy bearer, and scarcely any fault can be found with it but that it is only used in harvest time and at the last of April.

Dr. Warder. This specimen is from Staunton, Va. I have others from Indiana.

Mr. Loomis. It is cultivated to a very great extent along the Ohio river, and considered valuable as a long keeper. Personally, I am not acquainted with the fruit.

Mr. Bateham. I have seen it in Ohio; good in the Spring, though not very.

(The Common Pearmain was then added to the list.)

EARLY JOE.

Dr. Warder. I would propose a sample, with which many here are doubtless familiar—the Early Joe.

Mr. Lyon. Sometimes a little specked; otherwise very good.

(The Early Joe was not added.)

FATHER ABRAM.

Dr. Warder. I propose the Father Abram.

Mr. Robey, of Va. It is considered as a shy but regular bearer; keeps well; has a rich, spicy flavor; season, late winter; not fit to eat before January, lasting generally until March. Of moderate size, though inclined to smallness; a fine grower, and very erect.

Mr. Stewart. Has been in our country (Illinois) for many years; and abound largely in the Spring, throughout Central Illinois. Too small for market, with an indifferent flavor; very insipid.

(The Father Abram was not added.)

WILLOW TWIG.

Mr. Warder. I propose the Willow Twig, known also as the Willow, or James River. A large sized apple; one of our best keepers and market fruits. Thousands of dollars have been brought back for years and years, by those who have taken this article, in large quantities, down the Mississippi. It is known all along the banks of the Ohio, though, I believe, of Southern origin—from Virginia; of fair size. The tree looks like a wilding, and a good bearer, though not pretty. Mr. Robey tells me he considers this one of the best winter apples. We look upon it as very good for cooking purposes, but not for table. The wiry character of its stalks and branches gives it its name.

Mr. Bissel. It has been kept in our neighborhood (Pittsburgh) for two years; a very fine flavored apple and a great bearer; of equal temperament.

Mr. Stewart. It is considered by market dealers as our most valuable fruit of the apple species. It will keep twelve months; hangs on the tree until late in the season; bears a uniform crop; and when properly packed, will keep all winter, without loss. It is saleable in the last of June, and about the beginning of July.

(Placed on the list.)

LIMBER TWIG.

Dr. Warder. I introduce the Limber Twig; an ugly customer; very unprepossessing in its appearance, but everything said in regard to the Willow Twig—its keeping properties, etc.—may be said of this fruit. It belongs to the class known as Spring apples.

Mr. Steele (N. C.) I think that my earliest munching of winter apples is intimately associated with the old Limber Twig—the first winter apple I ever heard of. When pretty good, it is solid, there being some alluvial in its nature, and grows at a level of 36° above tide-water. It has not the flavor other apples have, but when you take into consideration its keeping properties, you will find this fault overbalanced by something favorable.

Mr. Robey. The Limber Twig is considered one of our best winter apples for keeping; a regular bearer; a long keeper; one of our best cooking apples; it is juicy and rich; kept in the usual way, it becomes spongy. They sometimes grow to a very large size.

Mr. Berckmans. I agree in the remarks made by Mr. Steele; it is one of the greatest winter apples we have. It has been brought from the district Mr. Steele is from, and it is the only species I have frequently found in the markets of Charleston and Augusta. I have seen the apple in the month of May and the end of April, kept sound; and that is a very sure guarantee that it is a good keeping apple.

Mr. Cummings. I thought when I first saw the apple it was the finest looking specimen I had ever seen. I was so impressed with its beauty that I rode to a nursery to obtain more than a single specimen. I, however, know nothing of its qualities.

Mr. Taylor (Va) I have had it in Virginia, and know that it is grown very well in Illinois. The great objection to it is its property of getting spongy during the winter months. You will not find it plump and sound in the spring. If you stow it away on the floor of a room or like place, it will dry up and wither. It requires lying on the ground for preservation.

Mr. Robey. We keep it in sand, in which material it is preserved. It bears well.

Mr. Berckmans. I move this apple be called the North Carolina Limber Twig, for the reasons which have been stated.

(The motion was not agreed to.)

(The Limber Twig was then added.)

THE BONUM.

Mr. Steele. I present an apple which is known as a seedling of North Carolina, coming from one of the central counties of the State. It was first called by the gentleman who named it—probably from the fact that he wished everybody to know that he had been at a Latin school in his time—the *Magnum Bonum*. Several gentlemen in New York tried it. Mr. Westbrook, of my own State, has had several specimens on exhibition frequently. Dr. Warder tried it, and I recollect the eloquent smack of the lips he gave after tasting it.

Mr. Lyon. It strikes me that specimens of this apple I saw two years since were very beautiful.

Mr. Steele Those the gentleman (Mr. Lyon) saw, were seventy-five per cent. (probably) larger than this one. The trees are very good bearers and growers, and very hardy indeed.

Mr. Robey. One of our best winter apples.

Mr. Berckmans. In Georgia, it is not a winter apple.

Mr. Steele. It is only a September apple with me.

Mr. Robey. With me, it is an early winter apple.

(Placed on the list.)

STANSILL.

Mr. Steele. I present an apple said to have originated in the county of Stansill—a name which I conferred upon it. Some of them are almost green; the blush somewhat redder than on that specimen. The tree is a very beautiful grower—a pretty tree—and very early bearer, and worthy the apple list. There is an enlargement of the fruit spur—more so than any apple I know of. It is yellowish in flesh; of very good quality indeed; is a capital apple with us in the month of January. It is well tasted, and the earliest bearer I know of.

Mr. Berckmans. Mr Steele has sent me several specimens, which I have planted. It ripens in the month of July, and until ripe, remains sound on the tree.

(On motion of Dr. Warder, placed on the list.)

The Chair. Gentlemen will bear in mind that we are here representing constituencies; and their opinions should be considered as coming from their respective localities

NEW YORK PIPPIN.

Dr. Warder. I present the New York Pippin, known in Arkansas as the Kentucky Streak, and along the Ohio river, particularly on the Kentucky side, as the Carolina Red Streak; in which place it is of a beautiful oblong, conical shaped appearance; handsomely colored; a good keeper.

Mr. Smith, (N. Y.) I have known it as a beautiful conical-shaped apple; highly polished, with a fine bright rind.

Mr. Stewart. I concur in all Dr. Warder has said in regard to the New York Pippin. We have cultivated it in our section of the country, under the name of the Red Pippin. I have met it all through Missouri, under the name of the Victoria Red, and I find it one of the best growers in the nursery and orchards, and one of the hardiest trees, and one of the most profitable and saleable apples. It is cultivated largely, and finds first-rate sales.

Mr. Byram, (Ky.) The history of that apple, I think, is in this wise: It was introduced into Kentucky from this city by one of the Allens, who saw it in the markets of this city, and was so well pleased with it, that they introduced it as I have stated, taking the name of the New York Pippin, at the same time, by which name it was known here.

Mr. Lyon. I received, by way of Indiana and Kentucky, some years since, what appeared to be a very good apple—the one under consideration—though I have another superior to this.

Mr. Noble (Pennsylvania.) I never saw any specimens of this apple. I merely wish to ask whether this was, a year ago, the Ben Davis. It is so stated in some of the periodicals of that time.

Dr. Warder. It is not the same. A pomological body, though quite a subordinate one to this, met at Bloomington, Illinois, last winter; and after proper consideration, they agreed to call this fruit the Carolina Red. I move that that name be given to it now.

Mr. Barry. In the case of an important apple like this, I would inquire whether it would not be well to refer it to the Committee on Synonyms, in order that they may, between this and next session, investigate its history and find its real name.

(The nomenclature of the apple was referred to the Committee on Synonyms.)

ROME BEAUTY.

Mr. Bateham, (O.) I would like to hear something about our famous apple—the Rome Beauty. It is exceedingly popular in my half portion of our State, and in adjoining States.

Mr. Barry. I think the Rome Beauty is very handsome; as seen in specimens from Ohio. It is said to be an apple of second, or not more than third quality; very handsome and productive.

Mr. Berckmans. It is an apple of second quality only; cultivated in our section on account of its beauty. It is an August apple with me.

Dr. Warder. I have no objection to its going on the list of Promise Well, having seen a sample of very good character. Though it has no stem—for when you see apples come to an exhibition without a stem, you may be sure the apple is either bad, or comes from a very poor pomologist—it is a very good apple.

(The Rome Beauty was not added.)

WHITE PIPPIN.

Dr. Warder. I would introduce the subject of the White Pippin.

Mr. Bateham. I was required by the Chairman of the Fruit Committee of the State Pomological Exhibition of Ohio, to present the names of twelve winter apples, and I had to put the name of the White Pippin at the head of the list. I do not expect to find a better winter apple than this—so much so, that I could not recommend a half dozen varieties without including it. We have been greatly puzzled in Central Ohio to know where the name came from. It is supposed that it was brought from Eastern Pennsylvania and New Jersey under certain names. It much resembles the Newtown Pippin, and is every way profitable.

Mr. Scott, (N. J.) I would say there is something in our nurseries which answers to the description given by Mr. Bateham. The name of Pippin is given it for special distinction, but whether it was a Holland or Fall Pippin, or something else, we could not determine.

Mr. Reid (N. J.) It very much resembles the French Pippin.

Mr. Quinn (N. J) The French Pippin, to which Mr. Reid refers, is cultivated very extensively in our region.

Mr. Downing (N. Y.) The White Pippin is a very fine apple, but distinct from the French Pippin.

(The White Pippin was then added to the list.)

THE MEXICO.

Mr. Trowbridge, Conn. I introduce the Mexico.

Mr. Downing. It is a good, pleasant apple. In our classification, I call it very good. In Connecticut, around Brookfield, there is no apple liked so well. It is an early September apple, and the nurseries there cultivate it, and have it in their catalogues as one of the finest apples. (Mr. D. here exhibited a specimen of the article, unripe.) They will now fall from the tree in two or three days.

(Not added to the list.)

PRYOR'S RED.

Dr. Warder. I introduce the Pryor's Red.

Mr. Taylor. It originated in Virginia, and is cultivated throughout the South; has a rather tender skin, liable to a little rupture in the keeping; used

to mid-winter and spring; almost like the yellow when ripe.

Mr. Bateham. That apple I have seen a great deal of in Southern Ohio and Southeastern Ohio, and have been much pleased with it. But a serious complaint brought against it is in consequence of the tree blighting. There seems to be a great importance in regard to location, as it is liable to become diseased very soon on being planted in uncongenial soil. Along the Ohio it does very finely. But I would not recommend it to my friends or customers for general planting.

Mr. Taylor. It is the hardest tree to graft; many attempts at the process being unsuccessful.

Mr. Robey. In Southern Virginia it is considered of very fine flavor, though a tardy bearer, and a poor one after it commences.

Dr. Warder. A tree six years old and bearing a bushel, I do not call a tardy bearer. These objections have been made and may be made; but it is so well known—so long established in and out of Virginia—that I think we might safely put it on the list of Promising Well.

Mr. Barry. In some places it bears a very high reputation, and in those places will still be cultivated, whether included in these lists or not. I think we might as well put it in the list of Promising Well, as some others we have put there.

Mr. Byram. Twenty years ago that apple was one of the most popular apples in the Western country, but for the last few years it has become so blighted that nurseries have generally neglected to grow it. It is an excellent apple, but blights very much from the rusting of the leaf.

Mr. Lyon. It is best for particular localities.

Mr. Fuller, (N. Y.) It is much valued in the Southern and Western valleys. I move it be placed on the list of Promise Well.

Mr. Stewart. For the last fifteen years it has been considered a valuable variety, not liable to be blighted by any disease.

(Added to the list,)

WINTER QUEEN.

Dr. Warder. I am very sorry I cannot find a specimen of what is known through the Southwest—Kentucky, Indiana, Illinois and Missouri—as the Winter Queen, Kentucky Green, Frankford Queen; and also known in Southern Ohio as the Fall Queen, and the Queen; much resembling the Buckingham, though differently colored, having a deep red color, a portion inclining to yellow, without any specks, but instead, a very fine bloom. It has been called the Horse apple, in limited localities. I propose to name it Winter Queen.

Mr. Byram. It is considered in Kentucky one of our best apples.

THE BUCKINGHAM.

Dr. Warder exhibited a specimen of what was formerly called Buckingham, but which is now called the Buckingham of Illinois.

Mr. Barry. I hope the matter will be referred to the Committee on Synonyms, for the settlement of the question of name.

(This motion was agreed to.)

STRODE'S BIRMINGHAM.

Mr. Rutter. There has been a collection of apples brought here from Chester county, and among them is one of the finest I have seen. It is called Strode's Birmingham. We think it superior to the Porter apple. It is a fine bearer, and is a good market apple.

Mr. Scott. I should like to say that the productiveness of the Porter, and the great disparity in size between the two apples, would destroy any claim to similarity.

Mr. Rutter. We grow both specimens of apples. These specimens of the Strode's Birmingham are of an inferior quality. The apple is now ripe. The flavor of the apple has more acid in it than has the Porter, and is very fine. It is a profuse bearer.

Mr. Downing. I have this species in full bearing this year. It is about two-thirds the size of the Porter, but not half so good.

Dr. Eschleman. We think we know something about apples in Chester county, and when the Porter and Strode's Birmingham are in competition, the committees of exhibitions find very little difficulty in awarding the premium to the Strode's Birmingham.

(Allowed to stand.)

OHIO PIPPIN.

Dr. Warder. I introduce an apple which commemorates a departed friend—the Ernst Pippin, the Ohio Pippin, and the Shannon Pippin of Arkansas. I know of no other synonyms than these. The apple originated in Dayton, Ohio; is of large size, somewhat round in form; of a pale yellow color; good for cooking, fine for baking, and in season in December.

Mr. Bateham. I know little about it; esteem it as a good apple, though I cannot say how good.

BAKER APPLE.

Mr. Rockwell, Conn. I present the Baker apple for consideration. It originated on the farm of Dr. Baker—who has since died—about two years ago. He had in his possession the original tree from which these specimens have been disseminated by grafting; but I am not aware that they have ever been cultivated. The trees are very prolific bearers. I consider it the best apple we have in our nurseries, for all purposes. About two years ago, on the cultivation of a number of fruits, I preferred this one, and esteem it as one of the best. The first exhibition of the fruit ever made, I think, was last year, at the American Institute. I have specimens at present on exhibition. The color of the apple when ripe is much deeper than the one before the Society; this being about three-fourths grown. The season is from the first of October to February, although they even keep till March and April. I kept one of them until the first of June. Their best season is from October, through the month of January. As a cooking apple, we have them rated as having no superior.

The Chair. As a cooking apple, I entertain a favorable opinion of it

LARGE STRIPED PEARMAIN.

Dr. Warder. There is an apple, the origin of which is not very certain, but thought to be Virginia, called the large striped Pearmain, of Kentucky. It is well known in the Kentucky region.

Mr. Bateham. I have seen specimens of it, but know nothing of it.

Mr. Byram. As a nursery fruit, it is one of the best growers we have. The fruit is good and large, according to our classification; especially good as a spring fruit, and a late winter keeper.

KLAPROTH.

Dr. Eschleman. I introduce the Klaproth. Specimens of it have been exhibited in Horticultural Societies, and repeatedly in our own section of the country. I am not familiar with the data of the original tree. I have had for twenty years trees of my own grafting, which have been productive for twelve years, and are so this year. Most of the specimens, as seen in the other room, are defective, because of a very severe hailstorm we had. I am very favorably impressed with the apple, which is in use from the middle of August to the last of September.

KESWICK CODLING.

Mr. Lyon. I present for consideration the Keswick Codling.

Dr. Warder. It is a very old variety, well known, and it is very strange that it has not been before the Society previously. We have the same fruit in our latitude—very fine for cooking.

Mr. Downing. It is only a good cooking fruit.

Mr. Saul. One of the very best cooking apples.

Mr. Downing. We want an apple at that season of the year, just like this. It is one of the best cooking apples, and I wonder it is not in every household collection. The apple is of a light yellowish color.

CORRECTION.

Mr. Bateham. I am reminded of the necessity of striking out the word "New," on page 234 of last year's Transactions. *Note.*—Secretary notified.

RAWLES' JEANETTE.

Mr. Bateham. This specimen is grown on good lands in Central Ohio, and south of that section. It is small in size.

Dr. Eschleman. I remember a tree I planted eight years since. The tree is now failing, and the fruit exceedingly diminutive.

Mr. Stewart. I am growing fruit trees of this species. The apple of the West, by this name, is not like my production.

Mr. Robey. We consider this one of the best apples. It originated with a Mr. Rawles, [of Virginia, I believe—Reporter,] from whom it derives its name. It is a good bearer.

Mr. Berckmans. Its quality is second-rate, but it is a never-failing bearer; at least, as far as nursery trees of this species are concerned.

Mr. Taylor (Va.) It grows in classes throughout Virginia. In rich soils, it is found to be of much account, but in stiff and dry places, of very little.

Mr. Lewis I fruited this article, and find it of a very inferior kind for the North. In the South, it is better suited for cultivation, as the qualities which may be in it can then be brought out.

Mr. Steele. I have known this apple since I was a boy. It is cultivated in the valley of the Ohio, and in the Carolinas. Those who think it is a very small apple are much mistaken about it, for I have seen specimens grow up to a very large size; but I am not one of those individuals who believe that every big apple must be of good quality. It is a pretty good apple, as raised in certain sections of North Carolina.

Mr. Fuller. Seventy five per cent. of my trees are specimen of the Rawles' Jeanette. We so call the apple.

Mr. Noble. I have fruited this apple for the last four or five years, and think well of it. The trees seem rough, but the apple keeps well with me.

Mr. Bateham. The objection I have to the cultivation of it is, that its name will mislead readers of our Report, who may confound it with others upon which we have been passing.

HAWTHORNDEN.

Mr. Harvey, Pa. I present the Hawthornden. It is an apple well adapted to general cultivation.

Messrs. Barry and Lyon. We think well of it.

Mr. Ford. It is very large, and not fit for eating.

Mr. Griscom. It has done well in New Jersey.

Mr. Lyon. I was surprised to see it, two years ago, placed on the Rejected List. It is an oblong, yellow-colored apple, with a red cheek; produces abundantly; a good market apple, and good for cooking.

Mr. Harvey. Objections have been made to apples not bearing for ten years; now the Hawthornden will bear in two or three years. Gentlemen owning gardens may have the Hawthornden in them on account of its small size, not being larger generally than a common sized fence. When a foot high it will bear several apples, and we can have it in our gardens the size of a currant bush. It is one of the best and handsomest apples, and appears to me to have all the qualities necessary for general cultivation.

Mr. Hooker. I hope that apple will never get on the list of those that promise well. There is no richness about it—made of mere water. Nobody wants to buy it, as every one who could would sell it. It is, however, a sure bearer and productive.

Mr. Newhall. I cultivated the apple for a number of years. It is a great bearer, and very beautiful. I never could get any of my family to eat it, though it has sometimes sold pretty well.

(At the suggestion of The Chair, a record of what had been said on the subject was ordered, which did not quite close the discussion relative to it.)

Dr. Warder. I have hardly heard of an apple about which so much of commendation has been said as of the Hawthornden.

Mr. Reid. This is such an old apple, that I think such a designation of it as "promising well for cooking" would not be inappropriate. The only objection I have to cultivating it in New Jersey is, that the Maiden's Blush is a very superior apple, and so much like this one that few can tell the difference.

Mr. Bateham. I rose a few moments since to substitute the name of the "Maiden's Blush" for the present one.

MAIDEN'S BLUSH.

Mr. Barry. I present the Maiden's Blush. The apples (the Hawthornden and Maiden's Blush) are very much alike, but there is a great difference in the growth, habits, and bearing of the trees. The Hawthornden bears not very prolific, and a month or even six weeks before the Maiden's Blush. I think they are both eminently worthy of cultivation. Not only that,

but I know they are extensively cultivated in many parts of the country.

Dr. Warder. Everything said of the Hawthornden applies to the Maiden's Blush. The only objection to the former is that the latter is better. It seems strange that the bearing season of the Maiden's Blush with my friend from Rochester should differ so much from my own. What he has stated in regard to that point is the reverse with us. The Hawthornden (with us) does not make its appearance until the end of September, while the other specimen may be seen about the first of that month.

Mr. Robey. One of our favorite apples. It grows well.

SUMMER RUSSET.

Mr. Hopkins. I would inquire whether the Summer Russet has been before us at any time. It is with us decidedly the most delicate and delicious sweet summer apple we have.

MORSE SWEETING.

Dr. Warder. I present two specimens of one apple—the Morse Sweeting—a very fine grower with us. It has been called the Red Sweet Pippin, and in the Proceedings of the London Horticultural Society, the Morse Sweeting.

Mr. Loomis. I think it one of our best apples, though a little too dry.

BARNSLEY.

Mr. Scott. I propose the Barnsley.

Mr. Noble. It is a very good apple, rather sweetish, and an excellent one for the table.

Mr. Griscom, N. J. It is a fine-flavored, beautiful apple.

Dr. Warder. I will name the Sweet Bell Flower of Ohio, the Green Pippin of Indiana, Hogan Pippin of Indiana, and Hall's Red of Virginia, as four distinct fruits to be entered upon our record.

RIDGE PIPPIN.

Mr. Scott. I will name the Ridge Pippin of New Jersey.

Mr. Barry. I have cultivated it for twenty years, and I think it is a good apple, and very valuable for market. It always sells well.

Mr. Corson, (Pa.) I have had it for forty years, and find it to be a good bearer. It is now full, while others are bare. It keeps well; I have had it till the first of August.

POUND ROYAL.

Mr. Saul. I propose the Dyer Apple, or Pound Royal It came from Mr. Foot, of Berks county. It is one of the best of apples. It is of fair size, and as regards quality, there is not one that can equal it.

Dr. Warder. I have never seen it. Is it red or white?

The President. It is a yellow apple.

Dr. Warder. We have another Pound Royal, but it is not like this.

SUMMER QUEEN.

Mr. Trowbridge. I propose a Connecticut apple—the Summer Queen. It always bears very well.

Mr. Parsons, (N. Y.) I have also seen it bear very well.

Mr. Quinn. I concur with the last two speakers.

Dr. Warder. In Ohio, we say it outgrows its roots. It is excellent for cooking.

Mr. Robey. We consider it one of our best summer apples. I wish to introduce Rawle's Crab. It makes better cider than any other, and in the spring it is a good eating apple.

Laid aside as cider apple.

The President. This is a specimen of the Dyer Apple, but not a good one (exhibiting a specimen.)

Mr. Saul This is the Pryor's Red or Dyer Apple; it has been cultivated under the name of the Tompkin's apple.

RAWLE'S JEANETTE.

Mr. Loomis. I wish to see Waugh's Jeanette placed on the list.

Mr. Barry. I hope it will not be placed there.

Mr. Stewart. It is known by different names all over the country.

The Secretary here read the list of varieties recommended; striking out the word new in the title:—Keswick Codling, Pound Royal, Maiden's Blush, Fall Wine, Summer Sweet, Paradise, Common Pearmain, Early Joe, Stansill, Summer Green, Pryor's Red, Willow Twig, and Limber Twig.

(A note was received from the Academy of Fine Arts, inviting the members to visit that institution. Accepted with the thanks of the Society.)

(Adjourned to 3½ P. M.)

AFTERNOON SESSION.

Wednesday, 3½ P. M.

President. The order of business this afternoon is the discussion of small fruits.

Mr. Scott. I move we commence with the currants. Agreed to.

President. The three we have on our list are the Versaillaise, Fertile and De Palnau, and the Cherry.

CHERRY CURRANT.

Mr. Lyon. I think the Cherry Currant is too acid, and is not more productive than any other. It is certainly behind in quality. For this reason I would move it be struck off the list.

President. I will state that I discontinued raising it eight years ago, and hearing a great deal of talk about it commenced again to cultivate it, but I do not esteem it any higher than I did before. It is large and very poor, and I am sorry to see it so much cultivated; it looks like progress backwards. It has a popular name which has given it great popularity.

Dr. Warder. I am happy to say that our expectations of its being a bad berry have been disappointed. Near Cincinnati it has borne very abundantly. As for its quality I say "dignus titus non."

Mr. Hopkins. I have grown the Cherry Currant for the last three or four years, and I am obliged to take a different view from the chair in respect to the quality as well as the productiveness of that berry; I have found the quality far different from what it has been represented to be. I have found it to be a very abundant bearer. Its quality is fair and it is equal to the "old Dutch." I should be sorry to see it stricken from the list.

Mr. Lawton, N Y. I have cultivated the Cherry Currant, and I concur with the President. I think it is inferior in quality and not equal to the "old Dutch." I do not like its flavor.

Mr. Hovey, (Mass.) I have had it on my grounds and ceased cultivating it. So far as its eating properties are concerned, it is unfit to a place on the table. It is a large berry and only a very small number in each bunch; the Victoria is much better. As regards cultivation, I had once occasion to put all my currants on the same piece of ground, and I can say it does not grow well. I got six times as much fruit from the other vines as I did from the Cherry Currant. It is unworthy of cultivation unless to make wine.

Mr. Hooker. I think there are favorable qualities in the Cherry Currant. I have to observe in cultivation of fruits for market, size is a great object, and it has that quality. I do not wish to see it struck off the list. It has improved much in my estimation in two or three years.

Mr. Hovey. We have given it a fair trial and it does not promise well.

(Retained on the list.)

Mr. Saul. I move that the other two remain on the list.

(The Versaillaise and Fertile de Pallnau were allowed to remain on the list.)

Mr. Hovey. I move we add the Fertile d' Angers to the list.

Mr. President. I think this currant is as good as the Versaillaise, indeed I think it is better. The Cherry Currant cannot compare with it.

(Added to the list.)

Mr. Harris. Has any gemtleman had experience with a new currant called the Bronze Currant?

Mr. Fuller. I have had it several years, and do not like it.

President. Has any gentleman information in relation to the new striped currant, the Gloire des Sablons?

Mr. Hovey. It is a sour currant, and I will not recommend it for general cultivation. It is about the size of the Champagne. I have not had a very fair chance to try mine.

President. Who can give any information on the Imperial Red?

Mr. Strong. I have cultivated it, and it does not seem to be as large as I expected. It is altogether too small and I cannot recommend it.

President. I would suggest the White and Red Gondoin Currant.

Mr. Prince. It fruited well with me, and this summer was the largest of any I had.

Mr. Newhall. I have had this currant for the past two years, and consider it one of my best.

President. I have had the White Gondoin many years, and have been very much pleased with it. The Chairman of the Vermont Committee says he has fruited 36 kinds with great success.

Mr. Saunders. I hope that these good qualities that we have given to the White, will not be given to the Red, which is a poor bearer and a poor fruit. One is much deceived with it. It is quite below notice.

(The White was placed on the list.)

(The Imperial June was also placed on the list.)

ATTRACTOR, OR ADJUDANT.

Mr. Barry. It is merely a feeble variety of the White Currant.

President. I would like Mr. Barry to state what his experience of the Prince Albert it.

Mr. Barry. It is much better than the Victoria. It is a very valuable variety. At present it bears finely. I don't think much of the Red Gondoin. The two plants are distinct. The Prince Albert is remarkable in its leaves, which stand up erect.

Mr. Hovey. The Red Gondoin is very sour. It is hardly of a red color now. There is another Red Gondoin, much like the cherry. It is about the same quality as the White. In fact, I may say, that the only difference between the two is in their color.

Mr. Frost. We consider the Red Gondoin and the Holland Currant to be the same.

Mr. Prince. Last year I received three plants from Mr. Hovey. They answer his description and are entirely different from the Long Holland. I don't consider them worth cultivation. I think the gentleman refers to another.

The President. There is another kind known as La Hatif. I have it in fine condition. I like it much.

Mr. Barry. In testing currants we find no Red so large as the Cherry. Next to that one comes the Victoria. We don't recommend the Fertile d' Angers, we prefer the Prince Albert. The great difficulty we have is that the Reds are so much alike. I should be careful about recommending any. I consider the Versaillaise as the best. The Cherry is only remarkable on account of its size. Many think it is ripe when it is not so. It should remain on the plant until it becomes of a dark brown color. I don't think it is a shy bearer. It may be so when pruned too much. Let it get enough age before pruning.

(The discussion on currants was here closed.)

STRAWBERRIES.

Mr. Steele, (N. C) I move that we take up the subject of Strawberries.

Mr. Harrison, moved to add to the list the Vicomtesse Hericart de Thury. I have tried it for three years. I find it to be a first class berry. It resists the sun well. Its firmness of flesh recommends it. The under-runners take root immediately, and come up good plants. Its crop is numerous though not uniform.

Mr. Saunders. I have fruited it for four years. It is one of our best, certainly better than any other foreign one.

Mr. Rutter. It has a fine good flavor. Out of thirty or forty varieties I have had in cultivation, I have turned all under but this one. I have fruited this berry for two years. Its excellent fine flavor is superior to the Albany seedling. The vines grow rapidly, and strike easily. I think the Albany seedling is more productive.

Dr. Eshleman. All persons who have eaten it at my place have praised it highly.

Mr. Rutter. Is it equal to the Hooker's seedling?

Dr. Eshleman. I think it is more productive. It is equal to Walker's seedling, I prefer it to that one.

Mr. Fuller. I think it is good, though not very productive.

Mr. Hovey. I will say to gentlemen, that I recollect that our discussion last year was unanimous, that no foreign fruits should be recommended. I think much of some, but I won't recommend them. This one I find is not a profitable fruit. I have had sixty or

seventy varieties, and have had for twenty years. I hope this one won't be recommended for general culture.

Mr. Harrison. There seems to be a difference between the English and Continental strawberries. I find that the French and Belgian are better, especially the latter. They all need high culture. The highest culture that can be given to strawberries is the most profitable. I find the Belgian and French berries well adapted to our soil.

Mr. Hovey. The Belgian cultivators have taken up our strawberries, and plant them now. It is well known, that the strawberries of Europe have been brought from Chili. The English strawberries will not stand our winters or summers well. I agree with what Mr. Harrison has said. I find that in the English strawberry, the end is green when the base is rotten, because the heat produced by the smouldering leaves causes a high temperature before the ends of the berries are ripe. I make these remarks to show that we may not expect much from the new variety of M. De Zaréne.

The President. It possesses good qualities as an eating fruit, but like the French hermaphrodites, it must be grown in hills, or it is unfit for cultivation. I imported a number of varieties some years ago. This is not a new variety. I do not now retain one of those I imported, because they were all hermaprodites or staminites, and I could not grow them in hills as is customary.

English cultivators, who have the highest success, grow them in hills four feet apart. The question then arises, whether we should not study the fact if we wish to raise this article; that they cannot be grown except in hills.

TRIOMPHE DE GAND.

Mr. Miller. I fruited that variety for two years, and found none which I considered better or more productive. It is quite enough so, and will commence ripening in the ordinary period. I have a letter from a correspondent in Pittsburg, who states that in the cultivation of all the new varieties of the strawberry, he likes this the best.

Mr. Hopkins. I have had this variety in fruiting for the last two years, and most cordially endorse the remarks of Mr. Miller.

Mr. Barry. I consider this one of the finest strawberries in cultivation, either native or foreign. I was not aware that this society had declared against the recommendation or admission of foreign strawberries to this list for cultivation. I think no such thing has ever been done, and I do not see why such a measure should be taken. When we find a good strawberry, no matter whether of foreign or local origin, we should recommend it. This Triomphe de Gand has been tested all over the country, and everywhere I believe, the experience has been, that it is a large berry, excellent in flavor, standing the sun well in summer, and the cold of our winters equally well with any other berry. I don't know that it will produce as many bushels to the acre, as Wilson's.

I hope it will be kept on our list.

(This strawberry should have been inserted in the index of last year on page 76.)

(Mr. Hovey read from the Biennial report of 1858, a number of remarks relative to that subject.)

Mr. Hovey. I do not wish it to be understood that this convention ever intimated that it would not recommend this or any other variety of foreign berries.

Mr. Barry. I understood from the tenor of Mr. Hovey's remarks, that the sentiment of this society was against the introduction of foreign varieties. For one I do not wish to have any such opinion go forth, that when we have got a fine foreign strawberry, we relinquish it sooner than we would a fine native one.

Dr. Houghton, (Pa.) I would say in reference to the Triomphe de Gand, I saw this summer at Jenkintown, Pa., on the grounds of Mr. Satterthwait, about twenty varieties. He sends a great many to market. The Wilson sells at eighteen cents, the Triomphe de Gand at from thirty-seven to thirty-eight cents. I enquired of him, and he pronounced it a strong grower, next to the Wilson. I looked at it more particularly, as he is a great grower of berries for market.

Rev. Mr. Knox, (Pa.) I have fruited the Triomphe de Gand for three years. Out of over one hundred varieties of strawberries I have under cultivation, I regard it as the very best of them all. I have fifty acres in strawberries, and would be very glad if the whole of them were the Triomphe de Gand. It seems to me, there is scarcely an excellence it has not got. The plant is hardy and vigorous, as much so as the Wilson. I think the healthiest and most vigorous plants I ever knew on my place are this variety. The fruit is large and luscious, dark, glossy, and always attracts attention and commands the highest prices. It brings from twenty-five to fifty cents per quart, and the supply is not equal to the demand. From Pittsburg they have been carried to Cincinnati, where they profess to know something about the strawberry culture, and they send back for more at fifty cents a quart. It has a very good flavor and is easily protected. I think the question should not be, what mode of culture is necessary, but will it pay. That mode of culture required for the Triomphe de Gand, and for other foreign varieties is that which pays better with us than any other. The only mode of culture we have adopted is in hills. We plant them in rows two and a half feet apart. The hills should be twelve inches apart. It shoots out well. It bears remarkably well.

Mr. Rutter. What does Mr. Knox consider the next best variety? I think we can settle this matter soon.

Mr. Fuller. I have several hundred varieties of berries, the Triomphe de Gand being one of the best. I would be in favor of its being placed on the list for general cultivation.

Mr. Satterthwaite, (Pa.) I wish to get correct a wrong impression. The plant is much more vigorous than the Albany seedling. I move that it be placed on the recommended list. I cultivate strawberries for market, and have means of knowing which kinds are the most profitable. I am not prepared to say that it is the best market berry, but I consider it next to the best. I consider Wilson's Albany to be the most profitable by far, the only objection to it being, that it will not stand the heat so well as the Triomphe de Gand.

Dr. Houghton. I wish to say that Mr. Satterthwait is one of the best practical growers of fruits and vegetables for market I have seen or known. In the culture of the strawberry, he has a method which far exceeds all others, he grows the Triomphe de Gand in rows thirty inches apart. He runs the cultivator all summer, and in the fall, covers them with long manure, and does it with great economy of labor. I think any attempts to grow strawberries less than thirty inches apart will prove of no avail. By keeping them a foot apart, he has not found the fruit improved.

Mr. R. R. Scott. I wish to know if the Boynton's Mammoth is the same as Taylor's Victoria.

Mr. Harrison. In regard to the two methods of culture, in hills and in rows, by planting in hills, the plant keeps best in the ground. My plants now do well. The first year I got no crop, The longevity of the strawberry, I am satisfied, we do not yet know. By the common method of culture, we know that we get no crops. I think the bed system of culture is the very last system we should adopt, and we ought to dismiss it.

LONGWORTH'S EXTRA RED.

Dr. Warder. I name the early red; Longworth's extra red. Mr. Longworth is a very distinguished propagator of fruits. A gentleman writes to me in such a manner about the extra red, that I am convinced more than ever, that his opinion in relation to the specimen I sent him has undergone a very considerable change. He now writes to me that his extra red is No. 1. It is productive and very handsome, somewhat sour, of sufficiently good flavor, and a very fine market fruit.

Mr. Miller. I have cultivated that strawberry for five years. I received it under the name of the Longworth Prolific, and it has been invariably one of the most productive and one of the finest berries. The only objection is, that in wet weather it does not stand well. For preserving, it is excellent. My better half preserves many of them, and likes them much.

Mr. Bateham. It is too sour for general use. It is much improved by preserving. I like its flavor more than that of the Wilson's Albany. I have been very well pleased with it. It is a very hardy, vigorous plant, and very productive. It is one of my best varieties.

(Not added to the list.)

LADY'S PINE.

Mr. Miller. I will introduce the Lady's Pine.

Mr. Bateham. It is not sufficiently flavored. It is small, and very white in color.

Rev. Mr. Knox. Its smallness is my main objection to it.

Mr. Fuller. It is delicious, but too small.

JENNY LIND.

Mr. Bateham. I introduce the Jenny Lind.

Mr. Frost. This is the best we have in cultivation.

Mr. Quinn. It is very productive.

Mr Knox. It is a very early bearer, and continues to bear well.

Mr. Eshleman. I have known it for five years, and have disregarded it.

Mr. Hovey. So far as I know it is an old Virginia seedling improved. It is almost twice as large as specimens I have seen here. It bears well, and has a fine flavor. It produces a fine crop, which I have seen for three years in succession. I do not know that I have seen any berry produce so well.

Mr. Parry. It has ripened with me.

(Placed on the list.)

SCOTT'S SEEDLING, or Lady's Finger.

Mr. Eshleman. I propose the Scott's Seedling or Lady's Finger, a very beautiful bearer, valuable in market, fine for preserving.

Mr. R. R. Scott. The Lady's Finger during the present season, has been decided, by those who cultivate it, to be distinct. It has a fine flavor, but the Scott's Seedling is deficient in flavor and substance.

Mr. Eshleman. I allude to the Scott's Seedling of Massachusetts, a very long berry, sometimes a little flattened.

Mr. Harrison. I have seen that seedling, and it originated in Burlington County, N. J. The color and peculiar firmness fitting it for carriage to most all distances.

Mr. Barry, (N. Y.) The Lady's Finger is quite distinct from the Scott's Seedling.

Mr Hovey. I do not know the Lady's Finger, except that I have seen it named; but the Scott's Seedling is a genuine seedling of New England, raised by Mr. Scott of Boston. It was first called Scott's strawberry. It was then very handsome, and much purchased in the market. I found out that the cultivators did not sell them, and calling upon Mr. Scott, was asked to look at his bed, which I did, and saw there what greatly surprised me, the beauty of the fruit. He produced this strawberry for three years, and sold it in the Boston Market. Under all the circumstances I told him I wished to buy a plant for myself, and was willing to pay a reasonable price, when he said, that if I would, as a nurseryman, take the plants and sell them, he would let me have them. Of all the strawberries I would cultivate, I think the Scott's Seedling should be foremost. It has one peculiarity which raises it above its fellows—a peculiar mixture of orange and strawberry flavor. It is but a light bearer, stands carriage well and has but one fault—that it does not retain that delicious aroma in which it abounds when picked from the bed. When kept in shops or drawers it become flat.

The President. I would like to ask whether it has not gone out of cultivation in Massachusetts in consequence of its being a poor bearer.

Mr. Hovey. No, sir. The Scott is considered a fair bearer.

Mr. Parker. I gave it up on account of its being a poor bearer.

Mr. Satterthwait. There is a mistake in regard to its identity. I cultivated the Scott's Seedling of Massachusetts for a few years, and found it was not a good market berry. The Lady's Finger is very much inquired for in the Philadelphia markets, and is a good market berry. The Scott's Seedling has a peculiar flavor, but I will not say any thing against it.

Mr. Strong. My impression is, that this berry has been lost sight of on account of its inferior qualities. It is a very light bearer and almost invariably hollow, and is not considered in Boston as worthy of cultivation.

Mr. Hooker. We cultivated the Scott's strawberry for some years, and introduced it into our plantations for market, where it was tried for two years, when

we found it was entirely worthless, and finally we have cultivated only those few specimens we found necessary. It is very soft and a very beautiful fruit, but entirely unworthy of cultivation.

Mr. Scott. At the last session, the observations of certain members showed this berry to have been rejected in their vicinity.

Mr. Bateham. It is of no avail upon clay lands. It may do better on sandy soil.

The President. I suggest that the discussion be left open without taking a vote.

(Agreed to.)

BRIGHTON PINE.

Mr. Knox. I introduce the Brighton Pine. It has an excellent flavor, is a steady bearer, and bears abundantly, never fails with one. I have a bed which is four years old, and it continues to bear well.

Mr. Hoopes, (Pa.) It also bears well with us.

Dr. Warder. Touching this variety, I was obliged to discard it some years since. It is a poor bearer, of medium size.

Mr. Strong. In general it is regarded as a poor bearer. If we have dry weather, it does well.

(Left on list.)

MOYAMENSING.

Mr. Knox. I introduce the Moyamensing. It is of a dark color, excellent flavor, and bears well; prized for preserving.

Dr. Warder. In the neighborhood of New York it has failed, being so poorly adapted to our latitude. It is in wet weather rather soft. This variety has specific relations to certain soils and latitudes. This berry here, as in New York, is comparatively worthless. In New Jersey and similar soils they are rather good. This fact will explain the apparent contradictions touching the character of strawberries.

Mr. Satterthwait. I rejected it some years ago, on account of its not being productive.

(The discussion of strawberries here closed.)

RASPBERRIES.

THE ALLEN.

Mr. Hovey. I move that the Allen be rejected, because I do not wish to have bushes instead of fruit.

Mr. Scott. At the last meeting a vote was taken, and it was decided to let this matter rest for two years, at the end of which time the experience of cultivators of it could be heard in relation to it.

Mr. Satterthwait. A prevailing idea in regard to that raspberry is erroneous; which is, that its blossoms are bristly, and that it will not present its fruit without having its blossoms over-ridden by some other variety. This is a new idea, and I would like to have something more said in regard to it.

Mr. Barry. It has frequently borne abundant and delicious fruit, and at other times appeared to be entirely deficient. In connection with our common red raspberry, cultivated extensively for the Philadelphia market, they both bear admirably, from near the ground to the top of the stem. In a certain place where I had planted the true Allen raspberry by itself, it failed; there being no fruit planted near it. Another peculiarity I discovered was, that in getting some 1400 or 1500, I had got some upright canes, and these were scattered indiscriminately, and that crop bore most luscious fruit, which brought fully as high a price as the finest North River Antwerp. I went into the garden of the nurseryman in New York who got this plant from me, where I found it planted side by side with other berries. The first row was admirably filled with fruit, and the row next to it was fine, but the fruit was not worth picking out. I found a number of instances as striking as this, and I came to the conclusion, in examining specimens I found, that there were stems around the blossom where there was a great deficiency. It appeared to me that it was the cause in the falling off in the bearing of the fruit.

Dr. Warder. There is one question I would ask, whether the Allen raspberry, while prolific in fruit, is also prolific in vine?

Mr. Barry. It is amply productive in berries, and abuundantly prolific in vine.

Dr. Warder. I wish to learn whether there is any other berry that is as prolific in fruit, and throws up such a great number of stools.

Dr. Houghton. The American seedling.

Mr. Harrison. There is growing in the garden of a gentleman on Chestnut Hill a variety of raspberry of a high order of productiveness. The wood is slender, of a very light brown, and the berries have a habit of throwing themselves on a branch, upon which there is a profusion of scions, which, he said, if he had only the power to render productive, he would take everything else out of his garden. A very distinguished amateur has had two kinds growing in his garden, and not one had been productive.

Mr. Quinn. My experience has been the same as that of Mr. Hovey. The berry gives a large quantity of wood and little fruit, so that I do not think it worthy of general cultivation.

Mr. Downing. I have had an abundance of fruit of this variety this season, which has been of poor quality.

Dr. Houghton. I have a fine plantation of raspberries growing by means of small canes. The second year has now arrived, but I have had no fruit.

(Placed on the rejected list.)

KIRTLAND.

Dr. Warder. I introduce the Kirtland Raspberry. It is not as ample a grower as some others. It is the earliest we have. It has quite a good color, not so bright or handsome as the Allen by any means.

Mr. Lawton. I obtained the Kirtland from Sandusky, Ohio. It bears abundantly, throwing up a large number of shoots. Perhaps that may be owing to my evident neglect of it. It is an early bearer, but needs care and protection.

Dr. Warder. The great difficulty is to get suckers enough to supply the demand for light fruits. I would ask for information in regard to the Purple Cane.

PURPLE CANE.

Mr. Downing. The Purple Cane and the American Red Cane are, I think, alike. I think it the farmer's raspberry of this day—thirty or forty years ago it was cultivated around New York.

Mr. Scott. The Purple Cane is the *Rubus Occidentalis*. It has outlived all other raspberries, and is considered the best. It has a blooming color.

Mr. Satterthwait. It is the only raspberry I have found to stand the test. I never found any other to pay as a market fruit but the old Purple Cane. It is uniformly an abundant seedling.

Mr. Reid. Its manner is to propagate by the points of the shoots, different from other kinds. This berry used to be cultivated extensively for the New York market.

Mr. Buist. This belongs to the class of *thimble berries*, which is a distinct species entirely.

(Not added to the list.)

HORNET.

Mr. Harrison. I suggest the Hornet. I have known it for three years, and it bears enormous crops. It is of a fine quality, and for a raspberry, will pay well. It sells in the market at from 37 to 50 cents per quart, while others are selling at 25. It attains a very large size, and is worthy of our attention.

Mr. Reid. I have had the Hornet on my place, and think much of it.

Mr. Parry. It bears abundantly, and I find it to succeed very well, but I do not think it is hardy. It is well worthy of cultivation.

Mr. Mitchell, I have always found it to do well, and I concur in what the other gentlemen say.

The President. I imported it from France, and succeeded well with it.

(Placed on the list.)

BELLE DE FONTENAY.

Mr. Barry. It is worthy of cultivation. It bears a heavy crop at the ordinary season. The only way to get a good autumnal crop is to suppress the early crop. It has a fine flavor.

Dr. Houghton. I have taken a great interest in the growth of this berry. I rise to ask if the *Merveille des quatre saisons* and the Belle de Fontenay are the same plant? No two persons agree about the names. The plant I have has a stiff stem, and is known by the name of the Four Seasons. It was once called the Belle de Fontenay. I consider it very highly, having obtained it from Mr. Baldwin, upon whose grounds it has stood for several years. Upon my own grounds it is perfectly hardy, and shows a disposition to fruit constantly and very late. The plant which I have was imported for Mr. Baldwin. I believe it to be the Belle de Fontenay.

Mr. Fuller. The Belle de Fontenay is not a distinct plant. I believe it to be the best raspberry we have.

Mr. Houghton. The best we have—most hardy, finest fruit, best grower; I value it above all others.

The President. The Belle de Fontenay has a silvery leaf, and is the largest raspberry I have ever seen. If rightly managed, you can do better with it in the South than has been done with it in the North.

Mr. Houghton. I move that the Belle de Fontenay be described in the Report as having a stiff, upright stalk.

Mr. Barry. The Belle de Fontenay has a short stiff cane, with thick foliage, silvered on the under side, and quite erect.

The President. It is a very bright autumnal bearer, and is abundant.

IMPROVED AMERICAN BLACK CAP.

Mr. Knox. I introduce the improved American Black Cap.

Mr. Scott. I would remark in regard to this berry, improved by Mr. Doolittle, that since last meeting I have given particular attention to the question, whether it has been improved by any hybridization? Mr. Doolittle did not claim that he had given it any cultivation whatever, but what is usual. It has been found that the Black Cap is no more than a common berry.

Mr. Hooker. I have propagated it for market purposes. It is different from the wild raspberries, and is a seedling of a far larger size; more flavored and delicate. It is treasured above all the raspberries of the season. I esteem it highly for its valuable cooking properties, and for every purpose except to make money. I consider it a very great acquisition.

Mr. Reid. Why cannot nurserymen make money out of it, if there is a demand for it?

Mr. Trowbridge. Mr. Hodge, of Buffalo, tells me that he has taken 2,000 quarts from one acre of ground; that is to say, 30 or 50 quarts per day for about six weeks. No other raspberry in the market brought the price that one did.

Mr. Barry. Whatever improvement it has undergone, has been by cultivation, I should call it the Improved Black Cap.

Mr. Vick, (N. Y.) Mr. Doolittle does not claim to have raised the seedling.

Mr. Miller. I would state that I am surprised there is no mention of our raspberry. I can show any person the fruit now on exhibition. It has been pronounced that there are three distinct varieties of this berry.

Mr. Knox. It is popular with the people of Philadelphia. We call it the Improved Black Cap. My opinion is, that it was improved, or that whatever improvement it underwent, it has received in cultivation.

Mr. Hooker. Mr. Doolittle does not assert that he raised the seedling, but that he procured it from a locality where it was thought to be very superior. The origin of it is well known, though the person who raised the seedling I cannot designate.

Mr. Hovey. In relation to this raspberry, if it is superior to the wild raspberry taken out of the woods, I hope it may be entitled to 'the name, and that it may not be called the Black Cap, because persons would then go to the woods and get it, as they did the Dorchester Blackberry. In that case the people insisted that they could go to the woods and get a blackberry as good as they could from the dealers. Two years ago we assembled and gave it the dignified name it has since borne—the Dorchester. I would advocate some kind of a distinct name, whether it be the Doolittle Black Cap, or any thing else, for this berry.

Mr. Smith. Mr. Doolittle obtained it of a gentleman, and made some improvement.

(It was then called the Doolittle Raspberry.)

BLACKBERRIES.

(The Dorchestrr and Lawton's New Rochellle Blackberries were allowed to stand on the list.)

NEWMAN'S THORNLESS.

Mr. Cooper. I propose the Newman's Thornless.

Mr. Miller. It has few faults and fewer berries.

Mr. Saul. I concur with Mr. Miller.

Dr. Warder. I make the same observation.

Mr. Harrison. I introduce the Grape Blackberry.

PARSLEY-LEAVED.

Mr. Lawton. I propose the Parsley-Leaved Berry. Mr. Thomas Hogg presented me, in December, 1857, one dozen. In the spring they put forth. In 1885 I got a good crop; in 1859, another. In 1860, quite a large crop. It seems to be perfectly hardy, and very fine wood. I have cultivated it without any care or protection, simply removing the weeds from around the roots. It has done well for three years, and I think it will do well in future. My specimens here are nearly as large as the Lawton. It has a trailing vine, sometimes twenty feet long. Whenever I lifted it up it died, so it cannot be trained like grapes. The plant is covered with thorns.

The President. These long shoots are objectionable to me.

Mr. Freeman. My experience has been the same as Mr. Lawton's, except in regard to its dying when trailed up. The flavor is not so good as the Lawton. It fruits two weeks later than that berry.

Dr. Warder. In regard to certain Blackberries raised in the Western States, we have White, Yellow and Pink, growing wild in Kentucky and Illinois. We do not suppose them to be distinct species, but only a departure from the Blackberry. Mr. Orange has three kinds which he procured from the woods; they are green in color, becoming somewhat transparent. Mr. Elliott has called them the Albion or Crystal. They are common near Maysville. They are large and fine, and I like them better than the New Rochelle or Dorchester.

Mr. Peirce, (D. C.) I understand that they grow in Virginia, in Bath county. With me they have proved worthless. I have found them on the tops of the mountains near Coudersport. They are considered there very fine, when found in the woods; in gardens they are worthless.

Dr. Warder. Mr. Orange has not found any difficulty in propagating them.

(Adjourned to 9 A. M., Thursday morning.)

THURSDAY MORNING.

Thursday, 9 o'clock, A. M.

The Society met on Thursday morning at half past 9 o'clock, A. M.

The business in order being the consideration of small fruit,

GOOSEBERRIES.

MARTIN'S SEEDLING.

Mr. Lyon, introduced the Gooseberry species, the Martin Seedling; it is worthy of cultivation, very fine; size, considerably larger than the Houghton, of fine flavor.

Mr. Prince. The Martin Seedling is not a new variety; it originated with the Shakers of New York State, and is not an American Seedling.

(Entered on the list of promising well.)

DOWNING SEEDLING.

Mr. Lyon, introduced for discussion the Downing Seedling.

Mr. Reid. I have seen it fruited, and think it one of the best seedlings I have yet met with; it is larger than the Houghton, and I am cultivating it together with a stock of seedlings.

(Entered on the list.)

Mr. Lawton. In regard to Gooseberries, I think the matter of their being added to the list is unimportant. My decided impression is, after experience of 10 or 15 years, that the mildew upon Gooseberries is owing to want of proper pruning and cultivation and is not owing to any exemption from mildew it may entertain, on account of the variety. Nearly twenty years ago I purchased some young Gooseberries in market, which I raised in bushes with clusters to the roots, and for the last 10 or 15 years have had plants that have yielded an abundance of fruit, free from mildew, bearing large numbers of White and Yellow Gooseberries. I gave them no name because they had received none. I think there are sixty or eighty of these plants in various parts of my garden, growing under fruit trees, in the shade. They yield every year free from mildew. Now, I would claim no special favor for these varieties I cultivate as being free from mildew.

The President. The American Downing comes without pruning and without mildew.

Mr. Lawton. I do not believe it is necessary to cultivate these little varieties, merely because they are without mildew.

(The American Downing added to the list.)

GRAPE.

TAYLOR'S BULLITT.

Mr. Miller, (Pa.) My object in rising is to correct an erroneous impression which prevails in some places respecting the name of the Bullitt Grape, received from Judge Bullitt of Kentucky. I attached that name to it in order to distinguish it from other Grapes in the catalogue, and I was charged by horticulturists with changing the name, when they said that no name of a grape could be changed unless this Society or some other persons, capable of rightfully doing so, should change it. I do not profess to have changed the name. I only wish to propose the subject to this Society, to call that Grape the "Bullitt," and nothing else. Dr. Taylor, of Cleveland, said it might be confounded with the Cuyahoga, or his new seedling. I was told this morning I am also charged with saying that the Cuyahoga and Taylor grapes were one and the same. That I deny. The Taylor deserves a place on the list of promising well. It is frequently spoiled from being very imperfectly packed, but is a speedy and vigorous grower, perfectly hardy and free from mildew. In regard to the other 150 varieties, I think the best thing for us to do would be to enter into them, hand in hand. Eight or ten of them I consider unworthy of cultivation. There is an insect shown here by my friend Grider, of Bethlehem, Pa., with which I am not acquainted.

President. That subject will be reserved for examination.

Mr. Grider. I move that the name be now changed of the Bullitt Grape to that of Taylor Grape.

Mr. Vick. I do not know that it is customary for this Society to change the name of a Grape they do not recognise in any shape on the catalogue.

President. It is proposed, I presume, as one of the promising well.

Mr. Vick. The first question in regard to it should be, ought it to be admitted in the catalogue at all?

Dr. Eshleman. The grape about which we have been talking is a Southern Grape and has scarcely been fruited north of Kentucky. It seems to me very remarkable that we should adopt that Grape as one promising well, until it shall have been tried.

Mr. Fuller. I would like to know whether the Southern States are within the United States. I think if they are, fruits promising well in the South, should be considered as well as those of the North. The opinion that certain fruits apply only to the South has not much force.

Mr. Byram. I have taken some interest in the cultivation of this Grape in certain States, and found that it stands the climate remarkably well. It is excellent and has proved one of the most beautiful vines I know of.

Mr. Grider. I have seen it growing in Northampton Co., Pa., on wood 15 feet long, this season. Its foliage is beautiful and its leaves smooth.

Mr. Byram. It ripens about two weeks before the Isabella.

Dr. Eshleman. There are specimens here which a number of members have tasted. They have every appearance of being ripe, and yet are quite indifferent. I have the grape growing, and I doubt very much its quality. Judging from the wood of the grape it is especially adapted to the South.

Mr. Miller. I would ask if the term south is applicable to a country only a degree and a half south of us. The grape is grown in the northern part of Kentucky.

Mr. Rutter. I think there can be no objection to placing this grape upon the list of grapes for trial. It will then not be adopted by the society, which I wish gentlemen to understand in its discussion. Since we put upon the trial list, apples from the south and west not known in Pennsylvania or the east, why should we not put grapes on that list in the same manner. I had this grape from Kentucky last week very fine tasted. I think, with due deference to the opinions of my friends, the flavor is fine, and equal to any out-door grape. I have tasted none better, excepting the Delaware, because it has come here in perfection. There is certainly a great work in the trial of it. As for its growth, there is no question about it; among some eighty or ninety kinds, it is the best grower among those that promise well.

(Placed on the list of promising well.)

Mr. Scott. I move to refer the nomenclature to the Committee on Synonyms.

(Agreed to.)

RAABE GRAPE.

Mr. Prince. I propose the Raabe Grape. As far as my own experience goes I have found it a perfectly rustic American grape. The sweetest perhaps of the American grapes. The cluster is small, the flavor very good, early in ripening. I consider it quite an acquisition, one well suited to the climate, and will probably grow very well in Massachusetts and New Hampshire. The fruit is excellent, and I would like to hear from Pennsylvania.

Mr. Scott. There are specimens of the Raabe grape on the tables from original raisers of the fruit. My ideas agree with those of Mr. Prince as to its sweets, and I know that it is a rustic grape, and that the leaves are strong. It is unlike our native grapes in regard to foliage. I think it will stand as a purely native grape, although the seed from which it was raised were of doubtful origin.

Mr. Mitchell. I have cultivated this grape for several years. The bunch is small, and the berry contains a very large seed, but it bears enormous crops. It is altogether desirable I think for special culture. It has a rich juice. It has been cultivated, not only in Philadelphia, but in the neighborhood for the last eight or ten years, and was formerly thought to be a seedling of the Catawba. A member who is here, remarked, that he considered it a seedling between the Catawba and the Elsinburg. I consider in point of size and flavor, it to be of that class of grapes known as the Delaware.

Mr. Rutter. I suggest that every gentlemen introducing a specimen, should present the same before the society. The Raabe grape is not the size of the Delaware, though differing in color very little from that species; it is sweet, and may be said to be equal probably in flavor to the Delaware grapes. I think that there is no doubt about its being sweeter than the Delaware grape, though it lacks that peculiar vinous flavor, which is so much liked by every one who is fond of a good grape. It is a fine grower, and will probably bear abuse. They must be cultivated nicely and with care, then you will have a good grape, that is one of the highest recommendations of a grape—that it will bear abuse—and I know many who do abuse their grapes.

Mr. Harrison. One point in regard to this grape has been omitted, it has a very characteristic, peculiarly transparent appearance, in the country it frequently has a dead, gloomy look.

Mr. Mitchell. I move it be placed on the list.

(Agreed to.)

CREVELING.

Mr. Prince. It is a large grape, slightly peaked, with less plumpness than the Isabella, about the same sweetness, and bearing a few weeks earlier. The color is a dark purple like the Isabella.

Mr. Mitchell. The Creveling is known in my place as the Isabella. The bunches are now very nearly ripe.

Dr. Eshleman. In order to prevent confusion, I will mention some of the synonyms of that variety. I think it will prove identical with the Catawissa and Columbia Bloom.

Mr. Prince. The Columbia is the name of the grape which was well known in publications of the grape several years ago. It originated in the District of Columbia.

Mr. Goodman. I exhibited the grape here, and know something about its history. It has been cultivated some twenty-five years in the neighborhood of Columbia County, Pa., from which place it derived its name. The name of the grape there was originally the Genlin, from the name of the family who originated

it. It has been cultivated for a long time, and has to some extent run out the Isabella. From the facts that fruits north of the Blue Ridge ripen some weeks earlier than those south of that ridge, among which is the Isabella. It ripens by the side of the Northern Muscadine, and many think it superior to the Isabella. It hangs well on the vine, and I can refer to gentlemen who have proved its character for making good wine, without sugar or spirit.

(The Bullitt or Taylor, and the Raabe grapes were taken off the list of promising well.)

THE MAXATAWNEY.

Mr. Mitchell. This grape derives its name from a township in Berks County. It grows on a hillside exposed to the north-east, in a certain locality in Montgomery County, Pa., to which place it is supposed to have been brought from Berks County, and planted. I saw a vine of this kind of grape planted on an old plum tree, where it was exposed to the weather, and rambling all over the tree. So far as the Maxatawney vine is concerned, I think there will be no doubt that it is a native grape. The leaves are strongly marked in character. The grape being a white one, is a rather remarkable variety, being entirely native in its character with a Malaga appearance on the Vine. Unfortunately the grapes now before the convention are not ripe, and this kind will not be until the first of October. It is recommended as a very hardy grape, a free bearer, and has an excellent flavor when ripe, with a slight odor.

Mr. Cran. I do not know that I can say anything further in relation to this grape or the growth of the vine, than has been communicated by Dr. Brinckle in publications. I have specimens here which show the character of the wood.

(Specimens here exhibited.)

CLARA.

Mr. R. R. Scott. I introduce the Clara, one of Mr. Raabe's seedlings raised about the same time as the Raabe grape. Its place of nativity has been considered somewhat doubtful. I would like to have some information respecting it from gentlemen who have cultivated the Clara along with the Raabe. The color is not so bright a green as the Maxatawney, rather a sort of light amber color. I do not cultivate grapes myself, but see them in my operations. I do not wish it to be reported that I have this growing when I have none, I am only employed by others.

Dr. Grant. I have cultivated it for a number of years, but have fruited it only twice, as I used it chiefly for ascertaining certain facts in relation to the testing of the fruit. Its properties, I thought very fine indeed; it has suffered from mildew as little as any other variety. The color is of the very best; the productiveness not remarkable. I consider it very valuable. It has been two successive winters without any protection from the coldest weather we have had in which the Catawba suffered badly, but this not at all. The time of ripening is about the time of the Catawba. In reference to the foliage, it was measureably exempt from mildew, and a good grower.

Mr. Mitchell. Mr. Raabe has the Clara growing in his yard in Parrish street, and invites the entire convention to go and look at it. It has borne very large grapes, the result of no special culture, last year it bore a very heavy crop. The vine that I have, is a young one, and so far as mildew is concerned, it is not affected more than any other variety.

Mr. Lyon. Several years ago I had a small plant of this variety, which I planted with rather unusual care among a number of varieties, and carefully covered it. For two years, it was unable to get much growth, It suffered some from mildew, while others were unaffected, and I finally lost it. It bore no fruit at all. Its correct productiveness could not be vouched for.

Mr. Miller. I have had the Clara grape for four years. It fruited in 1858 and '59. Last winter it was partly winter killed, not having any protection. This summer it mildewed, I think in consequence of having been partially killed last winter. Any plant killed by the winter does not stand the same chance of escaping in the fall of the year.

THE TO-KALON.

Mr. Harrison introduced the To-Kalon for consideration.

Mr. Strong. I found it somewhat liable to mildew. I do not know that my opinion on this variety would entitle me to say much. My impression however is, that it is better than the Isabella, it mildews about the same.

Mr. Hooker. It is very liable to rot and mildew. The vine is hardy and a vigorous grower, materially productive, and when obtained in good perfection is a very superior grape, large and handsome. I do not believe it will ever be a valuable grape. The wood though exposed all winter is very hardy in the ends and shoots as the Diana. The rot I believe, has more or less affected the fruit. I would not recommend it. It ripens at the same time as the Isabella, the color of which is not so pale as this one.

Mr. Prince. I have a vine I received from Mr. Sparks which I have had perfectly hardy ever since, and I am perfectly satisfied that if this grape has enough open exposure and free air it will not mildew.

Mr. Lyon. I fruited the To-Kalon this year. When I left home about the first of September, it was considerably colored. The Isabella was about half colored, not so much as this one. With me it will not mildew, though I have seen certain premonitory symptoms of it. It is a very strong grower.

Dr. Grant. Four years since, I proposed the To-Kalon for the list of promising well. That was the last of a succession of remarkable years for the growth of the grape. The three preceding seasons it had given much satisfaction, the bunches very large; in ripening becomes very dark, its productiveness is equal to any grape I have grown. It has ripened with me every year, and always a week or six days earlier than the Isabella. In sweetness and purity it has a taste beyond others; not having the excellence which is characteristic of the grape, in consequence of its liability to rot and lose its leaves when mildewed.

(Allowed to stand on the list.)

CLINTON.

Mr. Hooker. I introduce the Clinton. It is not a new grape, having been fruited for a number of years, and is spoken of favorably, known with us as very productive, hardy, and making a very good wine. It is of a dark purple color, in very compact bunches,

not very sweet, has a vinous flavor, and is a remarkably good keeper when put up in boxes. Beginning to ripen before the Isabella, it retains its fruit on the vine until the frost comes. It is entirely hardy, foliage looking very much like that of a wild vine.

Mr. Prince. The Clinton is one of the most important grapes we have in the country now, but its cultivation is much neglected. It is very much disseminated through the State of New York, and it is the most productive native grape I have seen. It is very juicy, and very good wine can be made from it, though not half sweet enough. As a productive, hardy, vineyard grape, I consider it without an equal.

Mr. Miller. There is not a grape in whose behalf I find more pleasure in speaking than of this variety. I have grown it for four years, and it has not known such a thing as mildew or rot. As for the wine, which is sharp, I have used no sugar in making it. I keep it for my friends who may drop in and see me when home. It is pronounced by them to be very good. The grapes when perfectly ripe, are quite good. The description given by our friend Downing in the revision of his friend's book, when he says "when perfectly ripe are very good," I think just the thing.

Mr. Parry. This species has succeeded with me better than any other. I consider our location unfavorable to the culture of the grape in general, as many others (spoken of in other places) do not succeed with me. When the time for the grapes to ripen arrives, the leaf falls off. The vine retains its fruit to the end, and seems admirably adapted for cultivation with us.

Dr. Eshleman. I have afforded a great deal of care to the cultivation of the Clinton, Schuylkill, Catawba and Congress grapes. None of the bunches of these varieties have such a number of grapes upon them as the Clinton, which is literally filled; and but for the last hail storm, would have produced the most magnificent crop I have yet had. I think this is decidedly a grape we should cultivate.

Dr. Grant. I have cultivated the Clinton for many years. I suppose no one attempted its dissemination earlier than I did. At that time we were in want of a grape that would reach a more northern latitude than the Isabella. It has a very long bunch, the berries being thickly scattered; produces a good crop, but is not capable of producing a very heavy crop. Since others have come into use, I have kept up a little supply, for those who wish to make up their collections complete. It is a grape which will grow for many years with but little care. I have seen it this year more completely stricken down with the mildew than any grape that has come under my observation. It blooms very early in the season, but does not ripen or become eatable until after being touched with the frost; then it becomes very palatable. I have discontinued its cultivation, except in rare instances.

The President. One of the most vigorous frost vines I ever saw; but I have seen this grape rot a little.

Mr. Hooker. I have not seen the grape this present season, my large vine of the Clinton having mildewed. It is the only instance of that variety mildewing I know of. I was much surprised at the fact, but consider it an exceptional case.

Dr. Houghton. I have the Clinton Grape, and would confirm the remark made, that it mildews in some places, and not in others; vast amounts of its foliage are destroyed with mildew. We do not consider it of any value, except for its enormous growth, which causes a fine shade, suitable for an arbor.

Mr. Grider. I have about two hundred vines of the fruit. It has mildewed under the leaves, and we have a very poor crop, rotten and defective. When ripe, it makes very good wine.

Mr. Quinn. I have had it for four years, but not one has mildewed, even when the Catawba and Isabella were entirely covered.

Mr. Loomis. We have had a valuable crop of it in our State; said to be perfectly ripe, and bears well—better than any other variety.

THE MARION.

Mr. Strong. I introduce the Marion, (specimen exhibited.) It answers the description of the Ohio Marion. The size nearly up to the Isabella—not quite; color black, and the fruit presenting quite a fair bunch, perfectly free of rot or any indication of it.

Mr. Prince. I would remark that the first Marion was sent out by Mr. Longworth; the second by Mr. Shepherd, of Marion. I ask the gentleman which of these berries this is?

Mr. Strong. I received my information from Dr. Grant.

Dr. Grant. Mr. Strong has undoubtedly the one designated by Mr. Longworth. That designated by Mr. Shepherd is better known as the York Madeira. I have received cuttings from Mr. Shepherd that have proved identical with the York Madeira or Schuylkill Madeira. They are much less vigorous grapes, and do not ripen so early. It blackens early, but is not fit to eat until touched by the frost. Its berries and branches often attain a great size.

Mr. Prince. I would like some gentleman to specify the distinguishing traits of the Marion and Logan.

Dr. Grant. The leaf the Logan is not more than half as large as the leaf of the Marion. It may perhaps be of the same family, but the Logan becomes soft in its root, and bears much earlier than the Marion. A characteristic never wanting in the Marion is its strength of vine, which is not observed in others; clusters clinging to a tree with more tenacity than any other vine, in a manner expressive of great tenderness. It is much more rapid in growth than the Logan, but is one of the same general family—the bunches being large and small.

THE PAULINE.

Mr. Mitchell. I introduce the Pauline.

Mr. Schley. I have not progressed far enough in its culture to give any definite or reliable information to the meeting. I have been favorably impressed with it, and think it an admirable grape, a compact bearer, very light, full flavored, and delicious; will make an excellent wine. It is of a purple hue, very much the color of the Warren; a prolific grower, and ripens about the month of August.

Mr. Miller. I have had the fruit growing for two years perfectly free from mildew, and perfectly hardy, always looking dull.

Mr. Berckmans. The Pauline has been cultivated

by some persons for upwards of fifty years as a wine grape. Its quality as a sweet-tasted grape has no superior. It has another advantage—ripening early in the last of September. It has, with us, mildewed, when the leaf has crumpled up, and has been preserved afterwards. It is not a good grower the first or second year; after that it grows well. The size of the bunch is ten inches, very compact, and of a pale lilac color. Very sweet, and we consider it one of the best we have. There is another grape which ought not to be confounded with the Pauline, called the Logan. The vine of the Logan is rather of a tender nature.

Mr. Mitchell. I think most of these Southern grapes do not do so well with us as in the South. I have never yet tasted them as sweet in the North as in the Southern States. It has occurred to me, that if I had brought all these seedlings up North, they would have lost a portion of their flavor. I recollect the Logan, Catawba and Diana very much improved by being grown in the South, and a number of our seedlings of this neighborhood improve very much by going from hence to the South.

Mr. Berckmans. The climate only makes the difference.

Mr. Campbell. I wish to ask the gentleman which of the fruits—the Logan and Pauline—ripens earliest?

Mr. Berckmans. The Pauline ripens earliest The Lincoln Sumpter resembles it in bunch, but is larger; has a juice, but is a poor bearer.

Dr. Grant. In reference to the flavor of the grapes in different latitudes, I would remark that the flavor of Southern grapes is not always indicative of their fineness and sweetness. Persons going from the North and tasting the Lenoir, in full sweetness at the South, are disappointed in their expectations, it having a taste suggestive of wine. Such is the case with the Pauline in the South. It is an exceedingly aromatic grape, in addition to its vinous properties. The Devereux and that family are sweeter than the others, but still strictly vinous; yet many persons would class them, in comparison with those known as vinous grapes, as particularly luscious.

The President here exhibited a few specimen peaches, from the vicinity of Louisville, Ky., called the Grand Admiral; also two pears known as Carey Pears.

ALLEN'S HYBRID.

Dr. Grant. I introduce the Allen's Hybrid. My experience in its cultivation is not extensive. I have known it for three years—two years in the open air. It is now ripe, and but for a mistake I would have some of them on exhibition. Most beautiful in appearance—more completely transparent and lucid than any I have grown in the open air. It is very much of a *chasselas*, with a tendency to make good wine.

Mr. Strong. I have not fruited, but have it growing; very strong in its growth and clings a long time to the fence, until perfectly ripe, without becoming rotten. It seems to me to be one of the best grapes.

President. I have great respect for the opinions of the gentlemen who have spoken, but we have understood in Massachusetts, it was rather late in ripening. I concur in what has been said in relation to the excellence of the fruit. It resembles the Chasselas, and has what I particularly like—a little smack of the native aroma—just enough to make it piquant and inviting. I think it a very superior grape. Mr. Allen informs me he has quantities of the Isabella and other varieties, which have been impaired by mildew, when this has not been touched. It is a most vigorous grower, and is now ripe, which fact, in the opinion of Doctor Grant, proves it a very early ripener. All the specimens exhibited by Dr. Grant have been grown under glass.

Mr. Strong. In comparison with the White Chasselas, it has the advantage of not being so late a grape.

ROGER'S HYBRIDS.

Mr. Prince. I wish to have some information in regard to Rogers' Hybrid. I have twelve varieties in cultivation, which have not yet fruited.

Dr Grant. My information is not very accurate in regard to these grapes. I have had but two years' observation of it. In reference to the growing and hardness, I entertain a strong belief, based chiefly upon a one year's observation. There are three varieties which approach the Black Hamburg, with a greater degree of earliness—more so than the Isabella. Number 5 on exhibition I remember as one of the best. I give my information from the grapes grown in Salem. I saw them on the vines there on the open ground.

The President. I have to acknowledge that the Rogers' Grapes are the best that I have fruited on my grounds. I have never seen Mr. Rogers' vines, but it is not my custom, occupying an official position as I do through your kindness, to give my name to fruits, or endorse them, unless well satisfied with their properties. Mr. Rogers is a very modest young gentleman, occupying the Secretary's berth in an office in Salem, and has devoted a portion of his time to the art of fruit cultivation. I confess I was surprised when he sent me his grapes, and wrote that he himself had produced them, and given to them his name. On the spur of the moment I wrote a reply, and told him that although I thought his method practicable, very few had skill and patience enough to go through the thing successfully.

(The President here read an extract from his biennial address of 1860, referring to this subject. He continued:)

Those gentlemen who have received some of these grapes, we would like to hear from. I will only state that I was much surprised at the good quality of many of them. The vines are grown but two feet apart, being run up to a height of twenty feet along the terrace. Some of them I thought quite equal in size and quality to the Diana, but a much larger berry, and having larger bunches. Those crossed with the Black Hamburg were quite as handsome as any foreign bunch of Black Hamburg. Being grown under these circumstances so well and handsomely, I have been induced to believe that they might be raised as fine grapes as the Black Hamburg. I would state that I have been favored with an examination of them, and have written to Mr. Rogers that I believed he had conceived a new era in the cultivation of the grape.

Mr. Miller. Mr. Rogers was kind enough to send me some twenty-seven varieties of those grapes. The fruit was small—in one sense remarkably. The most of the bunches were sour. Among those varieties I

would only mention that No. 1, which agrees with the Sweet Udler was my favorite, and to my taste the best of the lot.

The President. I think Mr. Rogers himself does not know which is the best.

Mr. Miller. That may be. Farther south they are of a better quality. The three numbers, 1, 15 and 19 are the only ones that I can recommend very highly; the others were not fully ripe.

The President. In connection with the remark I have made, I think we ought to be very cautious indeed, in recommending a new species. I mentioned Mr. Rogers' grapes as being very fine, without having received any great cultivation. At the Horticultural Society of Salem, they received a premium as being better than the Concord; therefore, I arose to state what I have stated, but not to say anything which might particularly interfere with the growth of these grapes. I know that No. 1 is a very splendid bunch, so is No. 33; but I desire to refrain from commending anything until fully satisfied of its excellence.

Mr. Prince. I make no comment upon these grapes. I asked merely to have the subject brought forward. I obtained from Mr. Rogers 12 descriptions of this kind; several of those varieties are very light. Mr. Rogers seems willing to elicit information from others, and the suggestion made that some of them are suited only to the Southern States may be of use.

Mr. Miller. I never opened a box of grapes, the appearance of which did so much astonish me as these, on account of their enormous size, some being even larger than the Hamburg.

Mr. Campbell. The growth is more vigorous. I have understood that they have mildewed in Mr. Rogers' garden, and that is the case in southern Ohio.

Mr. Strong. I have found mildew on Mr. Rogers' varieties more than on any other; but I am not sure it is a fair test, as Mr. R.'s were more exposed than the others.

THE EMILY.

Mr. Lyon. There has been a grape before the community a long time, called the Emily. There is much confusion in respect to it. I have received a plant which promises to be truly worthy. I would like to hear some experience in relation to the true variety and characteristics.

Mr. Miller. I am charged with sending out the spurious Emily extensively. I got it from headquarters, Mr. Raabe himself, from whom others also received it. It is perfectly worthless, not even fit to graft on.

Mr. Mitchell. In justice to Mr. Raabe it should be stated that there is a similar grape, one better adapted to this climate. I have grown it and found the fruit not to ripen as soon as the other, but it was a most excellent grape of a copper color and a very good bearer.

Mr. Prince. It was first sent out by Mr. Raabe as the Elie, afterwards the name was changed to the Emily.

Mr. Rutter. There is another grape somewhat marked. It has a good deal of notoriety through the East—

THE MASSACHUSETTS WHITE.

It is a grape as hardy as the Diana.

Mr. Strong. I was a member of the fruit committee of the Massachusetts Horticultural Socity. As such I am sorry to say that the least said about and the less it is cultivated the better. It is a white grape.

Mr. Rutter. It is so reported to be a white grape, but I have seen reports from Plymouth, Msssachusetts, and other places, that it was not a white grape.

The President. The Massachusetts White Grape, as Mr. Strong has already said, is unworthy of cultivation.

Mr. Strong. The grape as exhibited and sent out in Massachusetts is not white. It approaches the white only. It is very pulpy and hard, utterly unworthy of culture. Several persons who have cultivated it giving the same report.

Mr. Rutter. I can confirm every thing said in the report of the Massachusetts Horticultural Society, on this subject. I think it utterly worthless and a miserable fox.

Mr. Reid. I consider these accounts of it true.

BLACK VIRGINIA.

Mr. Miller. I introduce the Black Virginia. It grows wild throughout Virginia, and is very black, and sour enough to make vinegar.

NORTON'S VIRGINIA.

Mr. Prince. I introduce the Norton's Virginia. I received it several years ago from Dr. Norton of Richmond, Virginia. It was then said to be a hybrid between the Meurier of France and some other grape. It appears now that this Northern Virginia grape is found wild in various sections of that State. A grape sent from Columbia, S. C., by James G. Genyard and which he stated he found wild some thirty years ago, is very much like this Norton, only a great improvement on it; I saw by statements last year, either written or printed, that vines of it are found in different parts of the South. It is a black grape, exceedingly hardy, will stand the winters of Massachusetts, and will succeed there in vineyard culture.

There is a gentleman at Shrewsbury, who last winter made some 17000 gallons of wine, who has this grape, under culture. It was ripe some time ago, and makes most a vigorous wood produced between growths. He has the Herman Grosser there, and it is considered the basis of his vineyard.

THE DIANA GRAPE.

Dr. Grant. I have very little to say in reference to this grape, as it is one I have disseminated and think it of considerable value.

Dr. Houghton. I have seen it at Dr. Grant's and admire it much more than any other. It is an excellent grower. I have not yet fruited it, but admire the flavor. Dr. Grant says it is a little inclined to rot. With me it is certainly a very beautiful and pleasant grape.

Mr. Reid. I would ask for information from Dr. Grant whether it has not a hard pulp.

Dr. Grant. It is like the Catawba and that family, and requires a season almost as long as the Catawba

for ripening. The Diana as the season advances acquires an excellent richness and fineness of flavor. A week or two hence it will be in its season.

Mr. Harrison. I have fruited it for several years. The first bunch I got gave great promise, the fruit improving very much with the age of the vine. The objection made as to its pulp being hard is of very little consequence, since the hard pulp disappears in time. It requires to hang on the vine, and will hang on it till frost comes. I have about 15 or 20 varieties, and find without exception—the Delaware only—it has pleased more tastes than any I have had. It makes a good but not a rapid grower, commencing to ripen before the Catawba, but is often times not ripe till after that variety.

ONTARIO GRAPE.

The President. I propose the Ontario Grape.

Mr. Prince. It will prove to be the Union Village Grape.

Mr. Miller. I received it from Mr. Wright, of Canada West, as having originated upon the banks of the lakes. The vines he has sent me have been about six years old. The person who brought the vine thought it a Black Hamburg. It proved to be perfectly ripe and luscious. The grapes are enormously large, of the size of the Black Hamburg, and will weigh from one to one and a half pounds. The leaf is not as publescent as the Union variety. It is a purely native grape.

Mr. Barry. I saw a grape said to be the Ontario at Rochester, New York; had a very thick skin, is a worthless fruit. A gentleman informed me he understood the Ontario to be a foreign grape, and it seems to me to be such.

Mr. Miller. We have grapes no better than those described, but I consider them not foreign grapes. There are kinds which may be divided into classes: bitter, watery and fleshy.

Mr. Prince. I think the grape is an American one.

Mr. Reid. I do not think there is any doubt of that fact. I have only a few bunches which are not exactly round in shape.

Mr. Salter, (Rochester, New York.) About two years ago I got some Ontario grapes and fruited them the first year. The fruit in part and the bunch is rather small, have ripened early. It is certainly a native and I think a very good grape. My fruit vine was ripe about three months from the time it was put under glass. I thought it then a very good grape, but rather small. The skin is tough like that of the the Isabella, a very strong grower. I would like to see it ripen well out of doors. I never had but one specimen known as the Ontario.

Mr. Vick. I saw the grape at Mr. Salter's. They tasted very much like the Isabella, full as tough a skin, and just about as much flavor. I do not think that any one tasting them could tell them from the Isabella.

Mr. Salter. I think they are a little sweeter than the Isabella, at the same time ripening as well, but it took longer to ripen the Isabella.

(The discussion on Grapes was here closed.)

PEARS.

Varieties which promise well.

ADAMS.

Mr. Reid. I consider it a good summer pear.

Alpha, Bergen, Beurre d'Albert, Beurre Gris d' Hiver Nouveau, allowed to stand without discussion.

BEURRE HARDY.

Mr. Barry. This is one of the best pears on our list. As we have adopted a resolution not to add to the list for general cultivation we cannot so add it; but it appears to me equal to any I have in excellence and keeping well.

The President. I concur entirely in that opinion.

Mr. Reid. I also concur in those remarks.

Mr. Hoyt. It is a long time coming into bearing, but I concur in regard to its good qualities.

Mr. Field. The Beurre Sterkmans is sometimes grown for it, and I have received it for the Beurre Hardy.

BEURRE KENNES.

The President. A very excellent pear.

BEURRE L'ANGELIER.

The President. I think as well now of this pear as I ever did. A very excellent variety, beautiful, but it is a shy bearer I have had a tree of it for twenty-five years which never bore twenty-five pears per year.

Mr. Hoyt. I have had one single tree of this variety, bearing about twenty pears per year.

The President. It is the best winter pear I have.

Mr. Ward. I have had four or five of these trees for three years which are all now bearing.

Mr. Hoyt. The trees I spoke of have been planted two years, and have blossomed. I think they will bear in another year.

Mr. Boynton. I had twelve trees of this kind last year which bore flowers but no fruit.

BEURRE NANTAIS.

Mr. Field. Has scarcely any color but bears abundantly. Very insipid, being nothing but sugar and water. I have now fifty trees in bearing.

Mr. Barry. A very sweet large, long, fine pear.

Mr. Reid. I have had it in bearing; pretty fair, though I judge from only a few specimens.

The President. It makes with me a very fine pear. It is a handsome straight grower, bears an excellent quality, and is long.

CHANCELLOR.

Mr. Reid. I have had it in bearing for some years. It is not very handsome in appearance.

Mr. Harrison. It originated in Germantown, on the grounds of Mr. Chancellor. All the original trees are dead. The fruit I have never seen.

Mr. Eshleman. I have fruited it for several years, and it still retains its original qualities.

Mr. Baxter. Very large, grows well on the quince stock.

CHARLES VAN HOOGHTEN.

The President. A vigorous grower, medium quality and is never fit for sale in the market.

COLLINS.

The President. A full grower.

Mr. Saul. It will kill any tree you put it on.

The President. It has killed trees with me, no matter how vigorous they have been. There are very fine trees in Massachusetts which it has destroyed.

Mr. Field. On account of the great difficulty of uniting it with other stock, I move it be stricken off. (Stricken of the list.)

COMTE DE FLANDRES.

Mr. Scott. Is it the same as the Mareschal de la Cour?

The President. I am not able to answer the question definitely.

CONSILIEUR DE LA COUR.

The President. Fine and good.

COMTESSE D'ALOST.

DELICES D'HARDENPONT DE BELGIQUE.

M. Barry. It is not ranked very high.

DIX.

M. Field. I never knew a good Dix to be sent to New York from within a hundred miles of it.

M. Scott. I can show from the collection now on exhibition very fine Dix pears, much larger than those from any other locality, and I can also show them destroyed in the crop. Some are very fair, and others are rusty and cracked.

ROUSSELET D'ESPEREN.

STERLING.

Mr. Eshleman. It has succeeded admirably with me.

Mr. Barker. I have fruited this year, and for all market purposes I think highly of it. The prettiest bearer I ever saw. Not of very good qualities but a charming tree.

Mr. Lyon. This pear has been cultivated almost as long in our vicinity as the original tree has stood in its native locality. With us, unsophisticated as we are in regard to pears, many do not like the Sterling, while others prefer a sweeter pear. In our market it has no superior. It sells rapidly at high prices, and bears very finely.

Mr. Barry. A very good pear.

The President. Very fine in Boston as a market pear.

THEODORE VAN MONS.

The President. Handsome pear, fine tree, excellent quality.

DUCHESSE DE BERRI D'ETE.

The President. A very handsome pear.

EMILE D'HEYST.

The President. It is a straggling tree and looks almost like a wild tree; not a pear of great excellence.

FONDANTE DU COMICE.

Mr. Hoyt. Very slow in bearing.

Mr. Reid. Is an early bearer with me. I consider its qualities as the very best. They bear sometimes (last year, for instance,) very well. It is a great bearer.

The President. I fully concur in that opinion.

FONDANTE DES CHARNEUSE.

Mr. Saul. A very fine pear, delicious and fruitful. It has been confounded with the Desinee Van Mons, Duc de Brabant and the Waterloo.

FONDANTE DE MALINES.

Mr. Saul. Of good size and good qualities.

FONDANTE DE NOEL.

Mr. Barry. A very handsome pear but never ripens.

(Stricken out of the list.)

HENKEL.

Mr. Reid. I consider it one of the very finest orchard pears.

HOSENSCHENK.

Mr. Eshleman. I will take the liberty of speaking for Mr. Garber. He told me that from the original tree the pears were remarkably fine this season, and I know, from personal experience, it is one of the best pears taken into the Lancaster market. Within thirty miles west of this city it does succeed.

Mr. Mitchell. It is very popular. A friend of mine having bought a few thought them so fine that he ordered a number of trees.

Mr. Loomis, Indiana. It does very well with us.

Mr. Rutter. My specimens all came from Columbia, Lancaster county, and that is the native place of this tree. It is almost as remarkably fine as the Bartlett, and has the synonym of the watermelon.

HULL.

Mr. Saul, A very good pear.

JALOUSIE DE FONTENAY VENDEE.

Mr. Barry. An immense pear, of very fair quality.

Mr. Saul. A prodigious pear, and one that pays well.

Mr. Eshleman. I cannot cultivate it.

KIRTLAND.

The President. A beautiful tree, and bears a handsome fruit.

Mr. Eshleman. Rotten at the core.

The President. We all rot there at last! (laughter.)

LODGE (OF PENN.)

Mr. Baxter. I have examined the fruit, it has a plain deep russet color, and is fine quality and below medium size.

The President. Full sized, with us, a fine straight bearer.

Mr. Reid. Of the very finest quality this season.

Mr. Mitchell. Of the finest flavor. No pear is equal to it, and in other respects is worthy of being kept on the list.

Mr. Steele. I concur in those remarks.

NILES.
(Passed)

OTT.

The President. Very fine, but too small.

Mr. Eshleman. A fine grower, fruit small, flavor inimitable. All pronounce it a first-rate pear, and desirable on account of its coming in early.

Mr. Hoyt. It ripens in September.

Mr. Reid. Its size is against it.

PHILADELPHIA.

Mr. Mitchell. Has a good local reputation, originated near this city. and is a good pear.

Mr. Rutter. I was the other day shown a specimen of the Philadelphia, the only one I have ever seen, and I considered it of the first class.

Mr. Mitchell. It has the synonym of the *Latch*.

Mr. Hoyt. It is a fine large pear, but it is better double worked.

Mr. Baldwin. It is one of the best pears I am growing.

PINNEO.

PIUS IX.

The President. Since I introduced the Pope, it may be well that I should say something about him. It is a large pear, very handsome; year before last I thought it not so abundant a bearer; bearing very handsomely, and nearly up to the largest size.

PRATT.

VAN ASSENE; OR, VAN ASCHE.

Mr. Barry. A fine, large, handsome pear.

Mr. Saul. A sweet, delicious, nice pear, never seen it large.

The President. Not usually large, but I have it large this year.

Mr. Berger. I agree with Mr Barry, but it has no color about it.

Mr. Barry. It almost invariably has a bright red cheek, as grown in our neighborhood.

WALKER.

The President. Well known I believe, large size, of a green color, has good qualities.

ZEPHIRIN GREGOIRE.

Mr. Saul. A great bearer, and a good pear.

The President. I concur in that opinion.

PEARS, (Added.)

WASHINGTON.

Mr. Mitchell. I would call the attention of the Society, to a pear that has no place in any of our lists, called the *Washington*. It has the best local reputation of any I know of, being the only one in fact, that comes regularly to the Philadelphia market. It is the most beautiful pear that grows. In order to give it its merited promotion, I move that it be added to the list of promising well.
(Added to the list.)

BEURRE MENTIGNON.

Mr. Field. I introduce the Buerre Montignon. The trees are perfectly hardy, very strong, and rapid growers. I believe M. Whiting has a synonym for it, the Frederick of Wurtemburg.

Mr. Whiting. It has proved worthless in my section.

Mr. Saul. As the assertion has been made that this fruit has been known under the name of Frederick of Wurtemburg, I would state that it is not the old, but the new Frederick of Wurtemburg.

Mr. Reid. A very good market pear.

DOYENNE ROBIN.

Mr. Hoyt. I introduce the Doyenne Robin. It is large, round, and of a green color.

Dr. Ives. I have known it for four or five years, very hard, large good size, very handsome.

Mr. Barry. It appears to be good, but I don't think it handsome. It is round, but the tree has always seemed to me, not to have a healthy appearance.

The President. I have had it in cultivation ten or fifteen years, it has black spots, and finally dies down.

Mr. Bergen. It is a good pear, and should not be rejected. The down-east description of it comes nearer the Windsor Belle than any other. It has been raised by us for fifty years, and is known as the most profitable pear sent to market.

Mr. Barry. It is grown extensively in our part of the country, being about the only pear that is sold in the market there.

BELLE.

The President. One gentleman has mentioned the Belle Pear. It is a favorite market pear, not good for anything and unworthy of cultivation. It comes before all others, is large and yellow tint; buyers of it are uniformly disappointed in regard to its quality. They sell at a high price, and are only sought by the uninitiated, never by those who know what a good pear is. We all agree it is unworthy of cultivation, and the question is whether we should put it on our list.

Mr. Berger. It has been put on the list of rejected pears, when it is one of the most cultivated in the world. There is a difference of opinion in regard to its qualities, some persons prefer it for eating. When it is placed on the rejected list, it is occupying a wrong position.

Mr. Steele. The remarks of Mr. Berger lead me to make one enquiry. Do I understand the American Pomological Socieiy to be organized for the purpose of catering to the bad taste of people who know nothing on the subject, whether we ought to recommend fruits, simply, they have a bad taste, or because of good quality? I wish to be informed on this point.

Mr. Reid. As an eating pear, it is worthless, as a stewing or cooking pear it is very valuable. No one that knows the pear will buy it for eating.

Mr. Barry. It bears uncommonly well.

Mr. Bergen. We don't eat many of these pears in New York. They are improved by house ripening, and shipped from New York to the Boston market, where there are good judges of pears.

The President. I agree with what Mr. Bergen has said. It is so, no doubt, but as we are endeavoring to establish a standard of Pomology for the United States, of character, it is very doubtful whether we ought to admit that pear anywhere.

Mr. Scott. The specimen I now present is the New Bartram.

BARTRAM.

Mr. Harmer. This pear is well known to Doctor Brinckle. The Doctor has hunted up the authentic history of it from the Bartram family. It is considered so much superior to the Old Bartram, that that pear should be put off the list and this inserted in its place. Until that is done, persons who have the Old Bartram in cultivation, being uninformed of the superiority of the New Bartram, will produce confusion in their cultivation. I had proposed to the Pennsylvania Horticultural Society, that this pear should be presented under the name of the New Bartram pear. I now propose that the word new be inserted in the place of the word old in the list of promising well. The original tree is dead, but this fruit came from suckers obtained from the Bartram family.

The President. I would state that the committee on native fruits having had this pear under consideration will report on it.

Mr. Eshleman. I propose the Fondante de Millot or Cerriuer. It is about the size of the White Doyenne.

The President. It is impossible for us to decide whether this pear is the same as the White Doyenne. In Massachusetts, after having had it for many years we have given it up.

BONNE DE ZEES.

Mr. Field. I propose the Bonne de Zees. It is a new name for the Princess of Wirtemberg. It is very large, handsome, light yellow, and is good as an eating pear.

Mr. Steele. I never saw one in my life that was not diseased. It will not live in my country.

Mr. Field. I agree with Mr. Steele. It has native habits.

Mr. Ives. I have a tree of this kind six years of age, perfectly healthy, the wood perfectly clean. I have been watching for the canker upon it, have got no fruit as yet. It is a good and healthy grower, perfect foliage, but I want to see the fruit.

Mr. Scott. I have seen the fruit of the Boune de Zees in several sections of the country. I do not think that the tendency to crack extends to every tree. At present I know of an instance of a tree which bears a full crop of averaged sized fruit, without a cracked one among them.

Mr. Quinn. I have seen specimens with indications of cracking on the bark. They make good pears.

Mr. Barry. The tree is a moderate grower, very erect and handsome, though the fruit will never rank as high as some others.

The President. I ask for information whether it is desirable to introduce into our lists any tree, of which it is said that the tendency to crack in the bark, injures the fruit and renders it unfit for sale.

Mr. Hoyt. It will not alter the character of the tree when it is grafted on to a sound stock. It is handsome, and the growth and foliage are good.

Mr. Field. Did any one ever know of a tree dying of a crack?

The President. Yes! one died out completly with me.

Mr. Reed. It is liable to crack in the bottom.

EUCHID.

Mr. Baldwin. I propose the Euchid, found in Chester County, on a fence among a lot of stones, not far from the forks of the Brandywine Creek. It is one of the very best pears there is. I had hoped to see it occupy the highest place on the list that promise well.

Mr. Baxter. A very fine pear.

Mr. Barry. First-rate and of middling size.

Mr. Rutter. One of our finest pears, of medium size.
(Placed on the list.)

SELLECK.

Mr. Scott. I proposed the Selleck Hartey, a long time before the Society, but we could never get any thing done with it. The native fruit committee has reported upon it, but it has never been put upon our list.

Mr. Bergen. I got it from Mr. Downing some years ago, it grows so slow, that I consider it the poorest grower I ever saw.

Mr. Scott. It is a pure white yellow in color. I believe it to be a seedling of the Burnett.

Mr. Lyon. It is a very fine grower and promises well in Michigan.

CONGRESS.

Mr. Steele. I propose the Congress. It has a good reputation.

Mr. Boynton. Mr. Smith has two specimens in exhibition.

DES NONNES.

Mr. Harrison. I propose the Des Nonnes. It is a good pear and comes in season in abundance. The fruit is abundant with us, of medium large size, has a rapid growth, is rather striped. It is three-fourths ripe now, very juicy, when entirely ripe very fine.

Dr. Warder. Though not a western fruit, we western men claim to have discovered its merits first. It continues to maintain a very high reputation with us in the character, both of the fruit and the tree.

Mr. Field, The pears on the same tree as those on exhibition, will be very excellent specimens, but some of them will be insipid. It has certainly want of juice more than any other pears we know of.

The President. An abundant pear in Boston, highly flavored, not very nice, but a fruit of excellence.

Mr. Saul. A very good pear.

Dr. Houghton. Some gentlemen think highly of it. I have it fruiting and think it beautiful. Mr. Downing's description of it, is that the flavor is medium. Mr. Smith's, of Syracuse, is equal to that of any other pear and it fruits early. (Placed on the list.)

OMAH PACHA.

Mr. Hoopes. I introduce the Omer Pacha.
I think very highly of it, very delicious, ripens just before autumn.

Mr. Reid, I had it ten years before it ripened with me, but it now bears. It does not keep very long, it resembles Beurre Hardy very much in shape, but they ripen three weeks apart.

(It was referred to the Committee on Synonyms.)

STEVENS' GENESEE.

Mr. Lyon. I move that Stevens' Genesee be removed from the rejected list. It is very highly esteemed in the west. For the reason that it did not succeed in certain sections it was placed on that list.

(The motion was agreed to.)

Mr. Loomis. It is a very fine pear and I move that it be added to the list of promising well.

Mr. Scott. The reason of its being on the rejected list was on account of its being diseased.

Mr. Rutter. The pear was diseased, not only in one locality, but in several.

Mr. Hoyt. I think there must be a spurious kind in cultivation, as I formerly heard favorable accounts of it; but have been much deceived in its cultivation.

(*Mr. Field;* here read an extract from pp. 52 of the biennial report of 1858, showing that this pear was stricken from the list for general cultivation.)

Mr. Bergen. The pear with me does well, but among some sixty varieties I have known, the leaves became blighted, though that does not affect the fruit.

(Two specimens of pears were here presented.)

GOLDEN BEURRE DE BILBOA.

Mr. Barry. Does the Golden Beurre de Bilboa sustain its reputation?

Mr. Loomis. It is a very fine fruit.

Mr. Field. I have never seen it in fine condition.

Dr. Warder. I find it does well on a Quince stock and is a good pear for the consumer.

Mr. Rutter. I consider it a second-rate pear.

Mr. Bergen. It lives with me on Pear stock. If I had the power I would strike it from the list.

Mr. Barry. I have never seen a perfectly healthy one.

The President. Although one of our second-rate pears it takes prizes in our shows. It is not remarkable for its bearing; my trees have made shoots this year three feet long. It is quite a popular pear with us. It is second-rate but juicy.

Mr. Lyon. I propose we close this list, (Closed,) and that we take up the subject of the cultivation on the Quince.

DISCUSSION ON PEARS ON QUINCE STOCKS.

Dr. Ives. I wish to know the experience of the gentlemen present in regard to the Flemish Beauty; with me it is one of the finest growers.

The President. The opinions of this Convention passed upon it two years ago were favorable to its cultivation on a Quince stock.

Mr. Field. I think it is one of the best for the purpose. It is the best on Quince stock that we have.

Mr. Barry. That is so when you can once get it to commence. Out of three hundred trees you will get perhaps a dozen to live.

Mr. Loomis. With me it has not done well on a Quince stock, but it does better than the *Tyson*, or the Seckel Pear.

Mr. Bergen. With me, after it has once taken, it does very well.

Mr. Reid. I have found no difficulty in budding it. By double working you can get good trees.

Mr. Quinn. With me they are the strongest growing tree that can be put on the Quince.

Mr. Barry. I do not highly approve of it.

Mr. Baxter. I should like some gentlemen to try the Washington Pear on a Quince stock. I have never seen it so.

Mr. Field. I move we strike from the list the Soldat Laboreur. It is not worth cultivation. I know of two hundred others that are better than it.

Mr. Barry. I consider it a good Pear.

The President. It is not expedient to strike it off. Does the Tyson Pear do well on the Quince?

Mr. Loomis. It does well with us.

Mr. Baxter. It does well with me.

Mr. Lyon. So it does with me.

Mr. Quinn. I concur with the last two gentlemen.

Mr. Barry. If it succeeds with you now, it will not do so very long.

Mr. Lyon. It grows well in Michigan on the Quince.

Mr. Reid. Does the Doyenne d'Ete do well on the Quince.

Mr. Lyon. It has done well with me for four years. It grows well. It is not very strong but is productive.

Mr. Hoopes. The Brandywine does well on the Quince.

Mr. Frost. It does well with me also on the Quince. So does the Kingsessing Pear.

Mr. Smith. Osband's Summer Pear does well.

Mr. Barry. It does well with me.

Mr. Reid. I concur in that remark.

Mr. Saul. It is first-rate.

Mr. Baxter. I have found it difficult to get information in regard to the Duchesse d'Angouleme.

Mr. Barry. Dearborn's seedling does well for two or three years.

Mr. Loomis. It has failed in the west.

Mr. Field. The Flemish Beauty, Urbaniste and Seckel do poorly with me at first, but soon become good.

Adjourned till 3 P. M., Thursday.

THURSDAY AFTERNOON.

Dr. Warder. There is a disease in the grape I saw two years ago, like this on the branch on the table. I should like gentlemen who are acquainted with the disease to give some account of it.

Mr. Fuller. I know nothing about this disease.

Mr. Harvey. I am not prepared to give any cause for this disease. Our grapes are a complete failure this year, but not from mildew. The disease I allude to causes a scab or dry appearance on one side of the grape. The vines are attacked by the same scabby appearance.

Mr. Fuller. Almost thirty years ago, several Italians planted vines in their vineyards in Illinois, but their grapes were worthless, although the vines lived. The cause of this I know not. I suppose it was the heavy subsoil in that place. But I found the same thing on the best of drained soils. I experimented by using sulphur, and succeeded well—perfectly, I might say,—but whether at another year it will not fail, I cannot say, but it was for the time being a perfect preventative. I used the sulphur in water, and then syringed the grapes.

Dr. Ives. I tried the same experiment, but was not successful.

Mr. Scott. Sulphur is not generally supposed to benefit any form of mildew, unless applied to a cryptogamic plant. I have never known sulphur to be of any beneficial effect. It will neither dissolve in water or alcohol. I hope Mr. Fuller will investigate this matter, and not lead us to believe sulphur will remedy this disease.

Mr. Fuller. I merely wish to say, Mr. President, it did succeed two years in succession, when all other means failed.

Mr. Sedley. I wish to know on what kind of soil these vines were planted, whether it was inclined or level.

Mr. Fuller. They were planted on gravel soil, around a field, and the exposure was to every point of the compass. I did not notice whether they were damaged on one particular point more than on another.

Mr. Schley, (S. C.) There has been an impression in my mind, that slope and exposure are very important in the cultivation of grapes, as well as a thorough draining of the soil. I have observed that three days' exposure to a damp atmosphere would produce mildew and blight. If the vine can exhale moisture it will flourish, if it cannot it will blight.

Mr. Cornelius, (Pa.) My grapes are under a glass covering, 120 feet long, with the borders well drained. The first three years my vines did well, but I had some mildew. I painted the house green, opened it daily, and closed it at 4, P. M. The year before last I filled the entire bottom of the house with leaves, thinking that that might aid the grapes, but it had no effect. Last year I tried sulphur, and they did better. I was ashamed to take anybody down to my grape-house; nevertheless, it was a matter of study to me. I had every little crack fastened up, and the grapes ripened beautifully, and the vines were in a good condition. They showed no mildew, and were watered twice a day. I did not have a particle of lime in the house. The house was well watered on the floor, sometimes once and sometimes twice a day. I consider that the air, coming to the vines at different temperatures, creates such a different temperature in the growing; of course the sap is flowing at one time, and not at another. I shall hereafter exclude the air as much as possible. My vines were the Black Hamburg, White Muscat, and the Muscat and Alexandria.

Mr. Saunders. I have been giving the mildew some attention. Previous to the middle of August I had no sign of mildew, now there is not a single leaf I have but what is affected; the bunches are hanging, but there are no leaves. The mildew is caused by aridity. Perhaps it is strange that dryness should cause it, as we always connect mildew with dampness. I think we find the cause in dry air—we find the same disease in the gooseberry and hawthorn—these few weeks of dry weather having brought it out. I think the Hamburgs can be grown with little care. My plan is to never let the ground get dry. I sprinkle it with water twice a day. Again, I open the sashes after the month of April. I have, in a house 40 feet long and 28 feet wide, twelve openings, each three feet square. Under this treatment the grapes should ripen. The lowering of the night temperature hastens maturity. I have proved that over and over again. What I mean is a lowering of from twenty-five to thirty degrees. This other grape mildew I have not seen until this season. Of these two diseases (Oidium and Erysites) I think one is caused by aridity, but I will not say that the other is caused by dampness. For grapes in the open air, I can only suggest shelter. Mr. Dingee said to me, he had seen a grape vine growing partly on a trellis and partly on the ground; that on the trellis had not a leaf, while the other was perfectly healthy. Many persons who cultivate grapes will see that the outside leaves are entirely destroyed, though enough live to protect the fruit. I have applied whitewash with good effect. I leave the inside planks of my grape-house unplaned, and then whitewash them.

Mr. Field. A draft of air, it is well known, conveys moisture more rapidly than heat.

Mr. Quinn. I will mention another disease prevalent among our vines. It is a spotting of the vine, from the 15th of June to the 1st of July. The young shoot becomes spotted and the leaf yellow; the fruit is stopped, and finally becomes brown and drops off. It is a French disease, called the Oidium, and we have no cure for it. If there is any one present who knows how to prevent it, I should be glad to hear from him.

Dr. Grant. In reference to what Mr. Saunders has said about shelter, sometimes I have seen a vine on a trellis, after a severe tempest, more liable to attack than one on a tree. The remedy Mr. Quinn calls for is sulphur. It was tried with success in France when, in 1847, this disease made its appearance.

Mr Quinn. We apply sulphur every morning, and it does not arrest the disease.

Dr. Grant. Three sulphurings are supposed to be necessary, the first one given in June. Death follows after a spot is once made on the plant. In reference to sulphur being soluble or not in water, that has but little to do with the matter. Sulphur is sulphur, whether suspended in water or not. The fumes themselves are necessary, and have a transient action. The fumes are produced by combustion, and by continuous combustion. A mixture with lime is made for the purpose of bringing it to a very fine powder. It is constantly used in France, and is considered perfectly effective.

Mr. Field moved that the subject of Ground Work be taken up.

GROUND WORK.

Mr. Field. I have looked at plantations of grapes

with interest, and I am satisfied that deep cultivation, deep trenching of ground, and manuring, is the only way by which vines can be made to produce grapes for any length of time. There is a vineyard of fifteen acres in my neighborhood, under cultivation by a Swiss gentleman, who is well acquainted with their cultivation. They have been attacked by the disease (Oidium), and have borne for seven years but little or no fruit. Although they produced fruit the first three or four years, now they are unworthy of cultivation.

Dr. Grant. Great injury is done to vines by having the roots unprotected on the surface. I am not aware that there is anything peculiar in my system of treating. The ordinary soil would be scarcely the one for the cultivation of grapes. Drift soil has sometimes fertility for five feet in depth, but this soil is very rare. Deep working, and bedding manure below, is very effectual indeed. My compost is manure with about 35 per cent. of muck. It is very advantageous. It should receive some water. If you bury the manure in large quantities, and the roots come in contact with it, they will be destroyed. I keep my soil in good order by a small addition of manure once every three years. The expenditure would vary on soils according to circumstances. We will suppose a field, prepared for growing corn, has a soil of twelve inches in depth, but to make a vineyard, would require double that depth at least. One can calculate something of the expenditure by the labor of turning that under and making fertile soil of it. To go through the process, I would say, make those twelve inches eighteen. To do so economically, put there a wheat crop and follow by a clover crop; after plowing that again, it is ready for a trenching, and six inches of soil would be brought to the top. Under ordinary circumstances, the whole preparation would cost the whole crop for the labor.

Mr. Field. I suppose, in ordinary conditions, the dung of animals is unfit for soil, unless when mixed with compost. Trees and vines make their bark so as to protect themselves from the winter. I believe that manure should be a long time in compost, and not turned by any chemical process. It should be left for six or seven months, and occasionally turned. The roots of plants are always injured by the application of large quantities of manure. The manure that is used for food for plants must have age, and Dr. Grant does not use any that is not at least from two to four years old, and his plan is the one followed in France. When subsoils are brought to the surface, you must use double the quantity of manure for the second six inches that you do for the first.

Dr. Boynton. Some gentlemen talk of plants living on manure, others seem to think they gain their subsistence another way. I have noticed that moisture has more to do with the grape than manure. I have got the idea it is not the manure, but the admixture of manure, that is required.

Mr. Luitweiler. I never use anything but compost; I think, in planting, there is no use in wasting manure. Give them compost; apply it on the surface. No plant can take up or receive a particle of manure in the raw state. It must be exposed to the air. Many think by putting it in boxes it will benefit the vine; I believe it must be decomposed. It must be in a liquid form. By trenching you admit the air. In sand, of course, the air penetrates to a great depth. I will give you a proof of that: you may plant a tree ten feet deep in New Jersey, and it will live; in Rochester, where I live, if you plant it to the same depth it will die.

Mr. Saunders. I would like to know how you can prevent air from penetrating a soil.

The President. The question has been as to what depth manure should be laid. I trust before long to have the matter settled. I have come to the conclusion that manure is entirely useless until it is thoroughly decomposed. The gardener of Louis XIV. said, he would rather have one load of manure on the surface, than twenty under it.

Mr. Field. I am in favor of surface manuring.

The President. The plant cannot receive food except in a soluble state. When the ground is shaded with a manure on the surface, then the manure is in a soluble state. An experiment was made in France some years ago, where straw was strewn over the ground in one place, and in another it was without shade. The soil without manure yielded as much grain as the other.

Dr. Grant. I have been asked how much money might be used in preparing a vineyard. After the European manner, $6000 per acre might be spent.

Adjourned to eight o'clock, P. M.

EVENING SESSION.

PEAR CULTURE—DISEASES OF THE PEAR—GROUND WORK—PLANTING, PRUNING, ETC., ETC.

Dr. Warder. I cannot meet the views that have been expressed by Dr. Boynton. In our place we have a detritus of rocks spread over our soil. The soil being rich, manuring is not with us a matter of so great importance as with you. An analysis of our soil shows an abundant supply of all the materials that are necessary to supply the wants of the pear. In preparing a piece of ground, we care not so much for foreign substances, as for the thorough preparation of the soil. The question arises, where labor is scarce and dear, how we can most cheaply prepare that soil. The soil needs the admission of air. Our method, in the gross, would not perhaps be applicable to you. We look to the cheapest method of preparing the soil, in selecting our site in the first place. Select such a piece of ground where the cheapest labor can be done; among stumps and stones we need hand labor—of course we avoid this. In open prairie we use the oxen or the horse. With us, the double Michigan plow is the very best implement in our possession, by which we can thoroughly prepare the soil. If we have stiff clay we use three yoke of oxen. The double Michigan plow is familiar to all cultivators. It is two plows to one beam. The first plow lifts a portion of the soil, the hinder one throws the soil on top. This plow is so admirably constructed that you may make a furrow eleven inches wide and three deep, or three wide and eleven deep. The depth I run my Michigan plow is fifteen inches, and I do not meet with any obstructions. For deeper culture, and when there is a deeper soil, the subsoil plow, called the lift subsoil plow, I think is the best implement; the effect of it is to loosen the soil, lift it

out of its place, and let it fall back again. You thus have a thorough stirring of the soil through the whole field, of at least twenty inches in depth. The loosening of the soil is thus effected. Further preparation I will leave for those who are better acquainted. I am often asked by my friends, how deep do you dig your holes? I say, if you have ten acres, dig your holes ten inches.

Mr. Field. The soil in the vicinity of my place is of a very light character, and the preparation must be of a much more thorough character. The means I have taken for Pear trees, have been, first plowing on the surface of the ground, a good dressing of manure, which when washed with the rain, will be a solid body of two inches at least. This is then plowed under as deep as possible, but I am not sure that more than twenty inches, will do us any good, or prove any resource from the evils we have been suffering. On one occasion some trenching was to be done on a piece of ground, to do which I employed several men. When I came to inspect their work, thay had dug themselves down to a distance of three feet, six inches, and in this depth of ground the trees were planted, and grew dreadfully poor for a long time. But I have this year found on the soil so stirred up, four years ago, one of the greatest beauties we have. The leaves are in perfect condition, fine, lustrous and healthy, on this doubly trenched ground. On the other ground they are spotted and have dropped. This process of trenching the ground is looked upon as very laborious, needless and calculated to discourage a great many tree planters from putting their trees into such soil, but unfortunately I am located upon this land and have got to live there. About twenty miles from me a quite celebrated orchard has been in existence for twenty-five years. For the last ten or twelve years there have been no pears grown in that ground once celebrated for its production of fine fruits, none worthy of exhibition. But the owner, Mr. Pierce, brings his two hundred and forty varieties to exhibition, and they are scarcely worthy of being brought into the room. The true preparation and planting of the tree is not to stick it into the ground, and get it to bear for one year, but what is done should be permanent. I wish to say a few words in regard to the Double Michigan Plow. I have prepared some twenty-five acres with this plow using four horses with it and four with the subsoil plow, two or three times. I planted about five thousand pear trees, and I believe they are as fine trees as any in this State.

Dr. Boynton. I am but an infant in the business of raising Pears having had but five years experience in planting Pears. I commenced on a waste piece of ground where the stumps had first to be removed, the ground lying on either side of a hill. I commenced and dug fiercely around my trees and filled up the space with top soil, the whole ground being turned over.

On the east side of the hill I never saw trees grow better. My object is to get the water when it falls upon the ground, into the soil, through the soil, and out of the soil as soon as possible. The reason of this that whatever water has entered into the fibres of this Pear tree, is to be absorbed for the nourishment of that tree, and there is wanted no more water in the earth to supply the Pear tree than would remain there by capillary attraction. Secondly, if I wanted the water to lie upon the ground I would hackle it for twenty-four hours. After the ground has been once stirred up in this manner I never disturb it. As long as I can remember fine orchards in Massachusetts have been destroyed by plowing up. In consequence the fibrous exhalations of the trees being greater than the absorption could take up from the ground, the trees died. If the tree die it is called fire blight, but I will pass what might be said on the subject. My object is to get the water when it comes on the ground, through it and out of it. In the water there is ammonia. I want to take the ammonia out of the water. In passing through the ground, the water imparts its ammonia to the tree, a gallon of water will hold in solution a gallon of air. In this way the roots of your trees are nourished and there is no necessity to stir up your soil. Let the ammonia be put upon the surface and in this way you may enrich the ground. The ammonia being carried as far as and wherever the water penetrates. The ammonia being in a soluble state, the absorbent roots of the plant can take it up, for I do not believe the plant can ever take it up except in such a state of solution. It is generally thought that carbon is never taken into a plant except by the leaves. I have no doubt that ammonia would, as well as air, take a part of the carbonic acid which is generated by the roots. This hill on which my orchard grows and produces the fruit, contains furrows so steep that you could not plow it without difficulty. It is so steep that the dashing rain we have had this and last year gave no time for the water to go into the ground, but washed away the manure from the surface. The consequence was that I took each hill and made a level around it, and where one tree would be materially higher than another, I left a little dam formed in a basin, and when the water came down heavily, it would stand an inch deep and disappear in the course of time. On this I threw manure composed of phosphate of lime, in the first place, got from vines dissolved in muriatic acid. Another way is to take dog manure in which you have the pure phosphate of lime. The urine of the dog contains likewise other phosphates. I took that and put it upon twenty-six grape vines in the west end of a row of six hundred or seven hundred feet long which runs entirely over my hill. I pointed out the difference between those grapes and others. The grapes are green and the foliage more healthy, and the vines stronger nourished solely by phosphate and nothing else.

When the wind and hail came on the 20th of August it injured my crop. The leaves looked as if sulphuric acid had been spilt upon them. As you would pass over the hill you would see the vines were not so healthy nor the fruit quite so large except in the places to which I have referred. A large number of Pear trees come through a vein of serpentine. I picked up some pieces of this serpentine, pulverized them, and put it around some of my trees. Three of these trees are as rusty as the *Oxbury Russet*, now on exhibition. Every one of the pear trees where this magnesia had been put had this character. The variety is the Bartlett.

Dr. Boynton further stated that he had obtained

some phosphate of lime by means of which he lately got four large pears from a tree eighteen inches high and only two years from the bud. From another set of trees, by means of bone lime containing phosphoric acid, enviable results. A great mistake is to manure trees with raw phosphate of lime; in putting this phosphate of lime along his trees, he mingled it with soda, and put likewise a quantity of ashes, and those trees which bore the brightest colored pears were those which had this mixture around them. I believe that the chloride of lime and calcium of soda had an influence as a fertilizer, not generally recommended by agriculturists. All the chlorides you may get will have an influence in the analysis of the skin of the Pear. I took about one handful of ashes to each tree. In it was mingled the chloride of calcium, of sodium and salt. The ashes contain the silicates that are in the wood or bark of the tree, and all the materials necessary to form the wood of the plant, and must be applied to a plant when it can form wood.

Mr. Field. In planting trees on the Quince stock there has been a great deal of difficulty found from the fact of the latter being planted beneath the ground and the former above it. In consequence of this the tree has to be thrust down to an unnatural depth and then a new layer is formed and then a strata which has a new office thrust upon it. We do not know how much or how little there is in the lower roots, but there often come cankerous and diseased matters. When the tree is dug up from the ground and thrust down into the nursery rows there is another strata formed, making a third.

I have often found in removing such trees after four years planting that the lower strata has entirely superseded the office of the others and the fungus has been destroyed. I have not known this until they have become diseased and of a dark instead of light color. At first they may get spongy showing a little white fungus on the tops of the stems, I found that such trees could be entirely restored by cutting off that lower strata, and I would advise this always in planting on the Quince stock.

The President. That has been my custom for more than twenty years. I was among the earliest cultivators of the Pear on the Quince root. Many that came out had shanks of at least eighteen inches of the Quince. I do not know that I had ever heard of planting down below the surface until I practised it myself. I am under the apprehension and pretty well convinced that if the soil is well drained there may be several courses of healthy roots, the lower as well as the upper.

When I found them otherwise, it has generally been in a stiff clay, cold, uncongenial soil. Some thirty years ago I purchased a lot of Pear trees on the Quince root where the Stanton ferry now is, and there were then scarcely any buildings on the shore, but a few little shops, the rest was pasture land. I put up a Pear tree on the Quince root which had never rooted from the Pear stock. It is now twenty-eight years since I purchased it. I took it up about two years ago and found the roots perfectly good. I found the roots of this tree although not having rooted from the Pear stock as sound as when I purchased it.

Dr. Boynton. I suppose if the leaves of trees bear the relation to them, that the lungs of animals do to those animals, the Quince would breathe better through its own lungs than through those of the Pear. It is my opinion that the Bartlett Pear would grow more healthy by itself than it would on a Quince stock. Some years ago I found no difficulty in getting the young roots of the Bartlett to strike roots almost as frequently as the weeping willow. I would ask if there was not other auxiliary means to induce early fruitfulness, besides Quince grafting.

Mr. Scott. In order to graft the Pear on the Quince stock we departed entirely from the positions we had taken for the establishment of the Quince on the Pear. The Quince has as healthy a foliage as the Pear.

I can show at home trees bearing fruit of which the lungs are diseased. I say that the Bartlett foliage is the best agent we can provide for producing the finest and hardest fruit. The only objection in the world is that it does not make a perfect junction with the Quince.

PRUNING.

Mr. Loomis introduced the subject of pruning. He offered a set of resolutions, recommending the society to adopt a particular plan, not that he wished the resolutions adopted, but that this might bring the subject before the meeting.

Dr. Warder. The resolutions express my views on the subject. I like the plan of pruning trees down instead of up. This is best especially in the western country. Some gentlemen express astonishment at this, such is the fact, when possible. I branch my trees on the ground in preference to any other place. One reason is that the trees get to work and acquire sap which has not been so far to travel. I call this my method not because I claim any originality in the matter, but merely because I adopted it. I prune in winter for wood and in summer for fruit. I invite my friend Mr. Boynton to ventilate some of his opinions on the subject.

Mr. Boynton. I cannot say much about pruning in summer. When I have a small tree and see a number of spray I put the knife to it and the buds burst. If the tree is large enough to bear and fill itself with buds, I dislike to trim them off at all, for fear of throwing so much sap into my fruit as to burst it.

The discussion then closed, when Mr. Field offered several resolutions of thanks to different officers of the society for the faithful performance of their duties. The society then adjourned to meet again in Boston in 1862.

Fruit Catalogue

OF THE

AMERICAN POMOLOGICAL SOCIETY.

FOR GENERAL CULTIVATION.

APPLES.

American Sum. Pearmain,
Autumn Bough,
Baldwin,
Benoni,
Bullock's Pippin,
Carolina June,
Danver's Winter Sweet,
Early Harvest,
Early Strawberry,
Fall Pippin,
Fameuse,
Gravenstein,
Hawley,
High Top Sweeting,
Hubbardston Nonesuch,
Jonathan,
Lady Apple,
Ladies' Sweet,
Large Yellow Bough,
Melon,
Minister,
Monmouth Pippin,
Porter,
Primate,
Rambo,
Red Astrachan,
Rhode Island Greening,
Roxbury Russett,
Smith's Cider,
Summer Rose,
Swaar,
Vandervere,
Wagener,
William's Favorite, (except for light soils,)
Wine Apple, or Hays,
Winesap.

PEARS.

Ananas d'Ete,
Andrews,
Bartlett,
Belle Lucrative,
Beurre d'Anjou,
Beurre d'Aremberg,
Beurre Diel,
Beurre Bosc,
Beurre St. Nicholas,
Beurre Clairgeau,
Beurre, Giffard,
Beurre Superfin,
Brandywine,
Bloodgood,
Buffum,
Cabot,
Dearborn's Seedling,
Doyenne d'Ete,
Doyenne Boussock,
Doyenne d'Alencon,
Flemish Beauty,
Fulton,
Golden Beurre of Bilboa,
Kingsessing,
Howell,
Lawrence,
Louise Bonne de Jersey,
Madeline,
Manning's Elizabeth,
Onondaga,
Osband's Summer,
Paradise d'Automne,
Rostiezer,
Seckel,
Sheldon,
St. Michael Archange,
Tyson,
Urbaniste,
Vicar of Winkfield,
Winter Nelis,
Uvedale's St. Germain, (for baking).

FOR CULTIVATION ON QUINCE STOCKS.

PEARS.

Beurre Superfin,
Beurre Hardy,
Buffum,
Belle Lucrative,
Belle Epine Dumas,
Beurre d'Amalis,
Beurre d'Anjou,
Beurre Diel,
Beurre Langelier,
Catillac,
Duchesse d'Angouleme,
Doyenne d'Alencon,
Easter Beurre,
Figue d'Alencon,
Glout Morceau,
Louise Bonne de Jersey,
Napoleon,
Nouveau Poiteau,
Rostiezer,
Soldat Laboureur,
St Michael Archange,
Urbaniste,
Uvedale's St. Germain, (for baking).
Vicar of Winkfield,
White Doyenne.

PLUMS.

Bleeker's Gage,
Coe's Golden Drop,
Green Gage,
Jefferson,
Lawrence's Favorite,
Lombard,
Munroe,
Purple Favorite,
Prince's Yellow Gage,
Purple Gage,
Reine Claude de Bavay,
Smith's Orleans,
Washington,
McLaughlin.

CHERRIES.

Belle d'Orleans,
Belle Magnifique,
Black Eagle,
Black Tartarian,
Coe's Transparent,
Downer's Late,
Early Purple Guigne,
Governor Wood,
Elton,
Early Richmond, for cook'g
Graffion, or Bigarreau,
Knight's Early Black,
May Duke,
Reine Hortense.

APRICOTS.

Breda, Large Early, Moorpark.

NECTARINES.

Downton, Early Violet, Elruge.

PEACHES.

Bergen's Yellow,
Crawford's Early,
Coolidge's Favorite,
Crawford's Late,
Early York, *serrated*,
George IV.,
Grosse Mignonne,
Morris White,
Early York, large,
Hill's Chili,
Large White Cling,
Madeleine de Courson,
Teton de Venus,
Old Mixon Free,
Old Mixon Cling.

GRAPES.

UNDER GLASS.

Black Damascus,
Black Hamburgh,
Black Frontignan,
Black Prince,
Chasselas de Fontainbleau,
Red Chasselas,
Cannon Hall Muscat,
Grizzly Frontignan,
White Frontignan,
White Muscat of Alexan'a,
White Nice,
West's St. Peter,
Zinfindal.

OPEN CULTURE.

Catawba,
Concord,
Delaware,
Diana,
Isabella.

RASPBERRIES.

Fastolff,
Franconia,
French,
Knevet's Giant,
Orange,
Red Antwerp,
Yellow Antwerp.

STRAWBERRIES.

Boston Pine,
Hovey's Seedling,
Burr's New Pine,
Longworth's Prolific,
Large Early Scarlet.
Hooker's Seedling,
Wilson's Seedling.

CURRANTS.

Black Naples,
May's Victoria.
Red Dutch,
White Dutch,
White Grape.

GOOSEBERRIES.

Crown Bob,
Early Sulphur,
Green Gage,
Green Walnut,
Houghton's Seedling,
Iron-Monger,
Laurel,
Red Champagne,
Warrington,
Woodward's White Smith.

BLACKBERRIES.

Lawton's New Rochelle, Dorchester Blackberry.

List of Fruits Promising Well.

[The new additions are printed in *Italics.*]

PEARS.

Adams,
Alpha,
Bergen,
Beurre d'Allert,
Beurre Gris d'Hiver Nouveau,
Beurre Kennes,
Beurre Langlier,
Beurre Montgeron. or *Fred'k of Wurtemb rg,*
Beurre Nantais,
Chancellor,
Collins,
Comte de Flanders,
Comptesse d'Alost,
Conseillier de la Cour,
Delices d'Hardenpont de Belgique,
Dix,
Duchesse d'Orleans,
Duchesse de Berry d'Ete,
Emile d'Heyst,
Epine Dumas,
Fondante de Charneuse,
Fondante de Comice,
Fondante de Malines,
Hinkle,
Hosen Schenk,
Hull,
Jalousie de Fontenay Vendee,
Kirtland,
Limon,
Lodge, (of Penn.,)
Merriam,
Niles,
Nouveau Poiteau,
Ott,
Omer Pacha,
Philadelphia,
Poire des Nonnes,
Pinneo, (Boston,)
Pius IX.,
Pratt,
Rousselette d'Esperen,
Steven's Genesee,
Sterling,
Striped Madeline,
Theodore Van Mons,
Uwchlad,
Van Assene, (Assche,)
Walker,
Zepherine Gregoire.

APPLES.

Buckingham,
Bonum,
Canon, Pearmain,
Early Joe,
Fall Wine,
Fornwalder,
Genesee Chief,
Jeffries,
King of Tompkins County,
Keswick Codlin,
Limber Twig,
Maiden's Blush,
Mother,
Pomme Royal,
Pryor's Red,
Rawles Jeannette,
Smoke House,
Stansil,
Summer Queen,
Summer Sweet Paradise,
White Pippin,
White Winter Permain,
Willow Twig,
Winter Sweet Paradise,
Winthrop Greening, or Lincoln Pippin,
Willis Sweeting.

FOR PARTICULAR LOCALITIES.

Canada Red,
Æsopus Spitzenberg,
Newtown Pippin,
Northern Spy,
Yellow Bellflower,
Ribstone Pippin.

FOR GARDENS.....Garden Royal.

PLUMS.

Bradshaw,
Duane's Purple,
Fellenberg,
General Hand,
German Prune,
Ives' Washington Seedling,
Pond's Seedling,
River's Favorite,
St. Martin's Quetche,
White Damson.

CHERRIES.

American Amber,
Bigarreau Monstreuse de Mezel,
Black Hawk,
Great Bigarreau of Downing.
Hovey,
Rockport Bigarreau,
Kirtland's Mary,
Ohio Beauty.
Walsh's Seedling.

Napoleon Bigarreau, for Special Cultivation.

PEACHES.

Chinese Cling,
Columbia,
Carpenter's White Freestone.
Gorgos,
Susquehanna,

Heath Cling, for Particular Localities.

RASPBERRIES.

American Red,
Belle de Fontenay,
Cope,
Catawissa,
Hornet,
Thunderer,
Walker.

STRAWBERRIES.

Jenny Lind,
Genesee,
Le Baron,
McAvoy's Superior,
Scarlet Magnate,
Walker's Seedling,
Triomphe de Gand.

CURRANTS.

Cherry,
Fertile de Palluau,
Imperial Yellow,
Versailles,
White Gondoin.

GRAPES,

FOR OUT DOOR CULTURE.

Hartford Prolific,
Logan,
Rebecca,
Union Village.

DUTCH BULBOUS ROOTS.

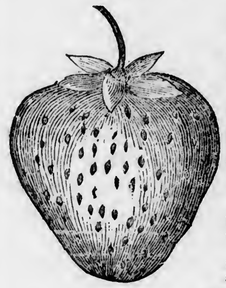
Just arrived by steamer, only twenty days in the cases,
A LARGE AND SPLENDID COLLECTION OF
HYACINTHS,
TULIPS,
LILIUMS,
AMARYLLIS,
CROWN IMPERIALS,
NARCISSUS,
CROCUS, &c.

*** Descriptive and Priced Catalogue, with Directions for Cultivation, sent free to all applicants.

Andrew Bridgeman,
878 BROADWAY, New York.

oc-3t

Small Fruits.



The subscribers, cultivators of SMALL FRUITS, offer for sale plants of the following varieties, all of which they are raising for market, and know to be genuine, viz:

Belle de Fontenay, Brinckle's Orange, Allen, Fastolf, Hudson River, and Doolittle's American Improved Black Raspberries.

Wilson's Albany and other Strawberries.

Red and White Dutch and Black Naples Currants.

New Rochelle or Lawton Blackberries, and Houghton's Gooseberries.

All of which will be sold at moderate prices, carefully packed and forwarded at short notice.

H. & J. CARPENTER,
Poughkeepsie, New York.

oc-2t

WILLIAM REID,

NURSERYMAN, ELIZABETHTOWN, N. J.,

Offers for sale this Autumn a general assortment of all all the various kinds of HARDY FRUIT AND ORNAMENTAL TREES, SHRUBS, etc.

Mr. REID begs leave to state, for the information of his customers and others who may wish to purchase, that from the favorable season we have had here, Fruit Trees have generally made good growths, and, with very few exceptions, are vigorous and thrifty. All the leading varieties and those suitable for orchard-planting are cultivated extensively, as well as those of late introduction, and will be furnished, when a quantity is taken, at very reasonable prices.

The ORNAMENTAL DEPARTMENT is also well-grown, and contains every thing desirable for Lawn or Park planting. Also, a large stock of Trees and Shrubs for Cemeteries and Public Grounds, which can be furnished in quantities to suit purchasers.

☞ For a General List of Fruit and Ornamental Trees, see the General Catalogues, which will be forwarded on application.

Trees securely packed and forwarded to all parts of the United States. Orders by mail or left at the Nursery, will receive prompt attention. oc-2t

H. R. ROBEY,

HOPEWELL NURSERIES,

FREDERICKSBURG, VA.,

10 bushels of Chionanthus virginianaca, or White Fringe Tree Seed, fresh gathered. ALSO, about
20,000 Seedlings of the same 12 to 30 inches.
10,000 " " 3 to 5 feet.
10,000 Kalmia latifolia, 3 to 18 inches.
10,000 Dogwood, White-Flowering, 1 to 3 feet.
1,000 Red Bud, 2 to 7 feet.

The above stock is of healthy growth and good roots, and will be sold at a much lower figure than they are usually sold.

A Priced List will be sent to applicants. oc-2t

Superior Fruit and Ornamental Trees.

WM. R. PRINCE & CO.,

FLUSHING, N. Y.,

Offer an immense stock of Trees of every desirable variety, and by the hundred at very reduced rates.

Standard Apple Trees, finest varieties,	$14	per hund.
Dwarf " "	18 to 24	"
Standard and Dwarf Pears, finest kinds,	30	"
" " Cherries, "	20	"
Peaches, 1 and 2 years, finest kinds, . . .	10	"
Plums, 2 and 3 years, "	25 to 35	"

Also, Large Standard and Dwarf Pears, 6 to 8 years, grafted for immediate bearing. Extra Large Apples, Cherries, Plums, and Peaches in a bearing state.

Small Dwarfed Fruit Trees for Orchard Houses.

GRAPE VINES—an unrivalled collection, comprising all the Native and Foreign varieties. Grapes for Vineyards by the hundred and thousand.

Ornamental Deciduous Trees and Evergreen Trees, of large size, for immediate embellishment.

Large Magnolias of 15 species, and 500 of the Japan Salisburia, the most splendid tree from that country, and very rare.

ROSES of every class, comprising 800 varieties.

TREE PÆONIES of 120 splendid varieties, Chinese Herbaceous Pæonies of 240 superb varieties. An immense collection of Bulbous Flowers, and a collection of Herbaceous Flowering Plants, comprising over 1200 most splendid varieties of every class.

NEW CATALOGUES—The New General Catalogue of Bulbs and Pæonies; New Catalogue of Grapes; A General Wholesale Catalogue, including Grapes; A Wholesale Catalogue of Bulbs, etc.; A Wholesale Catalogue of Garden and Tree Seeds; also, Catalogue of Fruit and Ornamental Trees, and one of Roses and all other Flowering Plants. These sent to applicants who inclose stamps.

oc-1t

LARCH, SCOTCH PINE, AND NORWAY FIRS.

An Amateur near Philadelphia wishes to SELL at low rates or EXCHANGE for Peach and Pear Trees, Grape Vines, and Lawton Blackberries:

8000 European Larch Trees, average 4 feet high.
5000 Norway Firs, av'ge 2½ ft. high
2500 Scotch Pine, " 2½ "
2000 Horse Chestnut, " 3 "
2000 Hornbeam, " 3 "

These Trees have been grown in this country, and are well shaped, strong and healthy, and, having been twice transplanted, will be sure to grow.

Persons intending to plant large estates, cemeteries, etc., will find it to their interest to address,

"A. B. C.," Gardener's Monthly Office,
Philadelphia.

oc-tf

EVERGREENS.

JOHN W. ADAMS, Portland, Maine,

Offers 30,000	Hemlock, - -	1 to 2 feet, - -	Nursery grown.
25,000	do - -	8 to 12 inches,	do
50,000	Arborvitæ, - -	1 to 2 feet,	do
30,000	do - -	8 to 12 inches,	do

ALSO,

3,000	Sugar Maple, -	6 to 15 feet,	do
2,000	English broad-leaved Elm,	4 to 8 feet,	do
10,000	American Elm, - -	1 to 3 feet,	do
20,000	Buckthorn, - -	1 to 3 feet,	do
1,000	Dwarf Apple Stocks, large size.		
10,000	Houghton's Gooseberry Plants.		
40,000	Wilson's Albany Strawberry.		
1,000	Concord, Hartford, Delaware and Diana Grapes.		

The above stock is very thrifty and well grown and for sale at LOW PRICES.

oct-1t

IRREGULAR PAGINATION

GRAPES!---CHEAPEST YET.

GROWN AT THE

Loudon Valley Nursery,

Purcelville, Loudon County, Virginia.

Good strong Layers, well-rooted (*and true to the name if they are cheap.*)

Delaware,	Cassiday,
Taylor,	Clara,
Anna,	Ontario,
Rebecca,	Canadian Chief.

40 cents per plant, $33.00 per hundred.

Roger's Seedlings, numbers 1, 2, 3, 4, 5, 9, 10, 11, 12, 13, 14, 15, 19, 33, 34. The entire fifteen for $15 00, assorted, $2 per plant.

The plant will be properly packed, and sent by Express, if requested. Those sent to Philadelphia will be delivered at the office of the *Gardener's Monthly*.

oct-3t **OLIVER TAYLOR, Nurseryman.**

OHIO NURSERIES,

TOLEDO, OHIO.

As the season is now approaching for transplanting Trees, etc., we call the attention of Tree Dealers, Fruit growers, and others wishing to beautify their grounds, to our stock of

FRUIT AND ORNAMENTAL TREES,
GRAPE VINES, SHRUBBERY,
ROSES, &c., &c.

ALSO,

All the leading varieties of

CURRANTS, GOOSEBERRIES, BLACKBERRIES, RASPBERRIES, STRAWBERRIES, etc.,

Of which we have a very large stock. We offer them very low for the Fall Trade, 1860, and Spring, 1861, and would solicit the orders of those wishing to purchase.

Inclose stamp, and send for Catalogue and Price List.

ENSIGN & FORD,
oc-tf Ohio Nurseries, Toledo, Ohio.

Delaware Grape-vines.

Strong transplanted vines, from open ground, with 6 to 10 feet of wood, cut back, $2; second size, $1.50. Fine plants, grown in large pots under glass $1.50. Second size, $1. Diana, Concord, and Rebecca, 50 cents. Union Village, Logan, Lydia, etc., 1 to $2.

We would call the attention of Nurserymen and Dealers to our large and well-grown stock of Delawares, which will be sold by the quantity at a liberal discount.

Wilson's Albany Plants, $7.50 per thousand; Triomphe de Gand, Hooker, etc. Lawton, Dorchester, and Newman's Thornless Blackberries.

Also a general assortment of other Nursery Stock.

G. & S. BOATH,
NORWALK NURSERIES,
oct-2t Norwalk, Ohio.

I. H. SATTERTHWAIT,

CROSSWICKS, NEW JERSEY.

Is prepared to furnish nearly all the most desirable varieties of Native Grape Vines at Reduced Prices.

Lawton Blackberry, Raspberry and Strawberry Plants, *all of which are true to name.*

☞ Please send for a circular before purchasing elsewhere. ☜
oct-2t

The Stœver Raspberry.

The undersigned is authorized to receive orders for this highly productive and hardy variety already noticed by Dr. Brinckle as a superior variety. A limited number of plants only for sale.

Price, 2 dollars per dozen.

H. A. DREER,
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OSAGE ORANGE.

A large lot Osage Orange Plants, one year old, for sale low by thousand and ten thousand.

A. F. CONARD & BRO.,
oct-2t Westgrove, Penna.

HIGHLAND NURSERIES,

NEWBURGH, N. Y.

A. SAUL, Successor to the late A. J. DOWNING & CO.,

Has the pleasure of announcing to the patrons of this establishment, and the public in general, that he has now on hand, for the ensuing Fall Trade, a complete stock of Fruit and Ornamental Trees, Shrubs, etc.,

APPLE TREES, standard, 2 to 4 years from bud, all the leading varieties.
APPLE TREES, standard, 1 to 2 years, new and rarer kinds.
" dwarf 1 to 2 years, the best selected leading varieties.
PEAR TREES, standard and dwarf, 1 to 3 years, all the leading varieties.
CHERRY TREES, standard and dwarf, 1 to 3 years all the leading varieties.
PLUM, PEACH, APRICOT, NECTARINE and QUINCE TREES, 1 to 2 years, all the leading varieties.
GRAPE VINES, native and foreign, a full collection.
GOOSEBERRIES, CURRANTS, RASPBERRIES, BLACKBERRIES and STRAWBERRIES, all the best new and old proved varieties.
RHUBARB and ASPARAGUS roots, new and old proved varieties.
Also, WALNUTS, CHESTNUTS, FILBERTS and ALMONDS.
Ornamental TREES, SHRUBS, ROSES, etc.
EVERGREEN TREES: a very large stock of Norway Spruce, 1 to 5 feet.
Balsam Fir and European Silver Fir, 1 to 8 feet.
Austrian, Scotch and White Pine, 1 to 5 ft.
Hemlock and American Spruce, Arborvitæ and Junipers, of sorts, and a great variety of the new Conifers.
DECIDUOUS TREES of extra sizes, for street planting and giving immediate effect to Parks, Lawns, Cemeteries, etc., as well as the usual sizes, and smaller, at lower rates, viz: Maples, 8 vars. Elms, 10 vars.; Ash, 8 vars.; Oaks, 6 vars.; Horse Chestnuts, Ailanthus, Alders, Beech, Birch, Catalpa, Celtis Cordata, Larch, Kentucky Coffee, Tulip Tree, Magnolias, Negundo, Abele, Mountain Ash, Locust, Weeping Willow, Deciduous Cypress, American and European Linden, etc.
FLOWERING SHRUBS: over 50 choice species and varieties.

ROSES: Hybrid Perpetual, French and Moss, Bourbon, China and Tea; a large collection of them.
Weeping Trees: 6 different kinds.
Besides a large collection of choice Dahlias, Pæonies, Hardy Herbaceous and Bedding-out Plants—a large assortment.
Hedge Plants: 100,000 Osage Orange plants
" Am. Arborvitæ for screens,

The above stock is all of the best quality and growth, with many things not herein enumerated, all of which will be sold according to size and quality, at as reasonable rates as can be obtained at any respectable establishment in the country.

A new edition of our Catalogues is ready and will be sent to applicants on enclosing a post office stamp to pre-pay the same.

The undersigned, in assuming the business on his own account solicits a continuance of the liberal patronage heretofore given this old establishment. His connection with it for the last *twenty-one years*, he flatters himself, is the best guarantee for the faithful and careful manner in which the business will be conducted.

Highland Nurseries, Newburgh, N. Y., September 20th, 1860. A. Saul.

W. R. PRINCE & CO.

FLUSHING, N. Y.,

OFFER

NATIVE HARDY GRAPES,

One year old, except where otherwise noted, but the most part are vigorous layers, which are equal to two years' vines grown from cuttings. NOTE:—We will at all times supply Native Grapes at the lowest prices at which they are procurable elsewhere, and many varieties at considerably lower rates. For other varieties see our Descriptive Catalogue.

	EACH Cents.	PER DOZ. $ cts.
Alexander, or Schuylkill,	38	3 00
Albino,	50 to 75	6 00
Allen's Hybrid, white,	$2 to 3	
Alvey, or Hagar,	50 to $1	$6 to 9
American Hamburg,	25	2 00
Anna,	75 to $1	$6 to 10
Arnot, white,	50	
August Coral,	1 00	10 00
Baldwin,	25	2 00
Baxter,	40	
Black Filbert,	75	7 00
Blackstone,	25	2 00
Bland (*true*),	50	4 00
Blue Favorite,	50	
Brinckle (foreign seed),	40	4 50
California, or Los Angeles, (six varieties),	1 00	8 00
Canadian Chief, (foreign seed),	50 to 75	6 00
Canby's August, see York Madeira,	25 to 38	2 50
Cassady,	40	4 00
Catawba, (1 to 3 years) by hundred and thousand, very cheap.		
Catawissa,	75	6 00
Chambersburg White,	50	
Cherokee,	50	
Child's Superb, (often called Native),	75	7 00
Clara (foreign seed),	50 to 75	7 50
Clinton, (1 to 3 years) by hundred and thousand, very cheap.		
Cloanthe,	50	5 00
Concord, (two sizes),	38 to 50	$4 to 6
Creveling,	40	4 00
Cuyahoga,	2 00	
Cunningham,	75	
Delaware (foreign, but often called native),	50 to $1	$5 to 10
do per hundred $40 to $75.		
Diana,	50	5 00
Diller,	50	5 00
Early Amber,	38	4 00
Early Hudson,	50 to 75	6 00
Early Isabella,	1 00	9 00
Early August,	75	
Elizabeth, white,	50	4 50
Elizabeth, black,	75	6 00
Elsinburg,	38	3 00
Emily (*true*),	50	5 00
Empire,	1 00	8 00
Franklin,	40	4 50
Garrigues,	40	4 00
Golden Clinton,	1 00	
Goseuhippen,	75	
Graham,	50 to 1 00	
Gregory,	1 00	
Hamsterdem,	50	5 00
Hartford Prolific,	38 to 50	$3 to 5
do do per hundred $18 to 25.		
Hensel's Early,	75	8 00
Herbemont,	40	4 00
Howard,	50	5 00
Hyde's Eliza. (*true*), large as Isabella,	75	6 00
Illinois Prolific—Waterloo,	50	5 00
Isabella, (1 to 3 years), by hundred and thousand, very cheap.		
Isabella, Wright's,	40	4 00
Isabella, Christie's,	40	4 00
Kilvington,	40	4 00
King, black,	75	7 00
Kingsessing,	40	4 00
Keller,	50	4 00
Kentucky Wine,	50	5 00
Kilbourn,	50	
Labe,	50	5 00
Lenoir, Lincoln, or Devereux,	50	4 50
Little Ozark,	50	4 50
Logan, Urbana, or David Hall Grape,	1 00	10 00
Long, (Georgia),	40	4 00
Louisa,	40	3 00
Mammoth Catawba,	50	5 00
Marion, (old variety, inferior),	38	4 00
Marion—Large Marion, (*true*), estimable,	50	5 00
Marion Port,	75	6 00
Martinsburg,	25	2 00
Mary Ann,	50	4 00
Mary Isabella,	50	5 00
Maxatawny, (new),	$1 to 2	$12 to 15
Miles, early, (new),	1 00	9 00
Minor or Venango,	25 to 50	$3 to 4
Missouri,	50	4 50
Monteith,	75	6 50
Mustang or Sandhill, (Texas),	100	
Naumkeg,	50	4 50
New Hanover,	75	
New Hope,	50	4 00
North America,	$1 to 2	
Northern Muscadine,	38 to 50	4 50
Norton's Virginia,	50	4 50
Ohio Prolific, for wine, very hardy,	1 00	6 00
Ohio, Jack, or Jacques,	38 to 50	$3 to 4½
Ontario,	1 00 to 1 50	10 to 15
Ozark Seedling,	50	4 50
Pauline,	50 to $1	8 00
Pennell,	25	
Perkins,	40 to 75	6 00
Post Oak, (Texas),	50	5 50
Potter's Catawba,	75	8 00
Raabe,	50 to 75	$6 to 7½
Ramsdell (very early),	75	6 00
Rebecca, (1 year),	50	4 50
Rebecca, (2 years),	1 00	8 00
Roger's Hybrids, Nos. 1, 4, 9, 19, 42,	1 00	
do do Nos. 2, 3, 5, 15, 30, 33, 34,	$1½ to 2	
Saint Catharine,	75 to $1	
Seabrook,	50	
Scuppernong,	50	5 00
Summer Black,	50	4 50
Taylor's Bullitt, white,	50 to $1	$6 to 9
Te Kalon,	50 to 75	$4½ to 6
Tryon,	25	2 00
Union Village,	75 to $1	$6 to 9
Vermont,	50	
Wilcox, white,	1 00	6 00
Wellington,	25	
Wilmington,	2 00	
Winslow,	50	4 50
York Madeira, or Canby's August,	25 to 35	2 50

FOREIGN GRAPES.

One year—Each 38 cents; Dozen, $3 to $4: 100, $24 to $28.
Two years—Dozen, $5.50; 100, $36; Extra size, 75 cents each.

Black Barbarossa,	Chasselas. White, or Prince Albert,	
Black Cluster, or Burgundy,	White Sweetwater,	Raisin de Calabre.
	Deccan's Superb,	Regnier de Nice,
Black July,	Delaware (*see price above.*)	Royal Muscadine, white Nice or Xeres,
Black Hamburg,	Flame Tokay,	Syrian,
Black Lombardy,	Frankenthal,	Traminer, or Red Riesling, fruit like
Black Morocco,	Frontignan, Black,	Delaware, vine more
Black Prince,	Frontignan, Grizzly,	vigorous,
Black Prolific,	Frontignan, Red,	Trebiana,
Black St. Peter's,	Frontignan, White,	White Bual,
Bowker,	Muscadelle,	White Hamburg.
Cannon Hall Muscat,	Muscat of Alexandria,	Wilmot's Black Ham-
Chaptal,	Muscat Romain,	burg.
Chasselas, Golden,	Muscatel,	Wilmot's Hamburg,
Chasselas de Fontainebleau.	Palestine,	No. 16.
Chasselas, Musque,	Pitmaston White	Zinfardel, or Zinfindal.
Chasselas, Red,	Cluster,	
Chasselas, Rose,		

New Foreign Grapes, $1.—except those noted.

Black Sonora,	Madeira Muscat,	
Bowood Muscat,	Morillon de Blerzy,	
Buckland Sweetwater, - - $2.	Muscat Hamburg,	
Champion Hamburg,	Muscat Ottonell,	
Chasselas Vibert,	Muscat St. Laurent,	
Cochin China,	Muscat de Surbelle, - - $1.50.	
Early Black Hamburg,	Muscat Fleur de Oranger,	
Early Malingre,	Prolific White,	
Golden Hamburg,	Sultanine, (from Smyrna),	
Green Madeira,	Sweetwater Seedling.	
Lady Downes', or Trentham Blk.		

These are synonyms of the preceding varieties.

Black Constantia,	Muscat de Lunel,	
Black Tripoli,	Pope Hamburg,	
Black or Purple Chasselas,	Purple Damascus,	
Chasselas Violet,	Purple Hamburg,	
Joslyn's St. Albans,	Richmond Villa Hamburg,	
Miller's Burgundy,	Tottenham Park Muscat,	
Mill Hill Hamburg,	Victoria Hamburg,	
Muscat Blanc Hatif,	West's St. Peter.	

oct-1t

IRREGULAR PAGINATION

Grape Vines.

Twenty varieties of the best hardy sorts, singly, by the dozen or hundred.

*** Send stamp for Priced Descriptive Catalogue.

D. S. HEFFRON,
UTICA, N. Y.

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Roses! Roses!!

The Subscribers offer for sale this Fall a large stock of well-grown

ROSES,

strong, thrifty plants, averaging from two to four feet, consisting, in part, of the following standard varieties:

Augusta Mie,
Baronne Hallez,
Dr. Arnel,
Duchesse de Cambaceres,
Duchesse d' Orleans,
Giant des Battailes,
General Jacqueminot,
Jules Margottin,
La Reine,
Louis Perony,
Prince Albert,
Perpetual Moss,
Agrippina,
Saffrano,
Devoniensis,
Etc.,
Triomphe de l' Exposition,
Saletta,
Archduke Charles,
Hermosa,
Louis Phillippe,
Etc., *Etc.*

CASH PRICE—$2.50 per dozen; $15 per hundred, our own selection.

J. L. DARLINGTON & CO.,
WEST CHESTER, PA.

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Bulbous Flower Roots.

A splendid collection of all first-class BULBS, selected expressly for my sales.

DOUBLE and SINGLE HYACINTHS, 1 to $3 per dozen.
" " " 6 to $20 der hund.
" " TULIPS, 50c to $1.50 per doz
" " " 3 to $10 per hund.

CROCUS, all colors, 75 cents to $1.50 per hundred.

And all other Bulbs at equally reasonable prices.

Send for CATALOGUES, which will be mailed to all applicants.

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Logan Nursery, Philadelphia,

Has a fine stock of the NEW AND CELEBRATED FOREIGN GRAPE VINES for sale by the quantity, viz:

Muscat Hamburg,
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Trentham Black,
Marchioness of Hastings,
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Price, from $1 to $2.50 and $3 each, according as the kind is rare or abundant.

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WILLIAM BRIGHT,
sep-2t Rising Sun P. O., Philadelphia, Pa.

A GENERAL ASSORTMENT
OF
GREENHOUSE & HOTHOUSE PLANTS,
HARDY HERBACEOUS PLANTS AND ROOTS,
Fruit and Ornamental Trees,
Flowering Shrubs, Vines, &c., &c.

All the most desirable kinds of

RASPBERRIES,
BLACKBERRIES,
STRAWBERRIES,
GOOSEBERRIES, and
CURRANTS.

NATIVE AND FOREIGN GRAPES.

Myatt's Linnæus, and Victoria Rhubarb.

ASPARAGUS ROOTS, etc.

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NO. 878 BROADWAY,
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Apple Trees & Seedlings

50,000 Apple Trees, 3 to 4 years, $95 per thousand.
50,000 Yearlings, . . . 20 "
Apple Seedlings, 2 years . . 5 "
Apples grafted to order, . . 5 "

Williams & Van Devantor,
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JOHN C. TEAS,

Raysville, Henry County, Ind.,

50,000 APPLE Trees, ready for orchard planting.
10,000 NEW ROCHELLE Blackberry, Gooseberries, Currants, Raspberries, Grapes, new and old.
5,000 Linnæus and Victoria Rhubarb, Downing's Everbearing Mulberry.

A large collection of Strawberries, including WIZARD OF THE NORTH, believed to be the most magnificent berry ever raised. Specimens have measured nine inches round, and of good quality. Imported by E. Y. Teas, Richmond, and for sale in America only by him and myself.

100,000 Evergreens, American and European, mostly small, and suitable for Nurseries.

Ornamental Trees, Shrubs, Vines, Hardy and Greenhouse Plants, Roses, Bulbs, etc.

Wholesale and Retail at lowest rates.

☞ PRICED LISTS on application. oc-1t

New England Grape Nursery,

BRIDGEPORT, CONN.,

WILLIAM PERRY & SON, Proprietors.

We offer for sale this Fall as fine a lot of Delaware, Diana, Concord, Rebecca, and Hartford Prolific Grape-vines as can be found in the country, and at prices that cannot fail to be SATISFACTORY. Our stock of Delaware and Concord layers is the largest in the country, and our plants from single eyes, grown in the open air, are remarkably stocky, short-jointed, and wood well ripened.

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50,000 from 5 to 7 feet high, grown here. of varieties suited to the South. May be delivered in Winter and Spring. For sale to dealers and Orchardists.

William S. Langdon,
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WILLIAM BRIGHT,
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250,000 Grape Roots!!!

CATAWBAS, 1 year old, $15 per thousand; 2 years, $25.
ISABELLAS, 1 year old, $25 per thousand.

Annas, Delawares, Dianas, Concords, and sixty other Native and Foreign varieties.

Our Catawbas and Isabellas, owing to soil, location, &c., are *superior* to others, and bring a much better price with our vinters here.

Dealers supplied on best terms. Orders by mail satisfactorily filled.

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We offer to Nursery Agents and others a large quantity of COLORED PLATES of all kinds of Fruits, Shrubs, Evergreens, and Flowers, painted in a very superior style, correctly representing nature, which we will sell much under the usual price.

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I would call the attention particularly of those making or using Hothouses, to the above, one pound of which will set more glass than four of putty. Used for Aquaria, Hothouses and various other articles required to be made

Water or Air Tight.

Will not cleave from glass, metal or wood. Will not become hard and crack.

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Sole Manufacturer,
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MR. E. D. DAVIS: NEW HAVEN, *August* 29, '60.

The Greenhouse you glazed for me last Summer with your Aquaria Cement has proved altogether satisfactory. The Winter frosts nor Summer suns does not in any way affect it. It stands now as firm and water-tight as when first set. I would recommend it to others as being the best material for glazing Greenhouses yet discovered. ROBERT VEITCH.

oct-1t

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Forty per Cent. less than Peruvian Guano,

which we claim to be superior to any Guano or Fertilizer ever imported or manufactured in this country.

This Guano is imported by

WILLIAM H. WEBB,

Of New York, from Jarvis' and Bakers' Islands, in the South Pacific Ocean.

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Free of Insects.

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A New Volume, Published each Year, Devoted to Fruit-Culture in all its branches, Ornamental and Kitchen Gardening, Rural Architecture, etc., etc.

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Hot-Water Apparatus,

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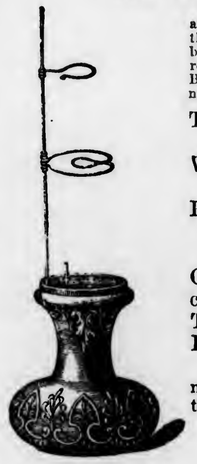
(Tye's Pattern.)

HAS NO EQUAL FOR UTILITY, QAULITY, OR DESIGN.



These Glasses have been in extensive use in England for several years past, and are universally acknowledged by leading amateurs and florists as being the most elegant and suitable for the growth of the Hyacinth, which have yet been introduced. Their broad base gives them a stability not possessed by any other sort; while the Support is ornamental, and easy of application, it possesses all that is required to keep the flowers and leaves in a natural position. It is also particularly appropriate for Bouquets, Cut Flowers, both at home and for exhibitions, rendering it of daily use all the year, which is not the case with the old patterns.

Transparent Glass, rich colors, assorted,	$0 30	each;	$3 00 per dozen.
" " " gilt ornaments,	75	"	
White & Opaque " - - - - - -	50	"	4 50 "
" " " painted, very rich, -	1 50	"	
Flower Supports, - - - - - -	10	"	1 00 "

IMPROVED CROCUS GLASS,

Of same pattern, but of a small size, for growing Crocus, Tulips, Narcissus, &c.

Transparent Glass, rich colors, assorted,	15 cents	each;	$1 50 per dozen.
Flower Supports, - - - - -	5	"	50 "

Full Directions for the Culture of Hyacinths, etc.; in Glasses will be furnished with the above. Selections of Hyacinths, etc., that succeed best under this culture, will be made when desired. ☞ Dealers supplied on liberal terms.

B. K. BLISS,
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Where also may be found a complete assortment of Dutch Bulbous Roots. Catalogue mailed to all applicants enclosing a postage-stamp.
sep-3t

Engraved on Wood, and Printed by Boerum, Philad'a.

RUSTIC PAVILLIONS AND BELVIDERES.

THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs

THOMAS MEEHAN, Editor. NOVEMBER, 1860. VOL. II.---NO. 11.

Hints for November.

FRUIT GARDEN.

For a few years anterior to the present season, fruit crops of most kinds were so generally failures, that amateur pomology was at a sad discount; but the past season has been one of such general abundance, that the spirit for fruit planting is permeating all classes of society, and the desire for practical knowledge on the subject is expressed on all sides of us. Very much may be learned from failures,—and it is to be hoped that those who may have heretofore failed, lost heart, and yet imbibing the universal enthusiasm, are again entering into fruit culture with renewed zest, may have learned useful lessons from the past, that will aid them in the future. Most of our ideas have been brought from Europe, and many failures result from too closely copying what may be there essential conditions of success.

Most fruits cultivated in the north of Europe came originally from the south of that quarter of the globe, or from Asia,—countries warmer than those to which they are introduced. Hence it is necessary to grow them in the sunniest aspects, and in situations where every ray of heat may have its fructifying influence. This has been the rule here in our hot and dry climate, and it is one of the commonest observations of those who have southern or eastern sloping ground, that "it would make a delightful orchard." To hint that a northern aspect is better, is the height of heterodoxy; and to attempt to plant such a spot, is suggestive of straight jackets and shaved heads, in the minds of your next door neighbors.

Except in the more northern portions of the continent, a southern aspect is the worst possible for all kinds of fruits, except where the one idea of earliness is all important.

So much has been said in this journal on the proper preparation of the soil for orchards, that it need not now be repeated. We would only say, that a light dryish soil is the best to choose for the Peach. The Pear does best on a strong loamy soil. Plums much the same as the last. The Apple prefers a heavy loam, if on limestone so much the better. The Cherry does well in soils adapted to the Peach.

The Grape prefers a deep warm soil, but one that is not dry,—such as most limestone soils are after being trenched and drained. A partially shaded aspect is also preferable. Mildews and many diseases come from the drying influence of a full exposure to a July or August sun.

Probably most of our fruits do best in partial shade. The gooseberry and currant certainly do. The former must have shade; and if on the moist northern aspect of a wall, so much the better. The Raspberry prefers a rather moist soil, and partial shade.

In cultivating raspberries on a large scale they do best in hills, as the cultivator keeps them from crowding each other so much. For garden culture they are better in rows, the suckers to be kept hoed out occasionally as they grow; enough only being left that will be required for fruiting next year. Where canes are required for new plantations, of course a portion of the crop must be sacrificed to the suckers.

All raspberries are hardy where their canes ripen well; where the shoots appear not to have matured well they will have to be protected in winter by bending them down and covering with soil. Some tie them up to stakes and cover with rye straw, corn stalks or cedar branches. In soils where small plants are liable to heave out in winter, strawberries will need covering,—where this does not take place, they need no protection.

Apples, quinces, and plums, should be examined before frost sets in, and if any borers have effected a lodgment—a jack-knife and strong piece of wire are all the implements necessary; a man will go over several hundred trees a-day. It is a cheap way of preserving trees. If many of the remedies proposed by correspondents in our paper, have been tried and found effectual, such as tobacco stems, &c., there will be few borers to deal with in the examination.

The dwarf pear in particular has done so well the past season, that as its management becomes better understood, it is fast regaining its former popularity.

COLOR PHOTO

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RUSTIC PAVILLIONS AND BELVIDERES.

THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs

THOMAS MEEHAN, Editor. NOVEMBER, 1860. VOL. II.---NO. 11.

Hints for November.

FRUIT GARDEN.

For a few years anterior to the present season, fruit crops of most kinds were so generally failures, that amateur pomology was at a sad discount; but the past season has been one of such general abundance, that the spirit for fruit planting is permeating all classes of society, and the desire for practical knowledge on the subject is expressed on all sides of us. Very much may be learned from failures,—and it is to be hoped that those who may have heretofore failed, lost heart, and yet imbibing the universal enthusiasm, are again entering into fruit culture with renewed zest, may have learned useful lessons from the past, that will aid them in the future. Most of our ideas have been brought from Europe, and many failures result from too closely copying what may be there essential conditions of success.

Most fruits cultivated in the north of Europe came originally from the south of that quarter of the globe, or from Asia,—countries warmer than those to which they are introduced. Hence it is necessary to grow them in the sunniest aspects, and in situations where every ray of heat may have its fructifying influence. This has been the rule here in our hot and dry climate, and it is one of the commonest observations of those who have southern or eastern sloping ground, that "it would make a delightful orchard." To hint that a northern aspect is better, is the height of heterodoxy; and to attempt to plant such a spot, is suggestive of straight jackets and shaved heads, in the minds of your next door neighbors.

Except in the more northern portions of the continent, a southern aspect is the worst possible for all kinds of fruits, except where the one idea of earliness is all important.

So much has been said in this journal on the proper preparation of the soil for orchards, that it need not now be repeated. We would only say, that a light dryish soil is the best to choose for the Peach. The Pear does best on a strong loamy soil. Plums much the same as the last. The Apple prefers a heavy loam, if on limestone so much the better. The Cherry does well in soils adapted to the Peach.

The Grape prefers a deep warm soil, but one that is not dry,—such as most limestone soils are after being trenched and drained. A partially shaded aspect is also preferable. Mildews and many diseases come from the drying influence of a full exposure to a July or August sun.

Probably most of our fruits do best in partial shade. The gooseberry and currant certainly do. The former must have shade; and if on the moist northern aspect of a wall, so much the better. The Raspberry prefers a rather moist soil, and partial shade.

In cultivating raspberries on a large scale they do best in hills, as the cultivator keeps them from crowding each other so much. For garden culture they are better in rows, the suckers to be kept hoed out occasionally as they grow; enough only being left that will be required for fruiting next year. Where canes are required for new plantations, of course a portion of the crop must be sacrificed to the suckers.

All raspberries are hardy where their canes ripen well; where the shoots appear not to have matured well they will have to be protected in winter by bending them down and covering with soil. Some tie them up to stakes and cover with rye straw, corn stalks or cedar branches. In soils where small plants are liable to heave out in winter, strawberries will need covering,—where this does not take place, they need no protection.

Apples, quinces, and plums, should be examined before frost sets in, and if any borers have effected a lodgment—a jack-knife and strong piece of wire are all the implements necessary; a man will go over several hundred trees a-day. It is a cheap way of preserving trees. If many of the remedies proposed by correspondents in our paper, have been tried and found effectual, such as tobacco stems, &c., there will be few borers to deal with in the examination.

The dwarf pear in particular has done so well the past season, that as its management becomes better understood, it is fast regaining its former popularity.

INTENTIONAL SECOND EXPOSURE

In choosing plants, select those that have been budded close to the ground, as when they are replanted the stocks should be buried an inch below the pear scion, which prevents the attacks of the quince borer. If a long stem has to be buried, the usual consequences of deep planting result, and do as much injury as the quince borer. Also in choosing, select, if possible, plants that have been raised from cuttings; for layered stocks have almost always a long deep tap looking root, on which dwarf pears do not do well. If we have to use such dwarf pear trees, better shorten some of this long trunk root before planting. Never plant what appears to be the stem of a tree far beneath the surface, under any circumstances, for disease will be most probably an ultimate consequence.

FLOWER GARDEN AND PLEASURE GROUND.

After the experience of the past season, some of the flower beds or borders will have proved to be exhausted, or from some circumstances unfitted for the perfect growth of flowers, and arrangements may be perfected at this season for ameliorating or even of replacing the soil altogether. Many kinds of flowers seem to like new soil—Verbenas and Petunias being particularly of this class. Occasion may offer through the winter of getting good soil conveniently, and the opportunity of helping the flowers next season with it should not be forgotten. Flowers particularly flourish in a well drained soil, and if the flowers exhibited any tendency to perish during last summer's drought, the beds should certainly be underdrained. The common horse-shoe draining tile should be employed, and the drains be dug at least three feet deep—following the natural fall of the ground. Over the tiles small stones may be filled in if they can be readily obtained, and over these, or the tiles if they are without the stones, a layer of small brush wood, shavings, or other litter, which is found to assist the process considerably. Where the flower garden is small, and from the nature of the surrounding properties draining cannot be accomplished, subsoiling is the next best thing to aid the flower beds. In stiff, heavy soils, which, by the by, ought not to be employed for flower beds if it can be at all avoided, many persons have the soil turned up to the action of the frost, which pulverizes the more solid substances; but we have never noted any very remarkable results from this process, though we are not prepared to agree with some authorities who have pronounced the practice old fogyish and useless.

GREENHOUSE PLANTS.

It is a common error to apply too much fire to greenhouse plants at once on housing them. For a month or so, the temperature should be as low as consistent with safety, applying artificial heat only when there is imminent danger from frost. All the air possible should also be afforded them—avoiding always cold draughts. The hardier and the riper the wood can be secured now, the less fire they will require when the weather becomes colder. The most excitable plants should be placed as near to the direct rays of the sun as possible, excepting, of course, such as prefer shade—such as Camellias, Azaleas, Rhododendrons. Reflected light is not near as advantageous to light-loving plants, as the direct sun's rays and those of the morning sun are the most useful of all. Plants which are not growing much do nearly as well in the shady part of the greenhouse. Plants that it is desirable should form large handsome specimens, must be repotted as fast as the roots appear freely around the ball of soil in the pot; if they once become impoverished, the oldest leaves ripen and fall off, which is a loss to the plant. In growing fine specimens, it should be a point to maintain every leaf in perfect health to the latest possible moment; much of success depends on this. Camellias should have their buds thinned out if too many have evidently set—two or three good buds to each shoot is enough in the most vigorous instances, and where the shoot is weak, one is enough to be permitted to flower. Regularity in temperature and treatment is essential to successful Camellia growing. To be hot or cold, wet or dry, by turns, almost daily, is a fatal course of practice. Flowering annuals, that have been grown for winter decoration, are much improved by having their tops pinched off about this time. The individual flowers are reduced in size, somewhat by this practice, but they are produced in such great abundance, and the plants so much improved in appearance that it is an easy choice between the two practices.

It may not be amiss to say a few words here on window and cellar gardening, though what has been already detailed is much to the same effect. Plants in cellars must be kept cool—just above frost, and as moist as will be barely sufficient to keep them above what is understood as "dampness;" air on mild days will benefit. Window plants differ from greenhouse plants; in the air of a room being usually drier, and the plants will therefore be more benefitted by frequent syringings, than they would require in a greenhouse.

Large Potatoes.—A Florida correspondent of the *Southern Cultivator*, says:—On the better lands the product in Potatoes is incredible, as the Potatoes grow from year to year, for three years without becoming pithy I have seen them two years old, very large. I have been informed, by creditable gentlemen, that they have seen them as large as a nail keg.

Communications.

SKETCHES of PHILADELPHIA BOTANISTS

BY L.

V.—JAMES LOGAN.

Philadelphia has given to botanical science other names which she has delighted to honor. Logan, Wistar, and McClure were residents, Muhlenberg and Darlington, Conrad and Pickering may be included among her sons.

James Logan was a confidential friend of William Penn. He came to Pennsylvania with the founder when twenty-five years of age, and was immediately appointed Secretary of the Province, by the Proprietary. He successively filled with great ability and integrity the offices of Commissioner of Property, Chief Justice, and that of Governor and President of the Council. His intellect was powerful and his attainments remarkable. He was well versed in ancient and modern learning, and skilled in mathematics and in natural and moral philosophy. He wrote and published on various subjects in Latin and English both at home and abroad. He patronized men of genius and learning, and collected a valuable library, which he bequeathed to the Library Company of Philadelphia. He was educated a Friend, and highly esteemed for his virtues; but in one important point he differed from the Society, being an advocate for military defences. His sagacity, prudence and knowledge of business rendered him of great service to William Penn, to whom he was a wise counsellor and steadfast friend.

James Logan was an acute observer, and aided the science of the time. In 1735, he communicated to Peter Collinson an account of his experiments on Maize, which was printed in the Philosophical Transactions for that year. This was enlarged and printed in Latin, at Leyden, in 1739, and again published by Dr. John Fothergill, in both Latin and English, on opposite pages, in 1747, under the title of "*Experimenta et Meletemata de Plantarum Generatione*," or Experiments and Considerations on the Generation of Plants. These experiments were undertaken to investigate the sexual theory which had been first advanced by Dr. Nehemiah Grew, in his "Anatomy of Plants," published 1672 and 1682. They were repeated by Peter Collinson on Lychnis diœcia, and by other philosophers and were considered corroborative of Grew's assertions, and decisive of the question of the actual existence of sexes in plants.

Soon after the present view respecting the office of the stamens and pistils had been triumphantly established, Linnæus conceived the plan of a classification of plants, founded upon the modifications in number, situation, connection, &c., of these important organs. This is the celebrated artificial system which bears his name, and which, by its simplicity, elegance, and general applicability, became deservedly popular.

Our American scholar was thus instrumental in advancing the cause of science by more securely establishing the foundations on which the system of Linnæus was built. The artificial system effected a complete revolution in the science of Botany, and gave an impulse to the study which has resulted in an intimate knowledge of the structure of plants and a comprehension of the laws by which their external forms are modified, so that natural groups may now be defined as accurately as artificial assemblages, and the chief obstacles to a natural classification are surmounted.

In honor of Logan, "Logania," of R. Brown, was doubtless named, and thence *Loganiaceæ;* this class includes the Strychnos nux vomica—from which strychnine is prepared. Also St. Ignatii or St. Ignatius' bean, S. toxifera, or Wooraly, or Arrow-poison plant of the South American Indians; and Spigelia Marilandica (pink root), highly poisonous plants, improperly commemorating the name of him who lived for the good of his fellow men. Some of them are used in medicine—a practice which must become obsolete when society shall have become more enlightened, and learned that every measure of such substances is injurious or destructive whether administered empirically or *secundum artem*.

Logan passed his latter years in retirement at his country seat named Stenton,* near Germantown, Philadelphia. There he enjoyed, among his books, the leisure in which men of letters so much delight, holding an extensive correspondence with the learned men of different parts of Europe. There he penned his translation of Cicero's De Senectute, to which he added extensive familiar notes. The first edition was printed by Franklin, in 1744; and repeatedly reprinted in London and Glasgow. He made a translation also of Cato's Distich's into English verse, which was printed at Philadelphia. These were at the time believed to be the first translations of a classic in the western world; but they were anticipated by Sandy's Ovid's Metamorphoses in 1626. They were probably the first *printed* in America.

In personal appearance James Logan was tall and well proportioned, with a graceful yet grave demeanor. His manner was dignified, yet kind and engaging. He died in 1751, aged 77 years, leaving an example of cultivated intellect, unyielding integrity, enlarged public spirit, and talent employed for the good of the State, which should render his name

*The Logan Nursery of William Bright, is located on or adjoining this seat.

a household word, a cherished memory with every Pennsylvanian.

An English traveller, John Davis, thus speaks of his visit to the Loganian Library, in 1798:

"I contemplated with reverence the portrait* of James Logan, which graces the room, *magnum et venerabile nomen.* I could not repress my exclamations. As I am only a stranger, said I, in this country, I affect no enthusiasm on beholding the statues of her generals and statesmen. I have left a church filled with them on the shores of Albion, that have a prior claim to such feeling. But I here beheld the portrait of a man whom I consider so great a benefactor to literature, that he is scarcely less illustrious than its munificent patrons of Italy; his soul has certainly been admitted to the company of the congenial spirits of a Cosmo, and Lorenzo of Medicis. The Greek and Roman authors, forgotton on their native banks of the Ilyssus and Tiber, delight, by the kindness of a Logan, the votaries to learning on those of the Delaware."

ORCHARDS ON STEEP HILLSIDES.

BY C. B. OTT, PLEASANT VALLEY, PA.

Well do I remember when I was a boy, getting many a bump in the ribs from the plough-handle while working our steep hillsides for rye and buckwheat, and not with the best of feelings toward our forefathers for clearing the timber off. I am frequently asked which is the best place to plant an orchard. My advice is to take the best land. I would always prefer a sheltered situation behind a hill or wood. Steep hillsides are generally objected to for planting an apple orchard; but I think a steep hillside is not the worst place, by any means. My hillside orchard is doing quite as well as any I have. It is in the form of a half circle, with a south-eastern exposure. I planted my trees in a half circle to suit the hill, in order to make it more pleasant to work, and also to keep it from washing. I think that trees can be placed much closer on a steep hillside than elsewhere to advantage. My method of cultivation has been to plough down from the upper side to within four or five feet of the next row. I plough the first furrow close to the row with one horse; I then plough the balance with two horses.

In four or five ploughings it will form a terrace that answers a very good purpose. I had also planted a row of nursery trees with each row of orchard trees, which did very well. By merely working from the upper side, the spaces are now level, or rather inclining a little back, which causes it to retain moisture much longer than it did before it was ploughed into terraces. The spaces between the terraces I use for strawberries, blackberries, seedbeds, &c. It is also a first-rate place to raise early vegetables.

This side-hill used to be a regular eye-sore, but now it is the prettiest part of my farm. I think we can make no better use of our steep side-hills than to plant them with trees, if it were for nothing else than for the appearance. The grass growing on the terraces we used, when the trees were young, for mulching; drawing mellow ground on them from the upper side.

* Burned, I believe, in 1831.

THE RIDGE AND FURROW ROOF.

BY E. G. KELLEY, M.D., EVERGREENS, NEWBURYPORT, MASSACHUSETTS.

Mr. Editor:—

In looking over your September number, on page 267, R. W. D. says, "If any of your readers have had any experience with houses of this kind, I hope they will furnish it for the general benefit."

We can certify to one year's very gratifying experience, considering the locality and the objects intended by a roof of this kind, which were chiefly four:

1. Architectural correspondence with the dwelling-house, so far as is practicable with an entire and contiguous glass structure.

2. To give sufficient height in front for two floors or two stories,—a novelty, perhaps.

3. To refract the sun's rays at mid-day, and thereby prevent too much heat and burning, which no other plan could do with polished glass.

4. To admit as much light as possible; and to this end, the gutters and ridge-rafters are all of cast-iron. The glass is 10x12, double thick, first quality, of American manufacture, butted instead of lapped, set at an angle of 45° in the ridge, and the pitch of these four feet in fourteen, the width of the house. The front and one end are closed by common window-sashes, four by twelve feet, moved by weights. The other end extends to an L, and opens into a curvilinear lean-to, which has also iron rafters. The iron of these houses was painted and sanded twice before the glass was set. Not a pane of glass was cracked during the past winter. Snow frequently filled the gutters, but was never shovelled out. By our plan of heating the inside-border, we had a supply of rhubard, radishes, lettuce, &c., and later, of raspberries, strawberries, and other fruits. Grapes are now introduced for summer fruiting. We think small ridges, with but one tier of glass on a side, is an improvement on the English methods, particularly for this country, where snow and ice are more frequent, and that such will yet be found well adapted to orchard-houses, early forcing, &c., and, if properly supported, may be extended indefinitely.

Ventilation from the roof need not be thought of.

Fixed roofs of all kinds should be "fixed facts." Too much is said about ventilating plant-houses, and too little about dwelling-houses.

Should "D." or any of our horticultural friends ever give us a call to see for themselves, we will do more than the Frenchman who refused to rescue the drowning man because he had not been introduced to him!

We should be particularly pleased to see them and yourself on the 5th of October at a grand dinner and display of fruits, &c., at our Horti-agricultural Exhibition.

In closing, permit a question: Has any one in this country had successful experience in propagating conifers from cuttings, particularly the hemlock? If so, shall we hear from him?

[Just now we belong to the "Can't-get-away Club," which insists on a strict adherence to the stay-at-home rule. We hope some of our friends will respond to the invitation to give their experience on conifers.—Ed.]

SPERGULA PILIFERA, AND OTHER LAWN PLANTS.

BY W. S., FAIRYMEAD, LOWER CANADA.

Much has been written on the subject of Spergula pilifera as a fit plant for lawns, superceding the necessity of mowing, by reason of its low and compact habit of growth. Many parties are giving it a trial, and it is said that the enthusiastic experimentalist of Wodenethe has reported favorably on it so far; whilst others are not quite so well satisfied with it, saying that it runs up tall and thin, showing a habit different to that attributed to it, probably from lack of rolling. It will be well, however, to suspend judgment as to the value of the plant for lawn purposes until it has undergone the ordeal of our dry and variable climate in summer, and the intense cold of winter, establishing its character as a plant fit to do away with the use of the scythe on lawns.

But why go to Sardinia in quest of a doubtful plant to suit our purpose, when we have at our very doors an humble native, admirably suited to the end in view? I allude to the common Knotgrass, (*Polygonum aviculare,*) growing abundantly in our waysides; where, if subject to the tread of foot-passengers, it assumes a low, compact habit of growth, so close as to exclude any other plant from among it, and offering the softness of a carpet to walk on. It preserves its green color well in severe droughts.

We have also in cultivation another plant admirably fitted for the same purpose; though not a native in this latitude (46° north), it is perfectly hardy; this is called Moss Pink, (*Phlox subulata*); it grows quite compact and spreading; is soft and pleasant to walk on; and it has the good quality of preserving its beautiful green tint in the hottest and dryest weather; during the severe drought of last June and July, when every thing was burnt up that was not well watered, the grass on the lawn assuming the color of straw, distressing to look upon, the Phlox preserved its beautiful and lively green hue, even on the poorest sandy soil. One objection may possibly be taken to the Phlox as a lawn plant, if indeed it be an objection; during about four weeks in May and June this plant is in flower, and becomes covered with its gay pink blossoms, entirely hiding the leaves, becoming in the language of Shakspeare, "one-red," a very unusual color for a lawn certainly, but producing a striking and pleasing effect. I have had this Phlox as an edging for many years, an admirable plant for that purpose, and I find it spread so fast that I have made a beginning to substitute it for the grass on the lawn part of my flower garden; small plants put in a foot apart will, in a year or two, spread and cover the ground. All these plants would of course be kept low and compact by frequent heavy rolling.

Should, unfortunately, the Spergula fail with us, we can with confidence fall back on either of the native plants here mentioned, as likely to answer the end intended.

[The great objection to the plant our correspondent names, is, that they do not root strongly at the joints, so that it would be impossible at times to prevent their having a ragged appearance.—Ed.]

VICTORIA REGIA IN THE OPEN AIR.

BY "SUBSCRIBER," CINCINNATI.

In your paper for October it is claimed that the Victoria regia was this summer grown for the first time in the open air in this country. We did suppose that our hog-killing city (Porkopolis) in these western wilds was behind you in all things but hog-killing; but I now discover my error. In the summer of 1858, Charles Anderson, whose residence adjoins Mr. Longworth's, obtained from him a root of the Victoria, and planted it in his small pond. It did not grow well that year. The supposed cause was, that there was not enough earth in the pond. In 1859 ground was put in the pond, and a new root planted. It grew more vigorously than in Mr. Longworth's greenhouse, which is within one hundred yards of Mr. Anderson's pond,—the leaves larger, and the flowers larger. A new root was put there, with a like result, this summer. Mr. Longworth sent roots for distribution to New Orleans; believing it will be their own fault, if all their low, shallow streams of water are not covered with the plant, and abound in flowers nearly all the season. The plant produces abundance of seed, which fall to the ground and yield abundance of young plants.

ENTOMOLOGICAL ESSAY.

Read before the Fruit-Growers' Association of Eastern Pennsylvania at its Meeting in West Chester, on the 13th day of June, 1860.

BY S. S. RATHVON, ENTOMOLOGIST OF THE ASSOCIATION.

(*Continued from page* 301.)

Indeed, the proper and effectual fertilization of the Strawberry, and many other kinds of berries, and especially those kinds which have the pistillate and staminate, or male and female flowers distinct, is greatly facilitated by the assistance of insects, although these helps belong to different *orders* of insects from what the grasshoppers do, and are more agreeable in their appearance and their associations.

The *order Diptera* contains also some very destructive insects, but the larger number of these confine their operations to decayed or putrid vegetable and animal matter. The notorious Hessian fly, and the Wheat fly or Wheat Midge, belong to this order (*Cecidomia tritici*, and *destructor*), and are beginning to have a wide distribution throughout our far extended country. This latter order, however distinctive some of its members may be, is not remarkable for its depredations upon fruit trees, or upon garden vegetables, the terms "turnip-fly" and "cucumber-fly" being misnomers, as those insects belong to a different *order* from those of the common or two-winged flies.

All of the destructive insects alluded to, seem to be endowed with the most extraordinary powers of reproduction; in some instances the whole body of the female, including even the thorax, constituting one immense matrix or ovarium, filled with eggs, which are often plainly visible through the transparent integuments of the insect. When we reflect that the number of eggs deposited by a single insect, according to its species, is from ten to ten hundred or more during its life-time, and that several broods succeed each other during a season, we may easily imagine how orchards, fields and forests may be overrun with them, and fruit, and timbers, and crops be damaged or destroyed in an incredible short space of time. Blumenbach relates a case where 80,000 larvæ of a species of *Dermestes* had been counted, as infesting the *alburnum* or sapwood of a moderate sized pine tree, entirely destroying it. How many of these destructive insects are in our country at the present time, or may be developed in the future, we have no means of telling; but unless the counterbalance or enemies of these are also permitted to increase, we may be afflicted with them at any time, just as certain districts of Europe have been, or as our Central American and Mexican neighbors have been afflicted with the destructive grasshopper or locust, or as our own States are at times afflicted with the "Hessian-fly," the "army-worm," or the "bell-worm." It only requires a certain combination of circumstances, which we may never be able to foresee, in order to bring upon us, at any season, this most dreaded scourge.

But, notwithstanding the immense numbers of destructive insects we have to contend with, and their extraordinary powers of reproduction, there are still in existence a large number of *insect's enemies;* which, by that antagonism become the friend of man, although man himself, through wilfulness or ignorance, has not always manifested a just appreciation of their friendship.

At the head of these friends of man, on account of their pleasant associations, and the magnitude of their good offices, I must claim the privilege of naming the insectivorous birds, although there is a species or two that are not sufficiently discriminating to prevent them from destroying our *bees*, and others from purloining a little *fruit*. Birds destroy an immense number of insects in the larvæ state during the course of a season, which, on that account, never reach the mature state—never lay those colonies of destruction which they might have done had they been permitted to live, and consequently are never seen by human eyes. No remedies can be devised, in my opinion, better calculated to dislodge the larvæ that bore into the limbs of apple, peach, cherry and plum trees, than the searching bills of the various kinds of woodpeckers which are every year becoming more rare and more shy of the approaches of man.

The next in order, on account of their importance, are the poor, despised *bats*, who are on the wing often from dewy eve until the noon of night, in search of that crepuscular and nocturnal insect prey which constitutes the means of their subsistence. The bat is only equalled by the night-hawk and the swallow, who perform the same kind office during the day and evening that *he* does by night. As most insects are nocturnal in their flight, therefore, *bats*, according to their numbers, destroy more mature insects than the birds do. And yet these animals are mercilessly persecuted; fifty or sixty of them having been destroyed in a neighboring city, some years ago, in a single day, by some boys, to the great amusement of other "larger boys," who were urging them on.

The *Mole* burrows beneath the surface of the earth, and pursues its devious windings through the soil in search of worms or grubs or mature insects, to satisfy the voracious cravings of its active maw, and if, perchance, it should come above ground, it is in pursuit of its animal prey. True, it has been charged against the mole, that in its burrowings it destroys or exposes the roots of vegetation, but the soundest practical

conclusion of naturalists is, that it is vastly more beneficial to man than hurtful; and that to continue nature's equilibrium, it should be tolerated.

Another most active little friend of man is the *lizzard* of our walls and fences; but, unfortunately for him, too, a strong and superstitious prejudice exists against him in the minds of many, because, forsooth, he looks so much like a snake. He feeds altogether upon insects, and is very successful, but perhaps indiscriminate in their capture. We may add to these the *toads* and *frogs* as no inconsiderable auxiliaries in the destruction of noxious insects. Skunks are said to be remarkably fond of the larvæ of the *Melolonthons* or "May-beetles," in our country sometimes called "June-bugs;" and as these larvæ are particularly destructive to the roots of vegetation, as well as its foliage, we must regard the aforenamed animals as friends, however offensive their presence may be; friends, I am *sure*, "the farther off the better loved," which, I fear, is not the case with all our *real* friends. We must add also some of our domestic animals, especially the pigs and the poultry. But by far the greater number of insect-destroying animals are among insects themselves; take for instance, the order *Coleoptera*, which includes the beetle tribes, and we find over fifty species of tiger beetles (*Cicindelidæ;*) all of which, both in their larvæ and perfect state, are most voracious destroyers of the weaker of their kind. There were nearly one thousand species of *carabidinous* insects in the United States, known to entomologists five years ago; all of which are predaceous in their habits, both in their larvæ and in their perfect states. Types of some of these insects, as well as of the destructive ones, are here exhibited. To these may be added about fifty species of *Coccinellans*, better known as "lady-birds." The most conspicuous and the most marked, however, among the *Caleoptera* in their habits, are those belonging to the genus *Carabees*, of Linnæus, including the modern genus *Calosoma*. It has been asserted by English entomologists that the gardeners of France and other continental countries, colonize and protect these insects among them, and regard them as of immense value in destroying the noxious kinds.

Even among the *Hemiptera* and the *Orthoptera*, we find a few that are predaceous in their habits; a remarkable example belonging to the latter order is the genus *Mantis;* this insect prowls about all season in pursuit of insect prey, and was superstitiously called the "praying mantis," by the common people of Europe, from the pecularity of its attitude, when watching for the unwary of its race. In the order *Neuroptera*, we have the various species of "dragon-flies," variously denominated "snake-doctors," "devil's-needle," &c.; these are the most active and industrious insects among the whole class, being on the alert constantly, from morning until night, and in pursuit of prey; for, being the most perfectly organized in sight and flight, there are few other insects that can elude them. Mr. Howorth says he fed one of them six flies after he had struck off its abdomen, after which it flew away as if nothing had happened. These dragon-flies are as voracious in their larvæ and pupa states as they are in the perfect. The "lacewings," which in their larvæ state are so destructive to plant-lice (*Aphis*), also belong to this order.

But there is perhaps no *order* of insects more remarkable for the habits of many of its members in this respect than that of the *Hymenoptera*, a large number of which are parasitic upon other insects. The large family of *Ichneumonidæ*, or "cucco-flies" are all of this character, each seeking the larvæ of some other insect, into which it deposits its eggs. After their eggs are hatched, the young grubs that issue from them, feed upon the body of the caterpillar into which they have been deposited, which usually dies about the time they issue forth into the mature state, or soon after. There are species of these cucco-flies so minute that they deposit *their* eggs into the eggs of moths and butterflies, and their young find sufficient nourishment within the shells of these eggs to mature their state. Many of you may have observed the large green larvæ that infests the tomato, grape, and tobacco plants, having its body sometimes covered with little white or yellow silky follicles adhering by one end to the skin of the worm. These are each a silky cocoon, as perfect as that spun by the Chinese silk-worm, and each contains the pupa of a little cucco-fly, the larvæ of which had matured within the body of the worm upon which they are found. About the time they are ready to evolve from their pupa a perfect insect, the tomato worm dies, and if it has been a female, a thousand eggs, or young worms in embryo, are thus destroyed. The genus *Pimpla* in this order is remarkable in its habits. It is provided with a long ovipositor; in some species that instrumental organ being three or four inches in length. These *Pimplas* deposit their eggs in the bodies of wood-boring insects, and are led by their instincts to the place where these are, within the body of a tree, a limb, or a stick of wood. They also know whether the grub within the wood is within the reach of their ovipositor or not, and as soon as one is found that is approachable, they go immediately to work, and, by means of a sawing apparatus, which constitutes a part of the compound ovipostor, with which they are provided, they reach the wood-worm and deposit as many eggs in its body as will find sustenance there when they are hatched. When it is known that some of these wood-worms remain in that state two or three years, and in a few

cases even five years, living upon the woody fibre all this time, and that the *pimpla* perfects itself in one season, it will be seen that it is capable of doing much good, even if the mature insect should be under the necessity of boring a hole out, in order to reach the open light of day.

The "mason wasps" and also some of the common "mud wasps" carry off a large number of caterpillars of various kinds and stow them away in their cells to serve as food for their young during the larvæ state. I have often seen some of them have a grub in their embraces, so large that they could scarcely manage it, and found great difficulty in getting it in their cells. There is scarcely an insect grub that has not one or more parasites which prey upon it, and greatly diminish the probabilities thus, of their disproportionate increase. Even the wily "drop worm," or "basket worm,"—which only moves within its sack, that it carries with it wherever it goes, and is thus protected against the attacks of birds or bats,—has yet its enemies among the parasitic hymenoptera, as I have on several occasions discovered in my observations on the habits of that insect. I shall be able to say nothing at present about the *Diptera*, or "two-winged flies," because their habits are not so immediately connected with the interests of the fruit-grower, although there are a large number of them that are more or less beneficial in one way or another. Indeed, I think a thorough investigation of insect economy would demonstrate conclusively that there are *nearly*, if not *quite*, as many insects that are *beneficial* to vegetation and to man, as there are of those that are *hurtful* to them.

The great question, then, in regard to the remedies by which the rapid increase of noxious insects are to be arrested becomes one, in some measure, of *discrimination*, and this question of discrimination involves a *knowledge* of the habits of insects, the general economy of nature, and their identification in their various stages of development with the injuries inflicted, or the benefits bestowed, by them. I think, upon mature reflection, it will be conceded that all the power and ingenuity of man would have been of little avail in preventing a too rapid increase of insects, if the Deity, in the distribution of animal life, had not made the provision which I have feebly attempted to sketch in these remarks. And yet something *can* be done, and something *must* be done, by man; but it must be evident to all, that those persons who are engaged in agricultural and horticultural pursuits are most favorably situated for the collection and development of the necessary facts and experiences, which alone can impart a requisite knowledge of practical entomology.

Fruit-growers and cultivators of the soil, on the whole, have been looking too much to scientific entomologists for remedies against insect incursions, and not enough to their own observations and experience. They have opportunities of exploring and of testing remedies far superior to the *scientific* entomologist, who has been mainly engaged in collecting, dissecting, describing, classifying, and arranging insects into their proper *orders* and *families*, according to external and internal structure, rather than with reference to the injuries they do to fruit and vegetation, and devising remedies against them. True, if scientific entomological knowledge can be united with experimental or practical, it will make it more available; but if an individual forms a correct habit of observation, and goes to the trouble of noting down his observations, he may arrive at intelligent conclusions in regard to insect economy far superior of him who seldom or never goes into the forest and the field at all. The greatest *use*, perhaps, in scientific entomology is, that it constitutes a great chart, by which its students are, in some measure, enabled to calculate their longitude and latitude in insect history upon principles of well-defined *theory*, without enabling them, save by analogy, to know much about practical historical details; hence most of the descriptions in our scientific works on insects are short, and confined to their anatomical structure and the number of joints in their antennæ or their tarsi, together with their colors, and occasionally their locality, when that is known. But this is not the kind of knowledge that the cultivators of the soil want. They want to know something *more* about an insect than its color or its form, however necessary these may be to its identification—something more than its position in systems of classification; they want to know what it *does*, how it *lives*, and *where* it comes from or *whence* it goes, and also what are its uses or abuses. And who so competent to make this acquaintance as those who, by their daily occupation, are in constant contact with insect life?

But, as a matter of course, like all other subjects upon which the mind of man engages itself, books of instruction are needed,—books containing the *elementary principles* of our local entomology, as well as its *practical* details; for be it known that we cannot discard the scientific *principles* upon which entomology is founded, although we may not regard them as of the *first* importance in our every-day experiences.

Although a great deal has been written upon our local entomology which is scattered through the columns of agricultural journals, or the proceedings of scientific associations, yet there is no great work on American entomology extant. The late Dr. Harris' work on "Insect Injuries to Vegetation" is the *best* we have; but we need a work fully illustrated, and one that gives figures and descriptions of insect *friends*, as well as *enemies*. Dr. Fitch's "Reports on the Insects of New York" is the *next* best; and to him and the late Dr. Harris the country is indebted for the only works on *practical American entomology* that have yet been published, if we except a small volume by Professor Jeager, entitled "Life of North American Insects."

There are quite a number of most excellent scientific contributions to American entomology from such men as Say, Abbot and Smith, Boisduval, Le Conte, Melsheimer, Osten Sacken, Haldeman, and others; but these being confined to classification and specific descriptions, or written in language not understood by the masses, or high in price on account of the limited editions sold, are almost a dead letter, so far as the interests of horticulture in general are concerned. In short, there seems to be two legitimate and distinct phases of the subject, which are necessary to make it a complete and harmonious whole.

In conclusion, if I have not discussed the subject of artificial remedies against the injuries of insects in this paper, it is because these remarks are too general to admit of specific antidotes being referred to in connection with them. Suggestions of this kind would, perhaps, be more properly embraced in a report of a committee, having direct reference to particular species, the injuries they inflict, and the modes of prevention. I may, however, be allowed to remark, that—without alluding to any *particular* antidote against insects, in the shape of mixtures of various kinds of ingredients, and applied to trees—most of the remedies recommended are entirely useless, so far as they are depended upon to drive insects *off* from vegetation. As a general thing, insect instincts are too prone to lead them *into* all manner of stenches for these things to have any effect in *repelling* them, although there are some substances that are not agreeable to them. I may here remark, that insects, as a general thing, *have* a dislike to oils, greases, or gums coming in contact with their bodies; for these substances close up their air-cells and stop their breathing, and consequently produce death. Therefore oil is better than water in which to drown insects, because oil clogs their trochœa and leaves them closed, and death takes place on account of its slow evaporation, and not on account of any thing obnoxious to them in its smell alone. These odors might drive them out of a close box or drawer, but it is quite a different thing where they have the freedom of the open air. The organs of respiration of insects are not located in the head, as they are in vertebrated animals, but are arranged along the sides, and, therefore, if we attempted to destroy one by merely immersing his head into a fluid or an odor, we should find ourselves "reckoning without our host." The best general remedy is *prevention*,—the interposition of some means that will prevent their rapid *increase*, or the allowing of the natural means in existence having their full and efficient force. Close habits of observation, together with that discrimination before alluded to, must in time develope the ability to use *prevention* as the *best* remedy. But in the mean time let every member of this Association constitute himself a committee-man on *Practical Local Entomology*, with a note-book and pencil in hand, and a collecting-bottle in his pocket. Let him be

"A chiel amang them taking notes;"

and when a reliable *practical* result is obtained, then let him "*print 'em.*"

LANDSCAPE-GARDENING.

BY J. M. C., WESTERLY, RHODE ISLAND.

The article entitled "Suburban Gardening," in the June number, merits the thanks of thousands who have homes to beautify. It is so true and forcibly adapted to the condition of the art in this country, that every experienced landscape-gardener will heartily respond, and thank you for exposing the relative truth and agitating a matter of so vast importance to him and to every lover of the beautiful. The blunders of the uncultivated, and the uncouth productions of untaught aspirants to the art have too long been tolerated. The horticultural journals are almost silent on the subject; and to many a one who would blush to be thought any thing less than educated, the business requirements, yes, even the name, of a landscape-gardener is a mystery.

Since the death of Mr. Downing, in New York State alone you may find architects, surveyors, and artists, who have added the appendage of "Particular attention paid to Landscape-gardening," to their cards, quite an army; and these are the men chosen by the inexperienced employer to adorn our residences, public parks, and pleasure-grounds. They are all excellent men in their way; but the architect builds too much, the surveyor levels too much, and the artist knows not of what or how to produce the living realization of his picture. Some of these who profess "landscape-gardening" do not know a linden from a maple tree, and are ignorant of the commonest vegetable productions.

The true landscape-gardener must be a gardener, practically and theoretically. He is self-relying. He

has knowledge to create,—ability to execute. His mind foresees, and his own hand helps to work out his designs. He can tell you what kind of a place such and such will make, and what you should make of it. He will produce you a plan, the items of which he will stand ready to contract for, and to execute at a given sum; or, not contracting, he knows for you the price of labor, the kind of help to employ, —where every necessary article can be procured. He is well acquainted with trees and shrubs. He can tell you every minute trait in their character,—even how many varieties will live harmoniously together on a certain place, when they will look most gay, and when they will begin to look old; and well he can picture how lovely a group of them will appear in their varied robes ten or more years hence when arrayed for the May feast. He knows that the lofty and proud, and the weeping and humble love to be alone; so he places them just where they will look best and grow best; and they, in return, smile gratefully in a manner that sweetly wins you. The valleys, too, and ravines alike smile under his care, and the "little hills rejoice on every side," because he spareth them. When he addeth or taketh from, his touch maketh perfect, He loves to preserve natural beauty, and embellishes nature with her own garlands. Of the nature of soils, and how to improve them, he knows what no architect, surveyor, artist, or untutored citizen ever knew; and on just such knowledge it is that the most successful efforts of the landscape-gardening art must be founded. The best kinds of fruit, and where to place them. The kitchen-garden, orchards, and glass-houses, &c., are all arranged just as a gardener would like to have them. With an eye to necessaries and conveniences, he has found a proper place for every thing, puts every thing in its proper place, and leaves a job behind him that a gardener can see fifty years hence was the work of a master mind.

A landscape-gardener requires to be architect enough to note and apply all the correct principles and all improvements in garden structures, such as glass-houses, summer-houses, bridges, entrances, &c., and surveyor enough to locate every thing on a plan by a given scale, so that every thing will appear just as it is and meant to be. He requires to be a good draughtsman, in order both to fix and to convey his ideas. Gardeners who have a taste for landscape operations may soon qualify themselves for the work. I served a long apprenticeship to gardening before I ever committed a plan to paper, and found it easy to learn when once seriously attempted; and, though I have practised landscape-gardening in this country for twelve years, I am persuaded that I have more time to spend in learning gardening than all that engineering, drawing, and the like ever cost me. Learn to be a gardener first, and you may, perhaps, make a landscape-gardener that a person of true taste will not turn away from in disgust.

FRUIT GROWERS' SOCIETY OF EASTERN PENNSYLVANIA.

REPORT ON RASPBERRIES.

The Committee on Fruits for Philadelphia County have examined and tested the following varieties, which have been grown and fruited, with one or two exceptions, under their personal supervision.

In the course of their investigations they have heard several complaints, from skilful and experienced gardeners, of the entire destruction of the canes of certain varieties which had been carefully laid down and protected in winter; in other cases, the canes left without protection, which were alive and apparently healthy, early in April, were destroyed to the snow line, and sometimes to the ground, by the late frosts in that month. Even the robust Lawton Blackberry has, in some instances, been cut down to the ground. Complaint is also made of the withering and fall of the leaf, and consequent loss of fruit, when just ready to ripen. Sometimes the entire canes die while yet loaded with half-ripened fruit. So serious an evil, entailing an entire loss of crops for the year, deserves earnest attention. With rare exceptions, the only fertilizer used on the Raspberry is stable manure, often applied in its fresh, or only half-decomposed state. It is worthy of consideration whether the excess of nitrogenous over mineral matter, thus supplied, be not the cause of a rank succulent growth of cane, which fails to mature fully, and is consequently unable, even when covered in winter, to resist the slight frosts of spring, or the hot suns of early summer. A natural result of the failure of the ripening process in the cane is a corresponding immaturity in the roots which supply that cane with mineral food, and the end of all is the death of the plant. The increasing demand for this delicious fruit, owing partly, we think, to the great superiority in the quality of many of the late new varieties, renders the culture of the Raspberry one of importance and profit, and calls for more careful experiments in its management.

Spent tan-bark, (both as a mulch and a fertilizer,) wood ashes, and the phosphates have all been recommended as manures, and are all valuable. A very important feature in its culture is *shade*,—not the shade of overhanging trees, but that of its own foliage; almost invariably the largest, highest colored, finest flavored and most melting berries are found in the shadow of protecting leaves. Blackberries especially, when ripened in the full glare of the sun, are always small, sour, tough and seedy; while those on the same bush growing in the shade are sweet, melting, and much larger in size. An exception to this is found in the Catawissa, autumn-bearing, whose *fall* crop of fruit, maturing late in August, and during all September and October, is borne on the extreme ends of the laterals, and seems to court the sun, coming, as it does, after the fervid heats of summer are past.

Many advise planting in rows running east and west, but the propriety of this method may well be doubted. If the rows run north and south, each plant shades its next northerly neighbor, and the sun rests but a short time on any one portion of the foliage. If the rows be planted at sufficient distances to allow of frequent cultivation during the season, a marked increase in the productiveness and strength of the cane results, very little manuring is requisite, and that principally of a mineral nature. In gardens they do well on the north or east side of an open lattice or pale fence, which breaks the force of the sun's rays without depriving them of its beneficial influence.

As to the hardiness of the different varieties, it would be difficult to name any sort, except the old and inferior Red cane, that, under the ordinary method of culture, will prove hardy in all soils, and under all circumstances. In some parts of our county, Brinckle's Orange, and other varieties usually esteemed tender, have withstood the last three winters without any protection; in others they have been destroyed to the ground, even when laid down and well mulched during the winter. Every thing depends upon securing well ripened wood, which will endure almost any vicissitudes of cold or heat, moisture or drought.

We would suggest that all Raspberries, and especially the softer kinds, should be gathered with their stems attached; they will carry better to market, preserve their shape and flavor longer, and can thus be eaten, as strawberries are in England, singly, holding the fruit by the stem, and dipping it into a saucer of pulverized sugar. Some high-flavored kinds, too soft for transportation, when detached from the germ, can thus be rendered available for market purposes.

RASPBERRIES.

American Varieties.

ALLEN.—A good deal of confusion and disappointment has resulted from errors in the dissemination of this plant. Mr. L. F. Allen, of Black Rock, N. Y., originally introduced to public notice, two varieties, the Allen and Red Prolific, which are entirely distinct sorts. Parties here, however, have received direct from Mr. Allen, as these two varieties, plants nearly identical in every respect, neither of which corresponded with the description given in his circular, nor with that generally grown among our nurserymen here as the Allen Raspberry. The Allen is a very strong grower, with large, dark green, crumpled foliage; canes of large size, with numerous blunt purple spines, reddish-brown wood, laterals strong and numerous, commencing within too feet of the ground; continues in bearing for a long season. Fruit of large and uniform size, firm flesh, light crimson color, excellent flavor; clinging slightly to the receptacle in picking. In some soils it appears to need to be planted alternately with other varieties to yield a full crop; in others we have found it bearing abundantly when growing at a distance from any other sort. Alternate planting is, however, advisable.

CATAWISSA, Everbearing.—This is mainly valuable from its certain and abundant fall crops. The spring fruits, coming at a season when all the other and finer varieties are in full bearing, is comparatively of little value, although by no means of poor flavor; the autumn crop succeeds so immediately, that berries have been gathered on the same day from both the old and the new canes. The flavor of the latter depends very much upon the season; if the months of August and September prove moderately warm and dry, an excellent quality may be counted on; if cold and wet, the fruit is generally rather sour. It bears continually from about the last of August, through all September and October; we have even gathered its fruit on the 4th of November. In vigor of growth, size of cane and hardihood, it almost rivals the Lawton Blackberry. A truly valuable sort.

CUSHING.—Plant vigorous, foliage dark green and crumpled; laterals numerous and strong; young canes thickly covered with small red spines; it has not proved with us very productive. Fruit, conical, deep scarlet in color, overspread with bloom, only second rate in flavor. Sometimes bears an autumn crop.

FRENCH.—Has been disseminated by some parties as an autumn bearer, and is still advertised as such. During three years' experience we have never seen any appearance of an autumn crop. It is also described as a late variety. It has always ripened with us at the same time as the Wilder and Orange, but does not continue so long in bearing as either of these. The plant is a free grower and profuse bearer; of medium sized, round, deep red berries, rather soft and of indifferent flavor.

ORANGE, (*Brinckle's*).—Is justly regarded as the best of all the native sorts. Its large orange-colored berries, of excellent flavor; its strong growth, long season of bearing, and great productiveness, render it worthy a place in every garden. To some tastes it is too sweet, and wanting in sprightliness. Great care is requisite when cultivating and forking up the soil around the stools, not to lacerate the roots, or disturb the young plants, as this variety, especially when young, throws up suckers very sparingly, and in some soils it is difficult to get a plantation well

started. It resembles the orange tree, not only in the color of its fruit, but also in the fact that the bud, blossom, and ripe fruit are seen upon it at all stages of its growth.

WILDER.—Plant, a very strong grower, and profuse bearer; foliage dark green and crumpled; canes hirsute, being densely covered with long, tender, light brown spines; fruit round, medium sized, cream colored, soft and very juicy, but not high flavored; it decays rapidly when ripened in the sun, or exposed to rain. The pips are quite hairy, and in gathering, the anthers fall upon the fruit, giving it an unpleasant grittiness in eating.

FOREIGN VARIETIES.

BELLE DE FONTENAY.—A double bearing French variety, which has been confounded with the Marvel of the Four Seasons, from which it is quite distinct. The habit of the plant is quite dwarf, growth vigorous, suckers profuse; fruit medium to large, reddish purple, flavor rich and sprightly. A valuable sort.

CUTBUSH'S PRINCE OF WALES.—A late English variety of high repute. It has been fruited here one season, and the berries proved of excellent quality, and large size; long conical shape, bright crimson color, and firm flesh. Worthy of further trial.

FASTOLLF.—An old English variety of well known excellence. Fruit large to very large, a reddish purple; rather soft for market. Bears abundantly, and for a long season. In some soils proves very tender.

FRANCONIA.—A favorite with many of the best market gardeners. It bears a profusion of large, dark red berries, of very rich, brisk, and sprightly flavor. Bears transportation well, and yields remunerative prices. In some locations degenerates rapidly, and runs out. Does not commend itself to the tastes of those who like a very sweet fruit.

HORNET, pronounced HORNAY.—A splendid new variety from Bagnolet, near Paris, introduced here by Aubry & Souchet, of Carpenter's Landing, N. J., to whom we are also indebted for most of the French varieties below described; Imperiale, Jouet, Papier, Pilate, and Souchetii. This is the favorite Raspberry of the Paris market, and deserves to be placed at the head of all the foreign kinds. It is a very strong grower; foliage very large, dark green, not much plaited; young wood, pale green, spines small, red and scanty. Fruit of unparalleled size; obtuse conical shape, rich crimson color, and of the very highest flavor. We have measured berries of 3½ inches in circumference. It is not quite as firm as is desirable for a market berry, but if gathered with the stems on, as is the custom in France, it is easily transported, and fetches the highest price. Worthy of universal culture. Some experienced Pomologists have supposed it to be identical with Knevett's Giant. We find the difference very marked, as will be seen by the respective descriptions given.

HUDSON RIVER ANTWERP.—A very favorite sort in New York, and now being generally introduced here. It shares with Brinckle's Orange the reputation of being the most popular berry in cultivation. Being well known, we omit a detailed description of the plant. Its abundant crops of medium to large sized fruit, of handsome red color, and firm flesh, and its long season of bearing, entitle it to high praise, although the flavor is not first-rate, and, to some, rather insipid.

IMPERIALE.—A large French variety, of good promise; young wood, pale green, nearly white, with pale red blush, leaf dark green, long pointed, variable, sometimes smooth, at others, much crumpled. Fruit large, roundish, bright red, of firm flesh, excellent flavor. A valuable sort, said to be quite hardy.

JOUET.—Another French variety, of good quality. Young wood, bright yellowish green, very stout and short jointed, with very few and weak greenish spines; foliage very thick, dark green, deeply crimped, and reflexed. Fruit small to medium, long conical, bright lemon yellow, with a whitish bloom; pips very small, flesh firm, rather seedy, flavor sweet and delicious. Productiveness not well tested, as we have only young plants under culture. A very handsome and promising sort.

KNEVETT'S GIANT.—An English variety, introduced about 16 years ago, by the Hon. Marshall P. Wilder. A vigorous and rampant grower; young wood, light green, with reddish purple tinge, spines small, reddish and numerous. Laterals few, stout, and borne mostly near the top; suckers abundant. Fruit, which is often in pairs, roundish conical, bright red in the shade; firm flesh, sweet and excellent. Berries ripening in the sun are deep red, and much disposed to burn, and become tough, sour, and worthless.

MARVEL OF THE FOUR SEASONS.—We give the translated title as more ready of comprehension and use. One of our most esteemed amateurs values this variety so highly as to have removed all others from his very extensive garden, and substituted this in their place. Our opportunities of testing it have been limited. The young plants we have seen have borne abundant crops, spring and fall, of large size; bright red fruit, of good, though not the highest quality. It is not, as many suppose, an everbearing plant, but, like all the others, so called, only bears a spring crop on the old, and a fall crop on the new canes. Sometimes the two crops overlap, thus giving a continuous supply from June till November. It is quite distinct from the Belle de Fontenay, which is of smaller growth.

A yellow variety of this name we are now testing.

PAPIER.—An old French variety, known also as Le Noire or Tue-Homme, first introduced about 1820 at Bagnolet, near Paris, the chief seat of Raspberry culture for the Paris market, and whence we have obtained all the valuable new sorts. On account of the shortness of the fruit stalk, (all Raspberries being gathered here with the stems attached,) and the softness of the fruit, it was superseded by the Gambon, a fine large sort, which in turn has given way to the still more improved kinds, the Hornet, Imperiale, &c. It is of good size, and excellent flavor, but has been too little grown here to warrant further notice at present.

PILATE.—We think it the highest flavored of all the French varieties. It is also of large size, and promises to bear abundantly. Foliage, dark rich green, crimped and reflexed; habit somewhat trailing. Requires another season to be fully tested.

RIVERS' NEW MONTHLY, (Large Fruited Monthly).—This much-praised variety has greatly disappointed expectations in our county. Several of our best amateurs and professional fruit growers, after fair trial, have entirely discarded it as worthless. The spring crop is sometimes abundant, but often meagre, of medium sized, scarlet berries, of a mild, sweet, but not high flavor. The autumn crops, even with the best culture, cannot be depended on; in four seasons out of five it makes a profuse bloom, which is mostly abortive, or else it fails entirely. It also throws up suckers profusely, requiring constant weeding to suppress them. Should be rejected from every good collection.

SOUCHETTII.—A very handsome cream colored fruit, resembling in general appearance the Orange, but not so deep in color. Young wood yellowish green; spines greenish, very small and scanty. Fruit long, conical, medium to large in size, of a rich cream color, overspread with a white bloom; flavor rich, sprightly and sweet, surpassing that of the Orange. If on further trial it prove hardy and productive, of which it gives good promise, it will be well worthy of cultivation.

We would here remark that it is the general experience of market gardeners, that red Raspberries of ordinary quality, generally sell better than white ones, even of the highest flavor. Time, and the more general introduction of the finer sorts, will, no doubt remove this prejudice from the public mind.

We have now under trial, the Salmon Berry of Oregon, Northumberland Fillbasket, Julia, (Dr. Brinckle's,) and the Yellow Autumn-bearing, which we think synonymous with the Yellow Marvel of the Four Seasons, and which we hope to report uponnext season.

J. E. MITCHELL,
ROBERT CORNELIUS,
A. W. HARRISON.

[The article we gave on Strawberries was received with such favor by the public, that we have been induced to solicit a similar favor on the Raspberry question, from the gentlemen composing the committee. It is well to repeat, that as the report has not yet been before the Fruit Growers' Society, it is at present merely the opinion of the gentlemen whose names are signed to it.—ED.]

FRENCH RASPBERRY.

BY DR. W. D. BRINCKLE, GROVEVILLE, N. J.

The October number of the *Gardener's Monthly* contains a paper under the heading of "Perpetual Raspberries," by Mr. R. M. Conklin, Cold Spring Harbor, N. Y. In this article Mr. Conklin speaks of the "*French*" Raspberry as bearing a crop of fruit in the fall.

If this is one of my seedlings, it is the *Cushing*, and not the *French*. In propitious seasons the Cushing always bears an autumnal crop on the young canes of the same year's growth, and the berries are usually larger and finer than those it matures at the ordinary raspberry period on the canes of the preceding year's growth. The berry of the Cushing is large, of a lighter crimson than the French, and slightly conical in form.

The *French* is a very late variety, and throws up but few suckers, and never fruits on these till the succeeding year. It is the latest and most hardy of all my seedling raspberries. It was the result of a cross between the Fastolf and Yellow Antwerp. The seeds from the berry produced by this cross were planted, and some twenty or more of them vegetated. Being desirous of creating new varieties with a constitution sufficiently hardy to adapt them to the exigencies of our climate, I subjected these young plants to such severe treatment as to kill all of them but one. This one bore the harsh usage well. I named it the French, in honor of my late friend, the Hon. B. V. French, of Massachusetts. The *berry* of the French is large, round, and of a deep crimson color.

TARTARIC ACID versus WILLIAM BRIGHT.

BY DR. J. R. HAYES, WEST CHESTER, PA.

"C," in your last, tries to be a little funny over the term "katalysis," and endeavors to make us believe that he does not understand one or two things in my first essay. He naively asks whether argol is the katalysis of tartaric acid? He ought to know that argol is the crude cream of tartar and tartaric acid of commerce, *deposited* from grape juice in the act of fermentation. He ought to know, also, the difference between katalysis and *precipitation*, without feigning ignorance upon it. Nor was it necessary

for the argument for me to show why German wines are sour,—or dry, as it is called. "C" says that I do not make the matter very clear by saying, "In keeping the tartar, we lose the alcohol, and *vice versa.*" He quotes, also, "alcohol of high and low density," and seems not to understand. He ought not to expect the whole chemical process of wine-making to be given in one short essay; and if he does not yet understand it, I advise him to study some work on chemistry. He will there see that alcohol of high density will not hold argol in solution, whereas alcohol of low density will hold a large quantity. He will then see that "by keeping the tartar in solution, we lose the alcohol, and *vice versa.*"

If "C" cannot *see* this, then, indeed, is chemical reason paradoxical to him. The term katalysis is applied to the *change* produced by fermentation in the sugar, and cannot be applied to the argol, which is essential, unchanging, and invariable. German wines are sour,—either from weakness in alcohol (having been made from grape juice deficient in sugar) holding the acid in solution, or from fermentation being kept up too long, so that acetous fermentation supervened.

"C" seems to think that the quantity of argol can be increased by art. This is something that would be very interesting to Mr. Bright, I have no doubt, as I know that he is an earnest advocate for increase in every thing, and possibly this was the point he aimed at when devising his compound tartaric fertilizer. It will be noticed that in my former essay, I admitted, by way of *hypothesis* only, the taking up into the plant the elements of tartaric acid in excess from fertilizers; that in that case the wine would be worse off, so that there would be no use in *trying* to increase the tartar for that reason. To speak it in plain English, fertilizers act upon the sensitive parts of the roots of plants, and thus increase their growth and vigor; but we cannot change the native characteristics of the fruit by any such means. This is claimed by Mr. Bright in his theory, and this, after all, is the *point* in the argument.

Had we absolute control of the germ growth, we might then change nature; but, not having this control, we will have to be satisfied with selection, reproduction, and hybridizing, upon which to ring the changes in the production of countless varieties which from the beginning a kind Providence has furnished us.

[In Dr. Hays' last article, "eliminated from sugar and bulk of price," should have read bulk of *juice.*—Ed.]

LADY FINGER STRAWBERRY.

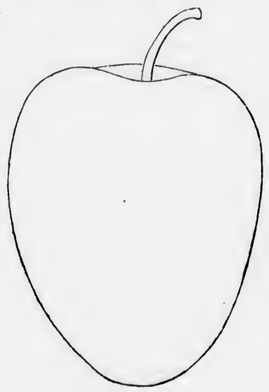
BY C., BRIDGETON, N. J.

You seem to have got the "wrong pig by the ear" in your remarks upon the Lady Finger Strawberry, in reply to Evanston question, in this month's *Gardener's Monthly*, or else the character of the berry has wonderfully changed in its transit across the Delaware. Having known it intimately almost from its birth, and at the same time not having the slightest personal interest in its reputation, I feel qualified to correct your error, which I do in justice to a friend and neighbor, the originator, whose name is not Scott but *Prosser*. As to its merits, it is considered by all growers whose opinion I have ever heard, that its *flavor* is *one of the very best*, certainly any thing but "flat and pasty;" the only objection we find to it in this, its native locality, is its want of sufficient productiveness for profitable market purposes; for a garden berry it is delightful, and in a more loamy soil is said to be much more prolific.

[We do not know that we ever expressed or heard an opinion of their identity before our August number appeared; yet we found the idea widely prevailing at the Pomological Society. Our Lady Finger certainly does not agree with Mr. Hovey's description of Scott's Seedling, (see Pomological report page 17), and C., seems inclined to disown it also. From all the facts, it seems that the Lady Finger is not the genuine Scott's Seedling, and that it does much better in New Jersey than in Pennsylvania —Ed.]

New and Rare Fruits.

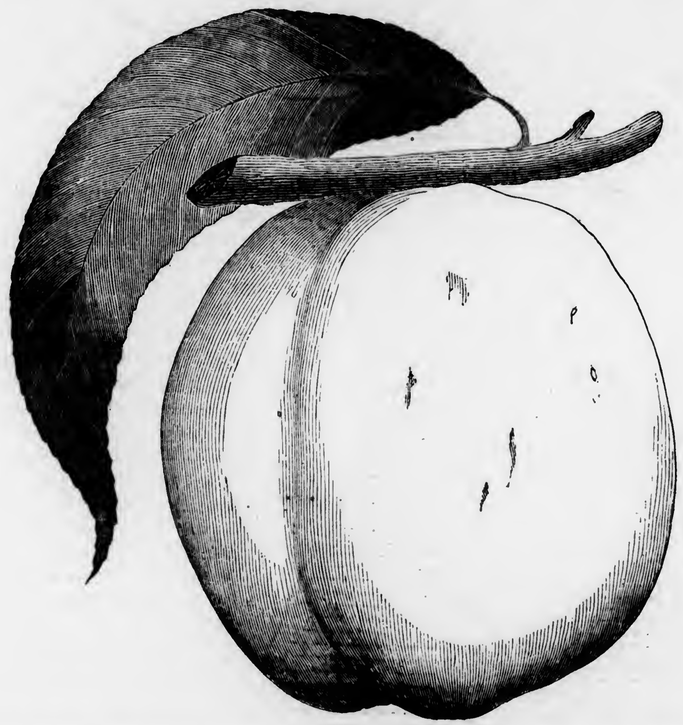
Yohe's Eagle Plum.—*By R. A. Grider, Bethlehem, Pa.*—A seedling, which came up on the grounds



of Caleb Yohe, Bethlehem, Pa. It bore its first fruit in 1860. Having lost none of its fruit by curculio, it is possible it may be exempt from its ravages. If so, it will be a great acquisition. Size, two inches long, one and one-half inches in diameter; shape, egg; suture, slightly marked on one side; basin, shallow; stalk, five-eighths of an inch; flesh, firm, of yellow color, melting, juicy, of good flavor, and very sweet; stone, small, and perfectly free; shoots, very vigorous; leaves, large, dark green, some measuring five and a half and six inches; ripens first of September; color, greenish yellow ground, with beautiful red cheeks, dotted and marbled with darker red, the whole colored with a thin white bloom; when the bloom is removed, it becomes transparent.

[In a memorandum, Mr. Grider speaks of having sent us fruit of the above; but they never came to hand. Mr. Grider, however, is reputed to be a careful and intelligent pomologist, and is well qualified to judge of its value.—Ed.]

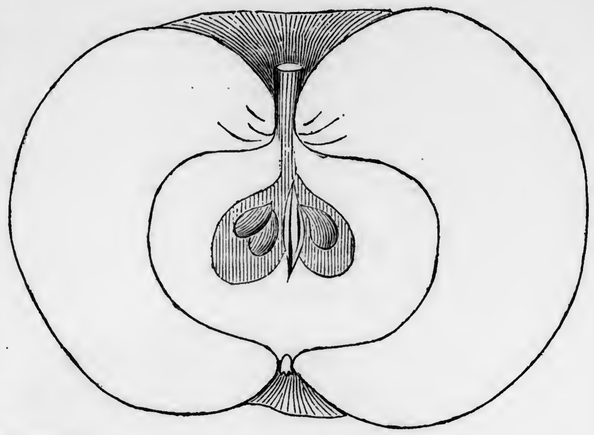
Crockitt's Late White Peach.—We have obtained from Mr. Pullen, of Hightstown, New Jersey, a fruit of the above peach, which is making "some noise" in the "kingdom" of New Jersey, and will, no doubt, be sought after by the "rest of mankind."



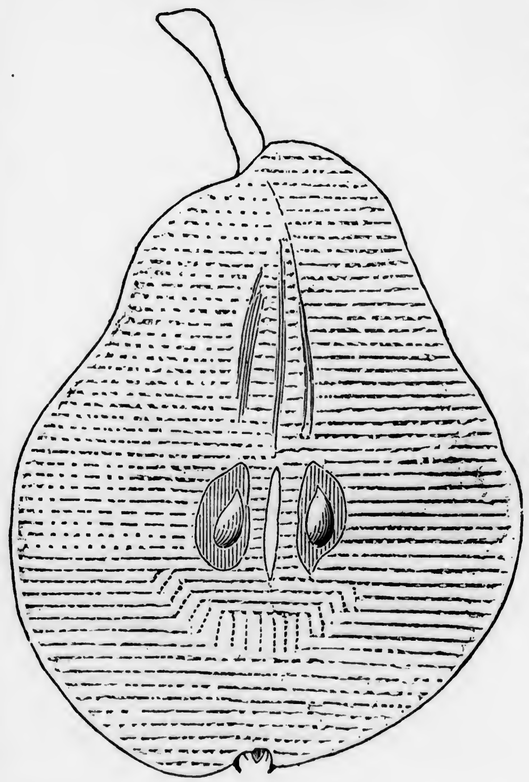
A late white variety, very productive, and valuable for preserving. Is destined to become one of the most popular of all the late white peaches for orchard-culture. Origin, New Jersey. Leaves, reniform without glands; fruit, medium to large, oblong; skin, greenish white, with occasionally some red on the sunny side; flesh pale, sweet, not very juicy. Last of September and first of October.

Seedless Native Grapes.—The *Homestead* says:—"Mr. C. L. Taylor, of Terryville, brought us some grapes, in large clusters and *seedless*. The color is beautiful, the size small; the clusters compact and good, and will improve by cultivation; the pulp sour, but seedless; the skin thick and pulpy, of course; and the odor delicate; but, like that of the rest of the species, foxy enough. For preserves, etc., it is most excellent, on account of the lack of seeds."

Egyptian Belle Apple.—A distinguished Western pomologist, our well-known correspondent, Mr. J. M. Smith, of Greenville, Illinois, sends us the following sketch and description:—



Size, large, or above medium; form, roundish, flattened; color, yellowish white, striped, stained, and splashed with brilliant light and deep carmine; stem, short; cavity, deep, regular, and russetted; calyx, very small, closed; basin, small, regular; core, large and somewhat hollow; seeds, medium, dark brown; flesh, juicy, white, fine-grained, sprightly, sub-acid; season, from middle to last of August. A sprout from the root of a root-grafted tree (a *Pennock*) in my father's orchard.



Clapp's Favorite.—Fruit large, pyriform, rather oblique; skin, smooth, yellowish green, profusely covered with grey dots, a tinge of red on the sunny side; stalk, about one and a quarter inches, stout, inserted obliquely; calyx, closed, in a very shallow basin; flesh, juicy, with a high, vinous flavor; quality, best.

Of all the newer pears introduced at the late meeting of the Pomological Convention, this pleased us the best, and we consider it a decided acquisition.

It was raised in the garden of Nathaniel Clapp, Esq., Dorchester, Massachusetts. We are indebted to President Wilder's kindness for the specimen from which we have made our drawing and description, as we believe it has not been before described.

Blum Plum.—In color and shape this plum has considerable resemblance to *Nelson's Victory*, to which it appears to be allied. The following is a description: Size full medium or rather large, oval, color dull orange, with numerous small brown dots, suture distinct, stem short, cavity narrow; flesh yellowish brown, fine grained, very juicy, quality "very good."

We suppose it to be mature in North Carolina about the middle of 7th month, July—it would doubtless be some weeks later here. The variety is certainly worthy of further attention.—*Country Gentleman.*

Pittsburg Seedling Grape, a correspondent of the *Farmer and Gardener*, says, was found nine years ago wild by Mr. J. S. Arthur, of Pittsburg. It is ripe on the 10th of August; "does not yield in excellence to the Delaware; though hardly so sweet is earlier, more sprightly and vinous, and has less pulp." The Committee on Native Fruits of the Pomological Society consider it "evidently" a seedling from a foreign stock.

Extra Early Peach.—A Pennsylvania correspondent writes:—"Among my peaches I have one, a seedling of Fay's Early Anne, which ripens in July, twenty-two days before the Anne, and twenty-six days before Serrate Early York or Tillotson. In quality superior to either. The fruit is small but very fleshy, the pits not longer than a hazel nut."

If it retains this character permanently it should be valuable, and we should like to hear more of it another season.

Recipes for Fruits and Vegetables.

"The lady who contributes a good recipe for the public benefit, deserves as much credit as he who introduces a new fruit or vegetable."—*Good Authority.*

Cider-Making without Pressing.—It is stated that a man at Parkersburg, Virginia, is successful in making cider by the following process: He grinds the apples, and fills casks with one end open, the bottom having some sticks and straw, like a leach-tub for ashes. On the pomace he pours as much water as it would yield juice by pressure, and that displaces the juice, and sends it to the bottom, from which after two days, it is drawn by opening the faucet, and as the cider is heavier than water, it runs off at first pure. The pomace, too, having an affinity for water, absorbs that, which displaces the natural juice, and leaves the pomace quite tasteless. This proces may be useful to persons who have a few apples and no cider-presses.

Pickling Sweet Apples.—To half-peck of sweet apples make a syrup of two pounds sugar, and one pint of vinegar. Boil the apples in this syrup until tender; then remove them, and make a new syrup of two and a half pounds of sugar and one pint of vinegar. Add one teaspoonful of cloves, and one of cinnamon tied in a bag. Let the syrup boil fifteen or twenty minutes; then pour it, while hot, over the fruit. The first syrup is good for other sauces.

To Make Cider Wine.—Take good new cider, fresh from the press, and dissolve in it from one and a half to two pounds of sugar to the gallon. Put it in a clean cask, leaving the bung out for forty-eight hours. Then put the bung in, leaving a small vent until it has ceased or nearly ceased fermenting. Let it stand one year. The wine is then fit for use. The longer it stands the better.

To Preserve Pumpkin.—Take good, ripe pumpkins, pare, and stew as dry as possible; place in the oven on a sheet, and let it remain until thoroughly *dried*, not *baked;* then stow away in a dry place, when it will keep an indefinite length of time—only requiring to be soaked in milk a few hours before using.—*Genesee Farmer.*

Pickling Cabbage.—Chop it up fine; for a three gallon jar full take one tea-cup full of salt, put a layer of cabbage and a layer of salt till filled, then to one quart vinegar add one tea-cup of sugar and pour on to it. The cabbage if packed in tight as above, can be kept the whole year as good and sweet as when put up.

Acorn Coffee.—This is one of the best substitutes for coffee, and is much used in Germany. The acorns are shelled, split, dried, and roasted like coffee. When taken out of the roaster, a little piece of butter is put over them. It may be used alone or with real coffee. Although acorns in their raw state are very astringent, yet they lose this when roasted. They are also, in some respects, to be preferred to coffee, having none of the drying properties attributed to that berry.

To Keep Apples.—If apples are carefully packed in hard wood sawdust, they will keep through our coldest winters. This we have tried, and know it for a certainty. But in packing, care must be taken that none of the apples touch the barrel nor each other. We have had them open in fine order, when thus packed, long after those in the cellar were rotten or so withered as to be useless.—*Ex.*

The Gardener's Monthly.

PHILADELPHIA, NOVEMBER 1, 1860.

☞ All Communications for the Editor should be addressed "Thomas Meehan, Germantown, Philadelphia," and Business Letters directed to "The Publisher of the Gardener's Monthly Box 406 Philadelphia."

TO ADVERTISERS.

☞ Copies of Advertisements, *when they occupy an entire page* of this paper, will be furnished to the advertiser, printed on good paper, for private distribution, at the low price of Three Dollars per thousand. *Nurserymen* will find this an economical way of getting their *Wholesale Lists* and *Abstract of Catalogues* printed.

RUSTIC ADORNMENTS.

[*See Frontispiece.*]

In some recent numbers we adverted to the the want of variety and special points of interest, as one of the main causes of the lack of enjoyment so often experienced in horticultural pursuits. We desire to keep the subject prominently before our readers. No better service can be rendered than to continually point out the best sources of enjoyment the gardening art affords.

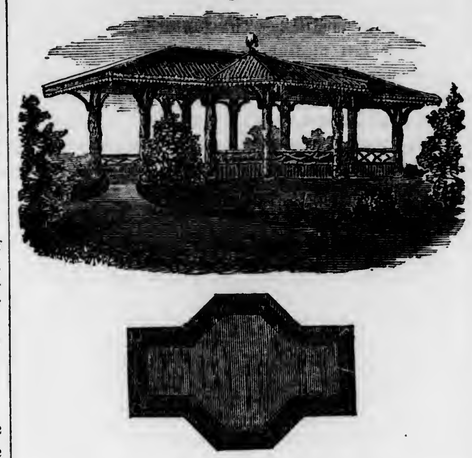
Although variety may constitute some of the happiest features in an interesting garden, there is danger of its degenerating into meanness, and a species of showy pretensiousness. Hence we frequently see great islands in small duck-ponds, classic vases in neglected wildernesses, and rich architectural structures in the midst of beggarly surroundings.

Whenever any improvement is suggested, the connecting circumstances should be searched for incongruities, which, if found to exist, will mar the boldest efforts.

Our obliging Paris correspondent has furnished us with two sketches of rustic buildings existing in the vicinity of that city, and which we have had engraved for a frontispiece. He describes their effect in connection with the large sheet of water by which they are erected, as very "grand." On a mere pond they would lose much of their interest. To use an every-day expression, they would appear "as if the owner had been trying to do something."

The upper building in the plate represents a combined boat and bath-house, the summit being crowned by a thatched kiosk or summer-house. The lower one represents a belvedere, as the French term projecting terraces, and overhanging seats. It will be observed that they are very simply constructed, and yet there is a charm of beauty about them, the uncultivated would not know how to account for. This is, in a great measure, lent them by the situation, and

Fig. 1.



well illustrates the points we noted at our commencement.

In other situations, such simple structures would be out of character and highly objectionable. Where a spot is frequently visited, and by a number of people, great strength of structure and boldness of design is required to give tone and character to rustic buildings. In this point, the buildings in the Central Park, New York, struck us, at the time of our visit

Fig. 2.

last year, as being happy effects of a very tasteful genius.

Fig. 1 was then completed, and we have since had it and the other pretty one (Fig. 2) sketched expressly to accompany these remarks. They are constructed of red cedar, and put together in the strongest and most substantial manner.

The greatest objection to rustic work is the rapidity with which it decays in our country; as, unless the bark is left on, much of its rural effect is lost. For ourselves, we would sacrifice a little to permanency, and in the parts of such structures most important and liable to decay, would strip off the bark, and, by employing various shades of brown, and a man with some little genius for the job, paint the whole to as nearly as possible represent the natural appearance of the various woods employed. We have seen this done so effectually, that very few persons ever suspected the presence of paint, without a very close inspection.

THE POMOLOGICAL REPORT.

In another column appears a correcting note from Mr. Batcham. Reports of such societies are never accurate, from causes which we need not here enumerate. We wished to send proofs to each speaker for his own special revision, before publication; but, finding that it would delay its appearance many weeks, we concluded to publish it at once, and make any slight corrections there might be necessary afterwards. It is, of course, our desire to have the record as accurate as possible, and we shall be obliged by our friends noting any alterations they may wish to see made.

We notice ourselves that Mr. "Barry" is made to speak of the Allen Raspberry, instead of Mr. *Parry*. In Gooseberries, "Martin's" Seedling should be *Mountain*. What is said of the "Diana" Grape belongs to the *Anna*. For "Barnsley" Apple, read *Princely*.

Since writing the above, we have received corrections from Mr. Mitchell, Mr. Berckmans, Mr. Rutter, and Mr. W. C. Strong. There may yet be a few others, which we shall gladly receive, and give the whole corrections in one chapter next month. We are glad to find, by the remarks of these gentlemen, that the errors are not, in most cases, the fault of our reporter, but of the noise and confusion, of which all complained. This was at one time so great, that the meeting had to adjourn to another room up stairs. Many of the errors so far pointed out are in passages altogether omitted in Mr. Vick's report, showing that the difficulty of catching them right induced that gentleman not to attempt the risk of failures. In other instances, Mr. Vick's report and ours agree in the main, showing that whatever the speakers may have *said*, the *sound* reached the ears of the reporters alike. For instance, of the Emily Grape Mr. Vick reports: "Mitchell.—In justice to Mr. Raabe, it should be stated that he has another grape somewhat resembling this, and the two have in some way become confounded. One is much better than the other." Which it will be seen is substantially the same as in our report. But Mr. Mitchell sends us the following as being what he did say:—

"Emily—Mr. M.—In justice to Mr. Raabe, it should be stated that there *is* a *true* Emily Grape, of most excellent quality. I have grown it, but found it did not ripen its wood well, although it is an excellent grape of a copper color, and a good bearer."

FINE EUROPEAN SILVER FIRS.

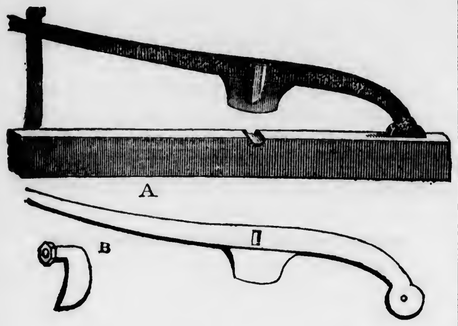
In his "Landscape-gardening," Mr. Downing refers to the "handsome Balsam, or Balm of Gilead Firs, some of which, though planted twenty-two years ago,—1838, we believe,—are now higher than the mansion" on the grounds of the late George Sheaff, Esq., at White Marsh, in Montgomery County, Pa. On a recent visit to this beautiful spot, we noted that Mr. Downing was mistaken in the identity of the trees. They are Silver Firs of great beauty. We made a rough calculation of the height of one of them, which is accurate within a foot or so, and found it to be seventy-eight feet. This, in less than thirty years, is not a mean growth for a tree with a slow reputation. The specimens we allude to have their tops shown through the branches of the oak in the plate in Mr. Downing's work, (page 42 Sargent's edition,) which oak, by the way, is not represented as beautifully as it actually is, through a desire to show more of the building.

Most of our old places, that have been famous in the annals of landscape-gardening, are falling into decay. The Camac property, the pretty mansion of which is engraved on the same page with this of Mr. Sheaff's, is now a lager-beer garden and saloon. Amidst all this wreck of ancient points of interest, it is gratifying to say that Mr. Sheaff's place, in the hands of his descendants, notwithstanding its age, exhibits all the beauty and freshness of youth. Every thing is neat, tasteful, and elegant,—novelties in the way of trees, plants, and fruits are continually being secured; every improvement worthy of adoption is added as it appears; and no sign of ruin is suffered to exist amidst the grandeur which surrounding age affords.

Should we be permitted to return to this world after once leaving it, we should desire no greater gratification than to find our posterity so religiously preserving the things we loved in the charming manner those are that we saw here.

ROBEY'S ROOT-GRAFTING MACHINE.

At the Pomological Meeting in Philadelphia, Mr. Robey exhibited a machine different from others that we have seen, and possessing merits. The following s a cut.



The representation speaks for itself. The root is set in the grove in the block, A, and on the handle being pressed down, the chisel above cuts off the root, while by another chisel set on the edge (B shows the chisel taken out of the handle or lever), a slit is made in the stock at right-angles with the other slit at the same operation.

PRESERVATION OF LARGE FLOWER-POTS.

Flower-pots, especially large ones, form a heavy item in gardening expenses. Very large ones are more likely to be broken than small ones, not merely by the weight of soil they contain, and the greater force of a slight concussion, but by the vital force of the roots, which is much greater, and breaks more pots than many would think probable. Nothing will withstand this force. A mushroom has been known to lift a flag-stone of twenty pounds weight three inches in one night,—and walls are often thrown down, and pavements thrown up, by roots of trees in the accumulated and persevering power of years. Pots in orchard-house trees are particularly liable to suffer in this way, and are well worth banding with iron hoops.

The cut represents a pot so "fixed," which we recently saw at a Horticultural Exhibition. Holes are easily drilled through the pots, and rivets applied as represented. Of course, the hoop can be painted any color to suit the taste of the owner.

Questions and Answers.

Troubles of Luxurious Growth—*J., Geneseo, Illinois*, writes:

"The fertility of the soil in this part of your parish is such as to cause a very vigorous growth of most classes of plants. But for some things, this is not desirable. Grapes—one-eye cuttings, planted twelve to the square-foot last May, have grown from six to nine feet. Roses—Augusta Mie and Pius IX., I have trained up twelve and fifteen feet from the ground this season. And most kinds of perpetuals send up branches five to eight feet high, without pruning or training. Now, such growths are hard to winter,—that's one trouble. But there is another, a grievous 'evil under the sun' of this Prairie State; one that I have not seen alluded to either by Solomon, Downing, or Meehan. My roses don't bloom. I have forty kinds of choice H. Perpetuals, and one hundred and fifty plants in all, well-grown bushes, mostly young, all healthy. Twenty plants, of five varieties, only have shown flower-buds this season; only one of them had as many as five buds.

"Giant of Battles I have from four years old down to one, some growing undisturbed, some trained up, some down, root-pruned, limed, boned, with and without barn-manure; but I have not seen a single flower on a Giant in this State, except some budded on a Dog Rose.

"Last year I removed the soil three feet deep on a border ten by eighteen feet, and filled in with earth taken six feet below the surface. Giant of Battles, planted there, grew as rank as any; bloom, none. I have put my shoulder to the wheel before calling on Hercules. Now I need help, and apply to you with some confidence. (1.)

"Can Giant of Battles be distinguished from Manetti, except by their flowers? They grow and look just alike to me. I am budding Giants on Manetti's, but doubt if they do much better. I have one budded last season on that stock; it does not bloom yet. Can they see a difference in the stocks which I cannot? (2.)

"I have seen Dicentra spectabilis only here, and for the last three years. They soon grow two or three feet high, bunches five or six feet around. I have a number of great bunches, but have never seen flowers on all at once. Occasionally all summer may be seen a stray string of two or three hearts, very handsome, but scarcely enough to pay for garden room. Will they not do better than this?" (3.)

[1. In an editorial last month we explained how a luxuriant growth was opposed to a flowering or fruitful habit. You must check this exuberant growth. Root-prune your roses while growing, by thrusting a spade deeply all around them. Pinch back with the finger and thumb any strong-growing shoots as they go, and hide your pruning-knife where you may be sure not to find it again, and, our word for it, your roses will bloom. Budding on the Manetti is more likely to aggravate your complaint.

2. We cannot describe the difference with sufficient brevity; but one season's close observation of a Manetti would enable you readily to detect it wherever present.

3. What we have said above applies to this. Plant it on a rise, where it will be likely to be "starved" occasionally, and a little for want of water. You will overcome its obstinacy.

Insects.—A gentleman from Newburg, N. Y., handed us some larvæ that had been engendered, as we understood him, in some nauseous compound that had been especially mixed for the *destruction of insect life*.

Miss Morris, the entomologist, favors us with the following account of them. It would be interesting to know of what materials the mixture was composed:

"The curious larvæ left for me are of the order Diptera, family Syrphidæ, genus Helophilus-tenax, familiarly called rat-tails. They inhabit stagnant pools and muddy waters; but transform in the earth. As they live a considerable distance from the surface of the water, they are furnished with the tail-like appendage, which is tubular, and is their organ of respiration."

Red Spider on Pear Trees, &c.—"*One Subscriber*," *Fitchburg, Mass.*, says:—

"Last spring I planted in my garden a large number of Delaware and Diana Grape root-grafts, but not more than one-fifth part of them have lived. The buds all started just a little, and some of them grew perhaps an inch, and then died. I used pieces of Isabella roots from six to eighteen inches in length. Part of them were cleft-grafted, and part spliced, according to the size of the roots. Can you tell me why they did not succeed any better? They were kept shaded by boards after setting out. (1.)

I also wish to inquire which is the best method of destroying the red spider in the open air. I have recently found some of them on a small lot of pear trees, which were purchased a year since from a nursery near Boston. (2.)

Is there any danger of introducing the Haltica chalybeæ into the localities where it is as yet unknown, by obtaining grape-vines or cuttings from infested places? Is there danger of getting the vine thrips or any other insects in the same manner? (3.)

Allow me to trouble you with one more question. Does the Cornelius' Propagating-pot require to be placed in a bottom-heat? and ought hard cuttings to be calloused before being placed in it? (4).

Answers to the above will greatly oblige at least

One Subscriber."

[1. The scions were probably defective; obtained, perhaps, from mildewed shoots.

2. When trees are very large, it is no easy matter to destroy the red spider. On smaller trees, syringe with water heated to 130° or 140°; and if sulphur be mixed with the water before syringing, we have no doubt it would add to its efficacy.

3. There is always a risk of these things. The remedy is to watch for their first appearance.

4. A cutting will callous without heat, but not root well till heat is applied.]

Hardiness of Conifera.—*P., Cincinnati*, says: "I should be much obliged if you would give a list of all the half-hardy coniferæ, with the degree of cold, as precise as possible, as they may have been ascertained to stand without injury. This would place the question of what and where to plant on a basis which 'he who runs may read.'"

[Our correspondent falls into an error which is by no means an uncommon one, but which we have long labored to combat, namely, that it is a certain degree of cold that destroys half-hardy plants. Mere cold by itself has very little to do with it. A point of the thermometer that would be death to a deciduous tree in Europe would not injure it here; while, on the other hand, an evergreen that would be killed by 20° here, would escape unharmed there. The temperature of many parts of Italy and France falls occasionally below zero, and yet the Orange and Olive live under it unprotected, though not to the perfection they do in more temperate localities. In Philadelphia, 10° of frost kills them. In Philadelphia, on Green Street particularly, Hydrangeas, Euonymus japonica, etc., live uninjured on the north aspect of the street; while on the south and warmest side, they will not succeed at all. Our opinion is, that the hygrometric condition of the atmosphere has as much to do with hardiness as mere temperature, and so no such rule as our correspondent asks for can be established.]

Dwarf Pears.—A lady correspondent, from Prospect Hill, La., writes:—

"May I hope for advice from you in regard to

dwarf pear trees, which my husband imported from France some two years and a half since. They were fine, vigorous trees, apparently full of vitality, and the ground was carefully prepared and supplied with suitable manures before planting; but, through the ignorance of our gardener, they were not properly set. The quince stock of most of them is several inches above the ground. They have grown very well, and have borne a small quantity of fruit; but it is plain that they must soon begin to droop, as the pear stock has greatly out-grown the quince. Should they be taken up and re-set properly this fall, or must we lose them altogether? Any advice upon the subject will be thankfully received.

Our place is seventy miles north of New Orleans, in a section of country which has recently been opened to the public by means of the Jackson Railroad. Fruit-growing has attracted but very little attention here, (and I may say in the South,) until within a few years past, and at present is a mere experiment.

Nearly the whole country is covered with a thick growth of magnificent Yellow Pine trees, and is sufficiently elevated for all fruit-growing purposes.

Our orchard consists of about twenty acres, and has been cleared of the original growth of pine three years. We have succeeded in producing some of the finest varieties of peach and nectarine, and the apple and pear trees are looking well. The grape will probably do well; but our vines are too young yet to determine what success we may expect with them.

Any suggestions which you may throw out to us in this far-off region will be very acceptable."

[It is important to have the quince stock set below the surface; but half an inch will do. The moisture of the soil aids the quince stock to swell with the growth of the pear, which, laying aside other good reasons, renders it a wholesome practice. If the quince stock is very long, cut off some of the lower portion before re-setting in the soil; if many of the roots are sacrificed by the operation, cut off some of the branches of the tree, so that less moisture will be demanded of the remaining roots. It will not materially check the present growth of the trees to take up and re-set. As they come into bearing, have a care lest they over-bear at first, which course injures so many dwarf pears.]

Chenango Strawberry Apple—*Wm. Collins, Smyrna, Chenango Co., N. Y.*—I send you by express six specimens of apples of the variety known here as the Chenango Strawberry. It originated in this county, and, as far as I can learn, is not very widely disseminated. You will not have an opportunity to taste them in perfection, as they are much better when allowed to ripen on the tree. The tree is a vigorous grower and a young great bearer. You may have the same apple; but if you have, no harm will be done.

[The specimens were superb in appearance, and in quality delicious. But we are unable to detect any material difference between it and the Minister. If it is not the same, it would readily pass for it without much questioning.]

Magnificent Pears.—By the kindness of Messrs. Ellwanger & Barry, of Rochester, N. Y., we have before us a basket of the finest pears. It is no wonder that pear-growing is becoming a mania when those who have the trees to sell can exhibit such superb results from them.

Sketches of American Botanists.—W. says: "The short Sketches of Distinguished Botanists you are giving us monthly, we read with much interest. Biographical sketches of great men always afford pleasure; and, as botany is so intimately connected with horticulture, you might, perhaps, be induced to extend the notices, so as in time to embrace all our botanical celebrities."

[The sketches alluded to are not from the pen of the editor, but contributed by a correspondent. We should be pleased if friends in other sections would act on W.'s hint, and send us notices of those with the materials to whose histories they may have access to.]

Personal.—One of our correspondents sends us an excellent article, with the main points in which we entirely agree. It was, however, marred, in our estimation, by an imputation that his opponent was "endeavoring to impose on the credulity of the people;" was something of "a quack," and so on. We are willing to let any man's theory, his practice, or his general teachings come under the severest criticisms, without any favor other than what their own merits, or the ability of its advocates may earn for it; but whether this man is "a humbug," or that man "a fool," are questions we would rather not have discussed in our journal. On reflection, we are sure our correspondent will agree with this, and thank us for cutting out the paragraph in question.

Apples—*From B., Beverly, N. J.*—They are not recognized. Failing to identify them, we handed them to some of the chief apple men at the Pomological Society, without any better success. They are probably seedlings.

E. S.—We do not recognize the apple sent.

Watermelon Molasses.—"*An Experimentor,*" *Cinnaminson, Burlington Co., N. J.*, says:—

"Seeing an account in the last number of the *Gardener's Monthly*, of a man who says he made $446 by converting the fruit of an acre of watermelons into molasses, I send my experience for comparison.

"By following his directions, good, clean, and clear molasses can be and was made. Nine quarts of juice from three medium-sized melons made one pint and a quarter (a little less than one-fourteenth) of molasses.

"Our watermelon-patch, of nearly three acres, averaged about one thousand to the acre. Allowing three quarts of juice as the average quantity, we would have three thousand quarts, which, boiled down to one-fourteenth, would be fifty-four gallons, the quantity of molasses. This, at seventy cents, would be but $37.80, instead of $446.

"We can get much more for our crop by selling the fruit, and I think the molasses will scarcely pay the expenses of the boiler, the wood burnt, and the time consumed.

"If any one else has met with better success, I should be pleased to learn their opinions through the columns of the *Monthly*."

[The saccharine matter in the watermelon will vary with the soil and the season; but the discrepancy between the figures quoted is too great to be thus accounted for. We clip the following from a recent number of the *Toledo Blade*, which shows a result about similar to our correspondent's:—

"D. H. Nye exhibited some very fine syrup made by him from the juice of watermelons. He stated that he made a pint of syrup from three ordinary sized melons, after the recipe published in a recent number of the *Gardener's Monthly*."

We hope others will report their experiments.]

Eleagnus Parvifolia and American Weeping Willow.—*By An Old Propagator.*

Not being satisfied with your answer in regard to the Eleagnus reflexus and parviflora, I should like you to name the botanists who do "agree that they are the same." Likewise, you say that the "New American Weeping Willow is the purpurea grafted high." Now, Mr. Loudon tells us that the *purpurea* is a native of England, and therefore you cannot be correct. I should like to know whether you or Mr. Loudon is correct.

[Notwithstanding the querulous style of the above, we are disposed to treat it respectfully, out of due regard to the professed senility of the author.

There is no such plant as *Eleagnus* "parviflora." E. *parvifolia* is the same as E. reflexa. Our "old correspondent can satisfy himself on this point by consulting De Candolle's Prodromus, article Eleagnaceæ, where he will also find the list of "botanists who do agree." If our ancient friend is not yet "satisfied," we hope he will write to the parties themselves.

The "New American Weeping Willow," grown in this section, is Salix *purpurea*, an English plant, grafted on Salix *Russelliana*, also another English plant. Sometimes the Salix *rosmarinifolia* grafted on Salix *alba*, also two English species, together pass for the same thing. We suppose the idea of grafting them so as to form a pendulous habit, originated here, and hence the name; and our correspondent's error originates in mistaking an American *practice* for an American *species*.

Names of Plants—*N. W., Morrisania, N. Y.*—Arenaria stricta, now called *A. Michauxii*. It is very closely allied to the new lawn *Spergula*, and may answer our climate even better.

Books, Catalogues, &c.

Catalogue of the Flowering Plants and Ferns of New-Castle County, Delaware. By Edward Tatnall. Published by the Wilmington Institute.

One great drawback to botanical studies is the vastness of the subject. Few minds like to wrestle with an object, feeling they may never conquer it. Taught from infancy that "what is worth doing at all, is worth doing well," it seems quite heroic for one to commence the study with the hope of mastering it. Botany is becoming an idea of such gigantic proportions that the longest life of the most congenial intellect fails to grasp it. De Candolle, a celebrated French botanist, commenced many years ago to write a "Prodromus," or detailed account of all the plants ever discovered. He has as yet done little more than enter the threshold of his task, though many volumes have been published, and yet the numbers first written have already lost so much of their value by new discoveries, that the scheme is about to be abandoned.

There is little pleasure in doing anything unless we "do it well;" but we must not let the axiom deceive us—we can ascertain what portion of a study comes within the scope of our attainments, and that portion we may do well. As encyclopedias of plants thus grow more cumbersome and unavailable, local lists and Flora's increase in value, and do more than is readily imagined to increase botanical tastes.

No amount of book learning will make any one a good botanist; he must examine the archives of nature herself, still bearing in mind not to attempt more than his leisure will permit of being "well" accomplished. A young botanist should first confine himself or herself—for botany is particularly a science

for the lady—to a township or even smaller district. After thoroughly exploring it, and becoming acquainted with the name and history of all its vegetable productions, a county or even a state may be taken up, as time and money will permit.

These local lists are just the thing for such *beginners*. Dr. Barton's "Flora of twenty miles round Philadelphia," and Dr. Darlington's "*Flora Cestrica*," are in reality the sources to which we have to trace the great number of botanists for which these localities have become famous, and Mr. Tatnall's list will, we have no doubt, do as much for his part of Delaware.

There are no descriptions to the plants named, the works of Drs. Chapman and Gray being referred to for them; but there are numerous notes in the margin giving much novel and interesting information. Thus, under the head of *Taraxacum dens-leonis*—the "Dandelion." It is said, "Miss Morris, of Germantown, has noticed that after flowering, the head drops and lies flat on the ground; but when the fruit matures, it rises and again becomes erect." We do not think this beautiful provision of nature for permitting the seed to blow readily away has been before noted by any one.

Under the head of *Platanus occidentalis*, the Buttonwood, or American Sycamore, the well-known disease is accounted for by the observation of "a citizen of Wilmington, that a small caterpillar perforates the dilated base of the petiole, and destroys the young bud which it encloses;" an explanation we are inclined to think highly probable after seeing nearly the same effect from the operations of the Blue-grape Beetle in grapes the past spring.

With regard to the plants of Newcastle county itself, Mr. Tatnall claims for it some very rare ones; one of them—*Saggitaria spongiosa*, of Engleman, has not been found before in the States, and is only described in Dr. Torrey's report of the Botany of the Mexican boundary.

The House and Garden. A monthly magazine of sixteen octavo pages, published by Thomas Brown, of the *Ohio Farmer*, is on our table. The scope and design of the project is excellent, and we wish it every success.

The Horse and its Diseases. By Robert Jennings, published by John E. Potter, Philadelphia, is on our table and is an illustrated work embracing the whole management of horses, and will be a valuable addition to the library of any one who may own a horse.

RENEWAL SYSTEM OF TRAINING THE GRAPE VINE. By W. Martin, Sr., Pittsburgh.

We briefly alluded to this little pamphlet in our last, and on a closer examination find it to amply repay perusal. It is very modestly written, and yet bears on every page the impression of a thoroughly practical, hand—very well acquainted with his subject. The following extract will give an idea of the mode Mr. M. recommends:

"Let all the young shoots that start up the first year, grow until about the middle of May; then select two of the strongest for leading shoots, pinching off all the others with the *fingers*. Let the two selected run up on the frame-work as far as they will go the first summer, pinching off all lateral shoots and tendrils from said branches, as they make their appearance. If the vine puts out but weakly shoots the first year, cut them back to two or three eyes; then treat them the second year as aforesaid: but should they put out shoots the first year from six to eight feet long, and of a good thickness, as soon as the leaves drop off and the young wood is perfectly ripe, cut them back to about four feet; then lay them down, one branch each way, horizontally, along the lower spar of the vinery, or frame. Then each eye will put out a young shoot or branch the following summer. These must be thinned out, so that they will stand eighteen inches apart. Let the two eyes, on *each end*, both grow so as to form a branch on each end, to be laid down horizontally, to extend the leading branches already laid down, three or four feet—to put out more upright branches next year.

The second year's training must commence with those shoots that have been trained up the frame. As soon as the wood is ripe, every alternate branch must be cut off about one inch from the horizontal branch. A young branch will start from where each branch was cut off, which must be trained up and treated in the manner already described. The other branches must be cut back to within three feet of the horizontal or leading branch. These three feet, so left, will carry a few bunches of fruit; also, a young shoot from the point where it was cut back, which must be trained up along with the other young branches, and all must be treated in the same manner, viz: pinching off all lateral shoots and tendrils as they appear."

Mr. M. proceeds with each years' treatment in detail, and illustrates his practice by cuts, which make the operation clear.

In the present rage for all that can be written on the vine, this unpretending little work ought by no means to pass unread by parties interested.

Circular of the Homer (N. Y.) *Rural Improvement Association*, with the Constitution, &c.

A society for improving and beautifying their village, by the establishment of a public park, planting trees, &c. What an admirable idea! The projectors

deserve to be held in everlasting remembrance for their public spirit. The following are the names of the officers: President, Paris Barber; Vice Presidents, C. H. Wheadon, George Murray; Corresponding Secretary, C. O. Newton; Recording Secretary, C. Green; Treasurer, William T. Hicok; Executive Committee, A. W. Kingsbury, Oliver Glover, D. D. R. Ormsby, A. L. Chamberlain, S. Babcock, Wm. H. Burnham, J. W. Stone, C. M. Clark, C. Woodward, P. C. Kingsbury, Mrs. C. O. Newton, Mrs. Enos Stimson, Miss Mary W. Keep, Miss M. Schermerhorn, Miss M. J. Coye, Mrs. J. W. Stone, Mrs. E. N. Johnson, Miss H. S. Gunn, Miss A. Thompson, Miss M. L. Barber.

GENERAL CATALOGUES.

O. T. HOBBS, Randolph, Pa. New and rare fruits.

JAMES EDGERTON, Barnesville, O. A carefully gotten up, and useful catalogue.

B. L. RYDER, Loudon, Pa. Amongst the apples, we note some of the newer kinds that are becoming popular.

CHARLES DAVIS, Phillipsburg, N. J. Grapes and fruits generally.

FLEMING & NELSON, Augusta, Ga. Fruits, &c.

H. A. DREER, Philada. Bulbs.

J. L. DARLINGTON & Co., West Chester, Pa.

A. W. CORSON, Plymouth Meeting, Pa.

S. S. THOMPSON, Pennsgrove, N. J. Fruits, Trees and Shrubs.

GEORGE W. CAMPBELL, Delaware, O. Grapes.

DR. C. W. GRANT, Iowa, N. Y. Grapes.

JOHN MURDOCK, JR., Pittsburg, Pa.

W. BRIGHT, Rising Sun, Pa. Foreign Grapes.

W. P. SHEPPARD, New York. Horticultural Miscellanies.

R. BUIST, Philada. Flowering Bulbous Roots.

WHOLESALE CATALOGUES.

ENSIGN & FORD, Toledo, O. Colored Plates, embraces not only fruits, but trees and flowers; also, list of nursery stock.

A. PFIEFFER, Cincinnati, O. Fruit trees, including grapes by the thousand.

E. Y. TEAS, Richmond, Ind. Trees, Plants and flowers.

WILLIAMS, RAMSDEN & Co., Dansville, N.Y.

W. REID, Elizabethtown, N. J. The list of rare Evergreens is particularly full.

ELISHA MOODY & SON, Lockport, N.Y.

S. MOULSON, Rochester, N.Y.

E. C. FROST, Havana, N.Y.

PARSONS & Co., Flushing, N.Y. We notice many rare things, offered in quantity, for the first time.

New or Rare Plants.

PHILODENDRON PERTUOSUM.—At the late Exhibition of the Pomological Society, few things attracted more attention than this very remarkable plant, exhibited in fruit by Mr. James Pollock, gardener to James Dundas, Esq., of Philadelphia.

Our cut gives no further idea of it than the mere shape and form of the leaf and fruit. The actual size of the leaf was thirty inches long and twenty-six inches wide, jagged and pertused as the cut represents, and with a thick metallic texture, of the most vivid green imaginable. The fruit is borne in clusters of from six to eight. The one we figure is twelve inches long by three inches thick, and of a green color, turning when quite ripe to a dirty white. The small figure at the base represents the actual size of the little carpels that form the fruit, and which are fleshy as in the mulberry.

There is nothing inviting in the appearance of the fruit. One would as soon think of taking up a green pine cone to eat, as one of them; but under that rugged and coarse exterior lies the most delicious juice we ever tasted,—and if the ancient gods and goddesses had only been ascertained to have lived in the West Indies, we should not hesitate to decide positively, that the nectar they indulged in was obtained from this fruit.

We have often heard West Indian travellers speak

of the delicious drink prepared from this fruit; but we know of no work wherein any allusion is made to it; and Mr. Pollock will please accept our best thanks for this, the first opportunity we have had of personally tasting it.

It is a plant of easy cultivation. Where a moist temperature of 60° or 70° can be steadily maintained for it, and, whether in foliage only or in fruit, constitutes a very striking ornament.

It belongs to the *Araeræ* order of the vegetable kingdom of which the common Calla Ethiopica of gardens affords a familiar type.

New Plants at Boston.—A friend says in a private letter: *Panicum sulcatum* is a finer grass even than I judged it to be. It makes leaves about one and a half inches broad. Hovey has one this season, the leaves being very near, perhaps quite, three inches broad.

Hovey has a very beautiful fern in the exhibition, under the name of *Pteris tricolor*. It is one of the most beautiful ferns I have seen anywhere. Another very beautiful one exhibited by Evers & Comley, of Brighton, is *Micropteris elegans*. The fronds are very minutely and *very beautifully* cut. This one will be hard to beat. The show of fruits here, is, as usual, very large and fine. The floral department good; but the pot plants meagre in number and size.

Cyrtodeira Cupreatea,—Is a name recently given to a very pretty plant, beginning to be well known amongst us as *Tapina splendens*. It has before been called *Achimenes Cupreata*. A new variety, with greener leaves than our well known kind, has recently been introduced.

Rosa sericea.—An entirely new species, from the Mountains of Asia, having a general resemblance to the Sweet Brier. It has a much more aromatic odor than the common Sweet Brier, and as it has proved hardy in England, will doubtless soon become popular.

Ixora Jucunda.—Is a a new white flowering kind, with heads as large as *I. Crocata*, recently introduced into England from Ceylon.

Pentapterygium rugosum.—A species of Huckleberry from the Himalaya mountains. The flowers are about the size and shape of our *Andromeda Mariana*, but are lined and colored with scarlet and white, and have a pretty effect. It will prove nearly or quite hardy here.

Caladium Neumannii.—One of the new variegated leaved plants of great beauty, is figured in the last number of the *Botanical Magazine*. Mr. Buist has already had it on exhibition here.

Embothrium coccineum.—One of the most strikingly handsome of shrubs that have recently been introduced to British gardens is *Embothrium coccineum*.

It is a most abundant flowering plant, bearing large tufts of its bright scarlet blossoms, and producing a charming effect in the parterre or front of a shrubbery border. It is quite hardy in the milder parts of England, and at most requires a slight protection in the winter months. Its native country is South America, where it had been met with and described by Banks, Solander, and Forster, during the voyages of Cook, and since that time by King and others, over a tract of country extending from Port Famine, the Straights of Magellan, to Chiloe and almost to Valdivia on the western side of the Southern continent.

It is very nearly allied, botanically, to the Tolepea speciosissima, one of the handsomest plants in existence, but like all the Proteaceous section, very hard to grow. This is one of the very few American species of a large Australian tribe of plants, and may therefore do better with us. In the Southern States, where it will doubtless prove hardy, it will be very desirable, and no doubt will afford great attraction for Northern greenhouses. Our enterprising nurserymen, will no doubt soon have it imported.

New Fern—*Pteris quadriaurita*.—One of the most recent, and a very handsome one. There are two varieties, one with a broad silvery band along the centre of the pinnæ, each of which is tipped with green; and the other, which is by far the most beautiful, has a broad band of lively pink or rose colour, with each of the pinnæ, or small leaflets, tipped with brown or purple. It is a tropical species, and is very variable in habit and size, growing in some cases but six inches high, and others with the fronds as much as three feet in length.—*London Gardener's Weekly*.

Camellia, Countess of Derby.—A variety of Italian origin and of first-rate qualities introduced recently into England. The flowers measure about four inches across, double, the outer petals somewhat reflexed; white, distantly flaked with clear, light rosy-pink, and not over-crowded.

Calliandra hæmatocephala.—The *Botanical Magazine* says:—

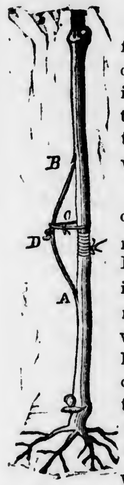
"During the month of February last, another new and most beautiful stove-plant—a shrub named *Calliandra hæmatocephala*—also blossomed for the first time. Its native country appears to be unknown, but it was sent from the Botanical Garden of the Mauritius to Kew in 1857. The flowers resemble those of an *Inga*, being like a somewhat globose brush, of a bright red color, and from two to three inches across. Its leaves are copiously petiolated, bearing on each from seven to ten pairs of opposite narrow leaflets."

Communications.

GRAFTING THE VINE.

BY R. CORNELIUS, ESQ.

[In our report of the Pomological Society we promised to give Mr. Cornelius' theory a clearer elucidation. The following, from Mr. Cornelius' own pen, will be more interesting than what we could say.—Ed.]



After the first four or five leaves are formed, and the sap is flowing, you choose the place on the vine where you intend to graft. At that point wrap tightly a twine several times around the vine. This will, in a measure, prevent the return sap.

Below the ligature make a sloping cut down, as shown at A, also a similar reversed one above the ligature, as at B, about one inch in length. In selecting a scion, prefer one that has naturally a bend. Cut it so that it shall be wedge-shape at both ends, and a little longer than the distance between the cuts in the vine at A and B. Insert the scion, taking care to have the barks in direct contact, securing it with a string C, bound around both scion and vine sufficiently tight to force the scion ends into their places. If the work is done well, no tie will be required at A and B; but the joints must be covered with grafting-wax. In a short time the bud at D will commence its growth, after which you can by degrees remove all the growing shoots not belonging to the scion, and in the course of the summer you may cut off the wood above B, and in the fall remove all above A on the stock and C on the scion.

Domestic Intelligence.

A fine Fruit Farm.—Rev. J. Knox, of Pittsburg, has 100 acres under fruit culture, which has been a marvel of productiveness and profit. Fifty acres are devoted in strawberries, ten in raspberries, ten in blackberries, seventeen in peaches, ten in apples, and three in very select varieties of the grape, chiefly the Concord, Delaware and Diana, raised for fruit, for wine-making, and for sale of cuttings.

The strawberries are all set in perfectly straight and equidistant rows. The ground is frequently and abundantly enriched after the most approved treatment. The soil is often, and very thoroughly stirred by suitable cultivators, by the hoe, and otherwise, and then gone over at regular intervals and throughout the year, by hand. Every weed is rooted out, every plant examined, and every thing removed which might prove noxious, or added which might prove beneficial to the plants health, thriftiness and productiveness.

For this elaborate culture a very large force is requisite, and in spring-time, when every attention tells directly on the fruit, *over one hundred persons are employed on the grounds at one time*.

The strawberry plantations are divided into *specimen*, *fruiting* and *propagating* beds. In the specimen bed there is grown a single row of all the best reputed stock varieties of strawberries known—over a hundred—and each kept perfectly distinct by the constant removal of runners. The propagation beds are for the production of new plants by their parent plants being allowed to make runners and strike out roots. The fruit beds are, as mentioned above, planted and cultivated in rows, no runner being allowed to extend or root itself.

One acre thus cultivated will produce *more than five* treated in the ordinary way; and *all judicious* labor spent on the strawberry will pay at least one hundred per cent.

There are about twenty-five varieties, which, for fruit, Mr. Knox says he could not get along without, although from three to six kinds will furnish sufficient variety for such as cultivate for family use: British Queen, Buist's prize, Boston Pine, Brighton Pine, Baltimore Scarlet, Burr's New Pine, Compte de Flanders, Hovey's Seedling, Hooker, Honneur de Belique, Jenny Lind, Kitly's Goliath, Large Early Scarlet, Longworth's Prolific, McAvoy's Superior, Moyamensing, Nimrod, Peabody's Seedling, Princess Royal, Scarlet Magnate, Scott's Seedling, Triomphe de Gand, Trollope's Victoria, Vicomptesse Hericart de Thury, and Wilson's Albany.

He regards the Wilson's Albany as a very valuable and profitable variety, and has shown his faith in it by planting full fifteen acres of it this spring. In addition to its many other excellencies, it has proved a superior berry for canning, or preserving, and was this season in great demand for these purposes. Its weight, size, solidity, flavor and color render it popular for this use. It is, moreover, eminently productive, and highly profitable as a market fruit. Mr. Knox is also very partial to Trollope's Victoria, an excellent variety of very large size, and delicious flavor, and which continues in bearing a long time. He has raised specimens of fruit this season, without

any extra attention, measuring from 1¾ to 2¼ inches in diameter.

But after a trial of three years, Mr. Knox places at the head of the list of strawberries, the Triomphe de Gand. The plants are thrifty, hardy, and vigorous growers, bearing their fruit well up, which renders it easy to be kept clean. They are also wonderfully productive, and the fruit is not only *usually* of very large size but *uniformly* so, and *throughout the season*, which is longer with it than with most other varieties. The flavor is everything which could be desired. It is of a very beautiful crimson color, glossy and altogether lovely. It keeps well after being picked, retaining its beautiful color and firmness, and carries better than any other variety. Fruit of this variety, and Trollope's Victoria, was bought this season from 50 cents to $1 per quart, and was sent to Cincinnati, Philadelphia, and New York.

[We are much obliged to the friend who furnished us the above very interesting account of Mr. Knox's celebrated fruit farm. We have here given the Strawberry account, and in a future number will give Mr. K.'s experience with the Raspberry and Blackberry.—Ed. G. M.]

Shade Trees in Cities.—Some time ago, a resolution was adopted in the Philadelphia Select Council, instructing the Committee on Highways "to take into consideration the propriety of limiting the kind of shade trees, to be hereafter planted or permitted upon the line of the public highways of the city, with a view to the removal of the nuisance of shade trees engendering vermin." The Committee, in accordance with the resolution, addressed a note to Mr. J. C. Sidney, the landscape-gardener, and designer of Fairmount Park, upon the subject, and the following reply was received:

In answer to your inquiry as to trees best adapted to the Public Squares, and those most free from worms and vermin, I would suggest the following:—Horse Chestnut, Sugar Maple, Tulip Poplar, Kentucky Coffee Tree, Magnolia acuminata; M. conspicua, M. tripetela, Deciduous Cypress, Liquidambar, Ohio Buckeye, American and European Beech, Purple Beech, White Birch, Sassafras, Dogwood, Turkey Oak, Scarlet do., White do., Chestnut do., Pin do., Catalpa, English Sycamore, American Linden, Kilmarnock and Weeping Willow, Larch, Norway Maple, Red Maple, Judas Tree, European Ash, and its varieties.

For street planting or avenues, the best probably are the Horse Chestnut, English Sycamore, Sugar Maple, Norway and Red Maples, Tulip Poplar, European Ash of various kinds, and American Linden. The above are durable, easily kept in shape, and as yet are free from disease. To the above list migh be added many beautiful trees of small growth, but which it would not be desirable to plant on account of the obstruction they afford to the circulation of air. Those only should be planted which, whilst they afford shade, attain a sufficient height to allow a free circulation below the branches. All quick-growing and evanescent trees should be avoided, and those which retain their foliage till late in the season should be preferred."

The Committee reported an ordinance, based on Mr. Sidney's list, "that hereafter, any person planting on the side-walk, any but those named, should be fined $5, and have their trees removed by the 'supervisors.'" We alluded to the subject in a former number, and expressed a doubt whether any good could be accomplished by this means, and we now repeat it. The idea that the Maple trees "engender" vermin is ridiculous. Insects have their preferences, but when their favorite food fails, they take to the "next best" in the order it presents itself. All trees in this sense "engender vermin," and the list will require an annual revision, until there is nothing left to plant. The caterpillars are an undoubted nuisance, but they can be kept in check by a little perseverance. The ordinance should be against allowing caterpillars to remain on the trees—a fine of $5 for this neglect, and eventual removal of the tree by the "supervisors," whose "practical" eye will more readily detect a caterpillar than a botanical distinction—would meet every difficulty.

Yellows.—A farther investigation of the Yellows, as prevailing here, leads me to refer it to the intense cold of last winter. The same cold snap which burst our force-pumps and split into ribbons the bark of the Japan plum, the J. Privet and Pittosporum, exercised a like effect on the Peach, and the consequences in all (but the pumps) has been the same—death by yellows. Had the Pear "caught" it, it would have been the "blacks," or more familiarly the "blight." The pears, however, escaped, nor have I ever seen a similar condition in the Pear bark. Instead of being raised, it is invincibly adherent, as hard as horn and as black as blight.—F. O. Ticknor, in *Southern Cultivator*.

Fruit Trees in Hanging-Baskets.—Mr. Alfred Chamberlain, gardener to Hon. W. B. Lawrence, Newport, R. I., grows some of his choice trees in hanging-baskets in his orchard-house. The house itself is a fine structure. It is a lean-to three hundred feet long, built in the most substantial manner. The entire house is heated by hot water pipes, and is divided by glass partitions into sections of thirty feet each.

Nursery Enterprize.—American nurserymen are often twitted with a want of enterprize, in allowing European tradesmen to "bring out" their new plants. We have always maintained that in proportion to the patronage they receive, they are second to none in public spirit. English nurseries are well patronised. Mr. John Standish paid *one thousand and fifty dollars* for his first plant of *Myosotidium nobile*, implying an enormous patronage to justify such a risk.

Forcing Peas.—Mr. Elder, in *Farmer and Gardener*, says that these are forced in Delaware co., Pa., by hot air drains running under the soil.

Locust trees in the West.—Mr. Phœnix says in the "*Farmer and Gardener*," that these trees are getting as subject to the borer in the West as here.

Cheap Greenhouse Chimneys.—Wide pipes of Terra Cotta-ware, are now coming in use. They are cheaper for all kind of upright flues than brick.

Apples eor Eastern Pennsylvania.—Mr. Noble, an extensive apple-grower, gives his preference, in the "*Germantown Telegraph*," as follows:—

I herewith send a select list of apples, for each season, many of which are local varieties and do well here:

SUMMER.	FALL.	WINTER.
Townsend,	Cornell's Fancy,	Smith's Cider,
Red Astrachan,	Calf Pasture,	Rawl's Jennet, or
Maiden's Blush,	Fall Pippin,	Neverfail,
Summer Pearm'n,	White Doctor,	Princely,
Early Margaret, or	McClellan,	Fornwalder,
Red Harvest,	Gravenstein,	Ridge Pippin,
Woolman's Har't,	Porter,	Smokehouse,
Mather or Nash,	Wine or Hays,	Bullock Pippin,
Sheppard,	Newtown Spitz-	Hubbardston's
Prince's Early	enberg,	Nonesuch,
Harvest,	Baldwin,	Cooper's Redling,
Chrystalor Cheese		Pennock.

For smaller selections, the first three or six of each season may be selected.

Necessity of Oxygen to the roots of Plants.—If the water in which the roots of a plant are immersed be contained in a close bottle only partially filled with the water, while the remainder is occupied by atmospheric air, the oxygen in this air will slowly diminish, being absorbed by the roots through the medium of the water. The roots extracting it from the water, and the water absorbing it from the air. If carbonic acid, nitrogen, or hydrogen, is substituted for the atmospheric air in the bottle, the plant droops and dies in a few days.

These facts evince that oxygen is required by the roots of plants; but practice also suggests that different plants require different quantities of that gas. This suggestion arises from the fact, that some genera, as the grasses and bulbous-rooted plants, require an open, light soil, easily penetrated by the air; whilst Beans, Clover, and other plants require a stiff soil less penetrable by the air.—(Johnston's *Lectures on Agricultural Chemistry*.

Changes in Species.—In our note to Mr. Bright's article on Hybridizing, we alluded to the singular fact of Mr. Powell producing a Fertile cherry from the same two parents which Mr. Knight failed with. At page 18 of our last volume is an account of some experiments by which the wild carrot was made equal to, in fact, *the* carrot of the vegetable garden in five years. Mr. Buckman, of London, carefully tried the same experiment, and utterly failed; while at the same time he carried on experiments with the wild parsnips; and, singular to relate, in ten years obtained the garden parsnip perfect. Amongst grasses the same experimenter found *Glyceria fluitans* and *Poa aquatica*, to be produced indifferently from either seed. He also found that Festuca ovina, F. duriuscula, F. rubra, and F. tenuifolia were all forms that had sprung on the Darwin theory from F. elatior.

To Cook Celery.—Celery stewed in plain water until tender, and sent up to table with a toast and melted butter, exactly like Seakale, is an admirable auxiliary to a mutton-chop, &c., and for those who cannot masticate it in a raw state.

Preserving Dwarf Beans.—Wm. Appert says:—"I cause the Beans to be gathered as for ordinary use. I string them, and put them in bottles, taking care to shake them on the stool, to fill the vacancies in the bottles. I then cork the bottles and put them in the water-bath, which is to boil an hour and a half. When the Beans are rather large, I cut them lengthways into two or three pieces, and then they do not require being in the water-bath longer than one hour." When they are to be used, he gives the following instructions:—"Scald the French Beans as if they were fresh, in water, with a little salt, when not sufficiently dressed by the preserving process. This often happens to them as well as to Artichokes, Asparagus, and Cauliflowers. If sufficiently boiled, on being taken out of the bottles, I have only to wash them in hot water, in order to prepare them afterwards for vegetable or meat soup."

Houghton's Seedling Gooseberry.—Mr. Rawson says, in *Country Gentleman*, was grown from seed by Mr. Abel Houghton, twenty-seven years since, while a resident of Lynn, Mass.

Mr. Houghton produced his berry in the following manner: Having selected from *eighty* of the *best English varieties four* which he considered the finest, viz., Crown Bob, Whitesmith, White Rock, and Red Cham-

pagne, he planted them out in the form of a square, in the center of which was planted one of the best *natives* found in the woods.

One plant *only*, produced good fruit and free from mildew; that *one* being the present "Houghton's Seedling."

While the raisers of inferior fruits have reaped handsome fortunes, Mr. Rawson, though one of our greatest pomological benefactors, derived comparitively nothing from his Gooseberry.

BALTIMORE PARK.—We are pleased that all difficulty in the way of this undertaking has been removed, and that a plan by Mr. Howard Daniels of New York has been adopted for it. We have not yet seen the details of the plan, but are assured from the well known talents of this gentleman, that it will do ample justice to the selection.

OBITUARY.

MR. ROB'T. ERRIGTON.

Horticultural literature has suffered a loss in this gentleman,—whose practical writings are scattered over most of the British periodicals for nearly the last half century. He was for the last 32 years gardener to Sir P. Egerton. He was one of the little band of gardeners who threw superior intellectual acquirements into the measure of their practical excellencies, and who under the lead of Loudon, raised the character of a British gardener to little less honor than is usually bestowed there on the regular "learned professions."

Foreign Intelligence.

PROPAGATING BULBS FROM LEAVES.—M. Hilbrouk, gardener to the Duke of Brunswick, has found that the half-matured leaves of the Hyacinth, cut across the mid-rib, form small bulbs readily. Many bulbs may probably be so raised.—*Deutsches Magazin.*

MR. W. R. PRINCE ON CURRANTS.—The *London Gardener's Chronicle*, has been taking brother Prince in hand for a statement he made last summer in the *Rural New Yorker*, that the English knew nothing about the sixty kinds of currants "enumerated," we presume in Mr. P.'s catalogue. It thinks the French, and "some other people," are as ignorant of most of them as "English gardeners."

DENDROMETER.—A small pocket instrument has been invented in Edinburg, by which an angle of 45° is readily obtained with the top of the tree, and the level from the stem to the eye, thus forming a right-angle triangle in which the heighth of the perpendicular is equal to that of the base.

EVER BEARING STRAWBERRIES.—In a late number of the *Horticulteur Praticien*, is an article on this subject by De Lambertye, a distinguished French pomologist, in which he asserts that as far back as the year 1766, monthly, (*du mois,*) or twice bearing (*bifere,*) strawberries, were known and cultivated both in France and England, under the name of *Alpine du mois*, or *quatre saisone*, and that they are not a distinct species, but merely a variety of the *Fragaria vesca* of Linnæus rendered quasi-perpetual by accident, seed, agriculture or climate.

LISTS OF A FEW SUPERIOR FLORISTS' FLOWERS.—They are selected for their good qualities, not because they are new or expensive, but such as will, when well grown please any cultivator. *Six Azaleas.*—Alba magna, Criterion, Iveryana, Perryana, Gem, Rosy Circle. *Six Camellias.*—Alba plena, Bruceana, Countess of Orkney, Eximia, Imbricata, Marchioness of Exeter. *Six Roses for Pot Culture.*—General Allard, Coup d'Hebe, Devoniensis, General Jacqueminot, Gloire de Dijon, Vicomtesse de Cases. *Twelve Dahlias.*—Beauty of Bath, Lord Palmerston, Sidney Herbert, Lady Franklin, Annie Salter, Duke of Devonshire, Lady Bathurst, Queen of Whites, Royal Scarlet, Henrietta, Jenny Lind, Sir John Franklin. *Eighteen Fuchsias.*—British Sailor, Catherine Hayes, Chancellor, Crown Jewel, Eclat, Estelle, Glory of Stoke, La Crinoline, Little Dorrit, Magic Flute, Marquis of Bath, Lord Clyde, Princess of Prussia, Premier, Queen of the Sea, Rose of Castille, Sir Colin Campbell, Wiltshire Lass. *Eighteen Pelargoniums.—Large:* Admirable, Belle of the Season, Blink Bonny (Foster's), Bride, Pride of the West, Criterion, Duchess of Marlborough, Empress Eugenie, Fairest of the Fair, Fire Queen, Governor General, Hyperion, King of Scarlets, the Belle. *Spotted:* Conspicuum, Edward Henderson, William Bull, Virginie Miellez. *Six Fancy Pelargoniums.*—Clara Novello, Decision, Crimson Pet, Madame Rougier, Princess Royal, Sir Joseph Paxton.—*London Cottage Gardener.*

ON THE CULTURE OF THE CAMELLIA IN THE PARLOR OR DRAWING ROOM.—I had three *tables* made, about *five feet long, and three feet three inches wide*, with stripes around the edges, so as to be about a third of an inch above the margins all round, and then common (sawed) laths cut into short pieces, and placed about two inches apart on the top surface of the tables, so that the water which ran from the flower-pots could pass from one part of the tables to another, crossways or lengthways, and pass out at a notch in the edging spoken of above; by which means the pots would not stand in the water which runs from them. Those tables I placed far enough from the windows and walls to allow a person to pass all round them, and to water and syringe the plants, which made a space of about one and a half or two feet in front and at the ends. The tables should be of a height in proportion to the windows, which windows should be made to let down at the top, by that means the plants can have air let in upon them, without a strong current passing through them. This I consider a very important matter, as a strong draught or current of air is very injurious.

Plants in rooms should be watered more frequently than in greenhouses, and they should be syringed over the tops *every evening* about sunset, in dry weather, and twice or thrice a week in wet weather. The syringing will not injure a carpet upon the floor, if the water is wiped off immediately after the drip ceases to fall from the leaves.

Those that I would recommend as the best to flower in parlors are the semi-double, and that have a green calyx; also all the single varieties. The plants should have air, by letting down the top sash whenever the weather is mild, or when there is no frost in the atmosphere, for a short time, though it may be cool. Camellias require a great quantity of air; they will bloom in a room where the heat varies from 35° to 50°; but will bear a much greater heat and bloom well, and on some occasions they will flower, even though the earth on the top of the pot has been slightly frozen; but extremes, either of heat or cold, do not suit them.

I have had Camellias bloom finely on tables as above, where the sun did not shine on them; but, in such cases, they should have a great quantity of light.

I generally use soft water for my plants, both winter and summer, and it is better if warmed to the same temperature of the room, in winter. As to general watering, I think it best, whenever the top soil begins to get dry, to water well and freely, so that the water may pass to the bottom roots, and to repeat the watering when the surface begins to get dry again; when Camellias are blooming or growing, they require more watering than at any other time.

[We extract the above from the *London Floricultural Cabinet*, as it is excellent advice. The writer concludes by rules for summer management, which are not adapted to our climate. We therefore add, that in May, after all danger of frost is over, they should be removed to the open air, and placed in a situation where they will be shaded all through the summer from the hot mid-day sun. They will about finish their growth at that season, and will not require so much water.—ED. G. M.

PENNSYLVANIA HORTICULTURAL SOCIETY.

October 16th.

The Committees made the following awards:—

Table Design—Best to Thomas Meghran. Second best to R. Kilvington.

Bouquets—Best to J. A. Gœhring. Also a special premium to William Joyce, for large Basket of Cut Flowers.

Grapes—Foreign, Best to John Landers. Second best to James Astley.

Isabella Grapes—Best to John Landers. Second best to J. A. Gœhring.

Catawba Grapes—Best to John Cook. Second best to J. McLaughlin.

Pears—Six Varieties, Best to J. McLaughlin.

Apples—Four Varieties, Best to S. W. Noble. Second best to William Joyce.

Apples—Half Peck, Best to S. W. Noblo. Second best to John Perkins.

Also, special premium to William Joyce, for Pears. Also, to P. S. Bunting, for a Dish of fine Seckel Pears.

Celery—Best to A. Felton. Second best to William Randall.

Cabbage, Six Heads—Best to James Matheson.

Savoy Cabbage—Best to W. Randall.

Also, special premium to A. Felton, for a fine collection of Vegetables, and also to James Matheson for a collection of six varieties of Radishes.

YONKERS HORTICULTURAL SOCIETY.

This young Society has again made a very successful exhibition. From the report sent us we learn only the names of the successful competitors. Amongst them we note Mr. T. Ryan, gardener to C. H. Lilienthal; Mr. Ryan, gardener to N. T. Coleman; W. A. Hall, gardener to John Lee; P. Ryan, gardener to J. B. Colgate; Charles Thomas, gardener to W. P. Wright; W. Bell, gardener to Mr. Boyd; Daniel Gayner, gardener to Richard Laurence; W. Thompson, gardener to John Gibson; John Neary, gardener to W. W. Scrughan; P. Lyons, gardener to M. Le Boutelier; John Coleman, gardener to W. Vail; T. Mullins, gardener to C. R. Woodworth; W. McKnight, gardener to Misses Bell; Robert Caron, gardener to M T. Bolmar; M. Golson, gardenor to Col. Dudley; W. Monaghan, gardener to P. Poillen; A. Moonan, gardener to T. S. Cozzens, etc.

We notice throughout the report such remarks as the following: "would have been entitled to the first premium but for the rule excluding professional gardeners from competition." There does not seem to be the genuine "ring" to this. Probably we have mistaken the meaning; but as it reads, it sounds awkward. The idea, perhaps, intended is, that those who merely "profess," and do not practice, gardening cannot compete. If so, it is excellent; but a less ambiguous way of expressing it would have been better.

BROOKLYN HORTICULTURAL SOCIETY.

It seems the fate of most Horticultural Societies to hold their exhibitions so late in the month that it is next to impossible for us to get their reports in time for publication the same month; and it seems stale to publish them when nearly two months old. The Brooklyn notes reached us after we had gone to press last month. It seems to have been a very successful affair.

The principal exhibitors were: Messrs. Weir, Humphreys, Ellwanger & Barry, Field, Mart, Quin, Sprunt, Gordon, Reller, Peter Henderson, Ryan & Co., Cowan, Merritt, Fuller, Mullen, Richardson, Vietch, Pollock of Philadelphia, Egan, Brenner, Poynter, Schweig, Tanner, Cox, Huggins, Menand, Hamlyn, and Humphries. The names of none of the many fine plants or fruits on exhibition were sent us with the report.

INDIANAPOLIS HORTICULTURAL SOCIETY.

First Annual Exhibition.

The Executive Committee congratulates the members upon the successful result of the first exhibition of the Indianapolis Horticultural Society, held at the State House. Much of this succes is due to the prompt and liberal response of the florists of our city and vicinity to the request for articles for exhibition. Far excelling their most sanguine expectations was this department represented. The display was characteristic of the taste of our citizens, and reflected great credit upon those engaged in floriculture in and near Indianapolis, and was not inferior to that of older societies in larger cities.

Charles Mayer obtained the first premium for Exotics. The most noticeable were Hydrangea variegata, Begonia bicolor, Datura arborea, Viburnum variegata, Justitia magnifica (elegant), Maranta zebrina (large and beautiful), Pitcairnea punicea, Fuschia voltigure (tastefully trained).

Mr. Schnell secured the second premium. Of these were Agave Mexicana (large), Sago Palm, Schollia speciosa, India-rubber tree, a dwarf Orange tree, bearing both bloom and fruit, and several varieties of Cactii, Geranium, Fuschia, and Lantana.

Mr. Weghorst, who obtained the first premium for general collection of flowers, showed some splendid Dahlias—nineteen varieties;

thirty-one varieties of Roses, many of them superb; three Begonias; five Lantanas; Schollia speciosa, a wax plant, in bloom; Malos; Justitia venosa; Sago Palm; Diosma alba; and several varieties of Cactii and Geraniums.

Mrs. Locke, who obtained the second premium, exhibited a mammoth Lantana, fully six feet high, a Hydrangea in flower, Bohea Tea Plant, Salvia, Begonia, Clerodendron fragrans, and several varieties of Fuchsias, Geraniums, and Lantanas.

The Floral Ornaments by Mrs. C. B. Smith, Mrs. Howland, and Mrs. Locke, as well as Bouquets by Messrs. Mayer, Weghorst, Schnell, Goldsmith, and Mrs. Locke, were beautiful.

Dr. Mears presented some fine Isabella, Catawba, Herbemont, Dorr, and Charter Oak Grapes; Mrs. Locke the Clinton, Isabella, and Catawba; S. Rea the Isabella and Catawba; and David V. Cully a Swiss variety, the Michigan Seedling, native of Northern Indiana, and the Dorr; the Diana by Edward King.

The largest Peaches were exhibited by Mrs. N. F. Cunningham and P. A. Daumont. Mrs. Locke presented some fine specimens of a seedling Peach, a Yellow Cling, from a tree four years from the seed.

The Pears, embracing Louise Bonne de Jersey, Virgalieu, Fall Butter, Seckel, and a nameless variety, by Dr. Mears; the Bartlett and a nameless variety, by Mrs. Locke, and some Winter Pears, by Mr. Schnell, were much admired. Some Quinces by the latter gentleman were large and fine.

One attractive feature was a Fig tree of vigorous growth, and loaded down with clusters of fruit, most of it nearly ripe, exhibited by Alfred Harrison.

The Ohio Everbearing Raspberry, by Dr. Mears, and Fletcher, Williams & Loomis, and Hudson's Seedling Strawberry, by H. Mankedick, completed the fruit department.

The Committee are pleased to announce that the sale of bouquets, floral ornaments, fruits, and vegetables in the evening produced quite a revenue to the Society. The bidding was quite animated, and the purchasers all seemed well pleased with their bargains.

Premiums were awarded as follows:—

FLOWERS.

Best display of Exotics and Greenhouse Plants—Chas. Mayer, $3.
Second best—S. Schnell, $2.
Best General Collection of Flowers, including Roses and Dahlias—Henry Weghorst, $3.
Second best—Mrs. R. S. Locke, $2.
Best Pot Roses—S. Schnell, $1.
Best Floral Ornament—Mrs. S. Locke, $2.
Best Bouquet—Henry Weghorst, *Gardener's Monthly*.
Second best—Chas. Mayer, *Indiana Farmer*.
Third best—S. Schnell, 50 cents.

FRUITS.

Best Collection—Dr. G. W. Mears, $3.
Second best—Mrs. R. S. Locke, $2.
Best Dwarf Fruit-bearing Trees of any kind—Alfred Harrison, for a Fig tree, $1.

VEGETABLES.

Best General Collection—J. T. Francis, $3.
Second best—S. Rea, $2.
Best Tomatoes and Late Corn for Table Use—S. Rea, *Indiana Farmer*.

The Committee have every reason to believe that the Horticultural Society is now established upon a firm basis, notwithstanding the many discouragements and obstacles heretofore thrown across its path. The success of this, the first exhibition of an infant Society, has done much toward quickening the pulse of the doubtful and cheering on the hopeful. As our object is to aid in disseminating "useful knowledge in the cultivation of vegetables in every variety, of fruits and flowers, of trees and shrubs, and all that can surround HOME with the ornamental of husbandry," can we not hope that the approving smiles of our citizens, aided by continued exertions on our part, will give the Society an impetus which will insure its permanency?—the result of which will be to give to our people more delicious fruits for the table, better vegetables for our markets, and "home, sweet home" made more beautiful for all.

[The Executive Committee, in conclusion, would recommend that a Spring Exhibition be held some time in June, 1861, in Masonic Hall, for two or three days; that the premium-list be made as liberal as possible, and that a small admission fee be charged to defray the expenses.]

ALFRED HARRISON,
D. V. CULLY,
G. W. MEARS,
E. LOCKE,
AUSTIN H. BROWN,
Executive Committee.

We have given the above report in full because it is a model for older societies. The names of the fruits and flowers on successful competition are given, by which parties at a distance can judge of the state of gardening at Indianapolis. While thus giving information that interests the whole of our readers, the main object of a horticultural journal, we have the pleasure of knowing that we are at the same time aiding the Society in extending the honors earned by successful exhibitors.

TOLEDO (O.) HORTICULTURAL SOCIETY.

At the Annual Meeting in September, J. A. Scott, A. D. Pelton, Dr. Trembly, George Powers, J. W. Ross, W. Breed, M. Whitmore, P. Carey, P. H. Shaw, S. Blanchard, A. Fahnestock & Sons, Dr. Jones, M. Harroun, and Charles Kent were amongst the principal exhibitors.

A vote was taken as to recommending for growing in this vicinity, of some of the kinds exhibited, and they were classified as follows:

No. 1, WINTER APPLES — Northern Spy, Baldwin, Rhode Island Greening, Fort Miami, Jonathan, Newtown Pippin, Æsopus Spitzenburg, White Pippin, Yellow Bellflower, Ortley, Rambo, and Belmont. Roxbury Russet voted a No. 1 Russet.

No. 1, FALL APPLES—Jersey Sweet, American Summer Pearmain, Early Strawberry, Porter, and Fall Pippin.

POPULAR MARKET APPLES—Tulpahocken, Detroit Red, Newtown Spitzenburg.

GOOD APPLES — Russet Greening, Fall Wine, Dyer, Duchess of Oldenburg, Vandevere, Rawle's Janet, and Fameuse.

NOT WORTHY OF CULTIVATION—Vandevere Pippin, Pennock, Cheeseboro Russet, and Alexander.

Diana Grape recommended.
Concord Grape voted good.
Isabella and Catawba Grapes voted general favorites, but the latter does not ripen at all times.
Clinton Grape voted hardy and productive.
Charter Oak Grape voted not worthy of cultivation.
On motion of the Secretary,
RESOLVED, That the apples that are left over and uncalled for, be sent to our County Fair for exhibition only, not for premiums.

J. AUSTIN SCOTT, President.
J. H. CAMPBELL, Secretary.

AMERICAN POMOLOGICAL SOCIETY.

Corrections by Mr. Batcham.

The Report of our Pomological Meeting as given in the *Monthly*, is, perhaps, as correct as we had a right to expect, considering the *noise* in the room. But it contains errors which mar the sense in some cases, and you may think best to notice them to prevent readers being misled. I will note a few, and presume that others will do the same.

On page 6, 1st column, COGSWELL and FERNWALDER should appear as two distinct fruits; the former not discussed. Same page, near the bottom of second column, Mr. BATEHAM said that specking *was* a detriment to any fruit, instead of "no detriment." Page 7, near the top of the first column, Mr. TAYLOR said, "it is *not* one of our winter apples." Same column, under WINTER SWEET PARADISE, there was no "Mr. Taylor, of Ohio." Mr. Batcham, of Ohio, made remarks, but not those there given. (See Mr. Vick's Report in the *Rural New Yorker* for my remarks here, and also on RAWLE'S JANETTE; but he puts the word "South" for "North" in my last remark on R. Janette.) Page 9, "Common Pearmain" should read "Cannon Pearmain." (Mr. Vick makes the same mistake.) Page 13, RAWLE'S JANETTE. Mr. Batcham said it was small in size at the *North*; he did not make the remark attributed to him near the top of the second column. Page 14, first column, "MORSE SWEETING" should be MOORE'S SWEETING (see Downing); and, second column, "RAWLE'S JEANETTE;" also "Waugh's Jeanette" should read "Waugh's Crab." (See Vick's Report.)

HINGHAM (MASS.) AGRICULTURAL AND HORTICULTURAL SOCIETY'S EXHIBITION.

The Second Annual Exhibition of this Society took place on Wednesday and Thursday, September 26th and 27th, at the Town Hall, and on grounds in the vicinity. It was, in every respect, a success, surpassing even the expectations of its friends and contributors. The horticultural display was confined to the Hall and pavilion adjoining, and consisted of seven long tables filled with fruit, flowers, vegetables, &c. The fruit included about five hundred plates, and the Pears Grapes, and Peaches were especially plenty and fine.

Amongst the successful exhibitors we noticed the names of E. C. Sargent, of Quincy; J. R. Brewer, of Hingham; S. L. Burr; M. C. Dizer, of E. Weymouth; T. T. Bouve, Mr. John Todd, Alfred Loring, E. B. W. Lane, Fearing Burr, Abner Leavitt, Martin Leavitt, George Lincoln, Jr., Albert Fearing, John O. Lovett, John C. Gardner, C. and H. Wilder, and Caleb Henry.

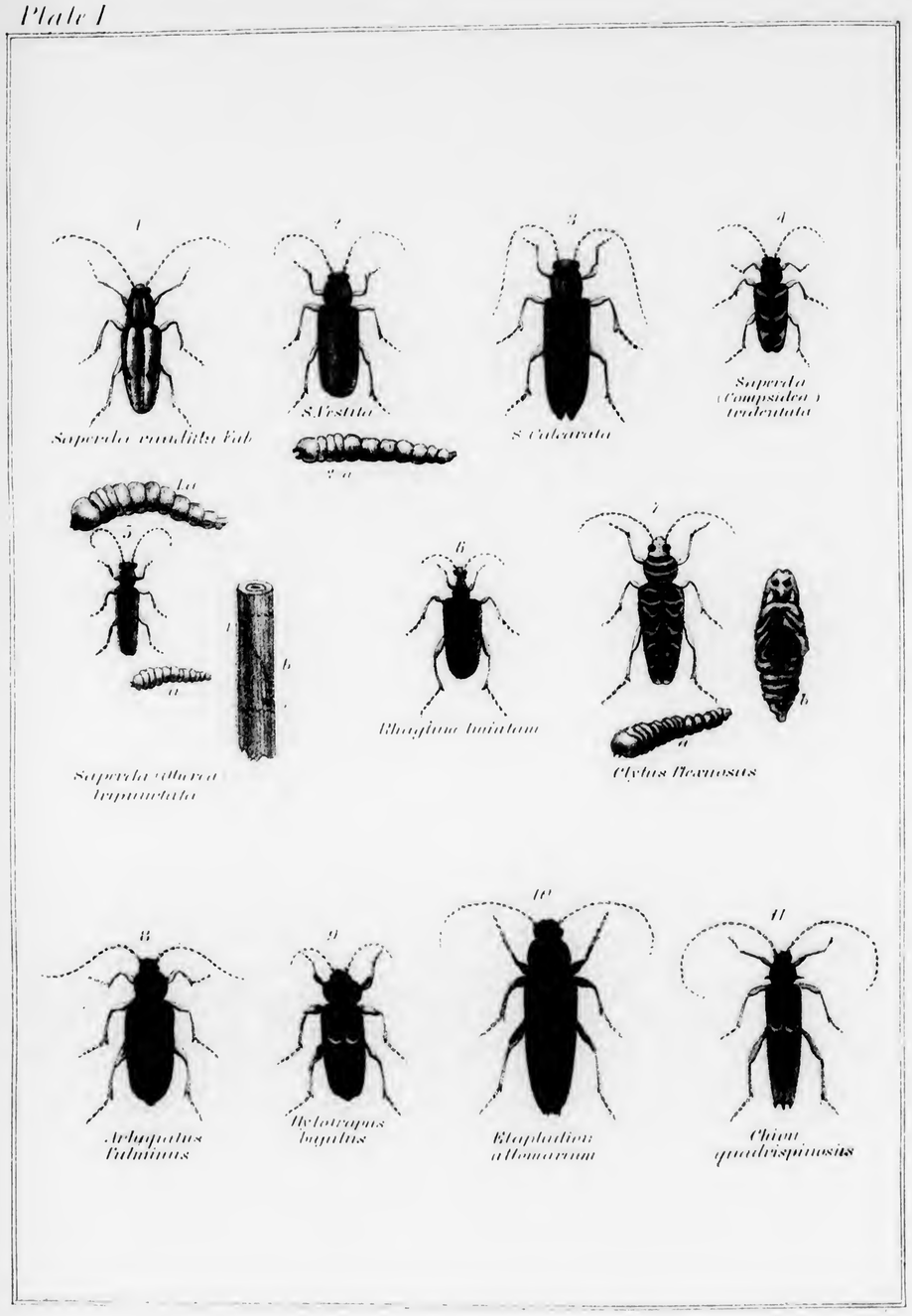
David Leavitt also exhibited mammoth Mexican Squashes.

Peter Hobart displayed 82 varieties of Beans.

J. R. Brewer, F. Mayhew, Amos Bates, and Dr. D. P. Wilson also exhibited.

About one thousand persons procured tickets for the grand dinner, after which speeches were made by Mr. Davis, President of the Plymouth Co. Society; Hon. Josiah Quincy, Jr., formerly Mayor of Boston; Hon. John H. Andrew, Mr. Buckminster, of the *Massachusetts Ploughman*, and others. The military and music also added their attractions; while the occasion seemed to offer another season for recreation and friendly intercourse.

Plate I



COLOR PLATE

THE GARDENER'S MONTHLY.

DEVOTED TO

Horticulture, Arboriculture, Botany & Rural Affairs.

THOMAS MEEHAN, Editor. DECEMBER, 1860. VOL. II.---NO. 12.

Hints for December.

FLOWER GARDEN AND PLEASURE GROUND.

Flora having deserted us for more southern climes, and Pomona being on the eve of following her twin and lovely sister, we are thrown entirely on our own resources for matter for this department of our journal. Some may envy those distant lands where the sun never sets, where perpetual summer reigns, and where the homely salutation of "may your shadow never grow less," is a dubious compliment. We prefer an occasional change, and are rather glad to have our titular deities once in a while away. They are lovely beings no doubt, but like most fair creatures, somewhat despotic; not that we would rebel at such tyranny, for we ever feel happy while hugging our chains, but there is a pleasure in the idea that we can rule our rulers, and that if we are to be governed, we may at least choose the path in which we would rather go.

And so at this season of freedom from restraint, let us propose, examine, and decide on our course for the ensuing year. "Night brings out stars, as sorrow shows us truths," and winter reveals to us defects in gardening taste and arrangements, we should else have had no conception of. Let us note well every point capable of improvement, every alteration that can be made without prejudice to the original design, every novelty that can be consistently with propriety introduced, and every change that would commend itself to our notions of good taste and elegance; so that when Flora shall return to roll away the stone from the sepulchral heart of winter, we shall be ready to go earnestly to work to prepare a place where she may feel proud to "sit therein our angel," and guide us to the enjoyment of one of the purest pleasures earth can bestow—a beautiful and well conducted garden.

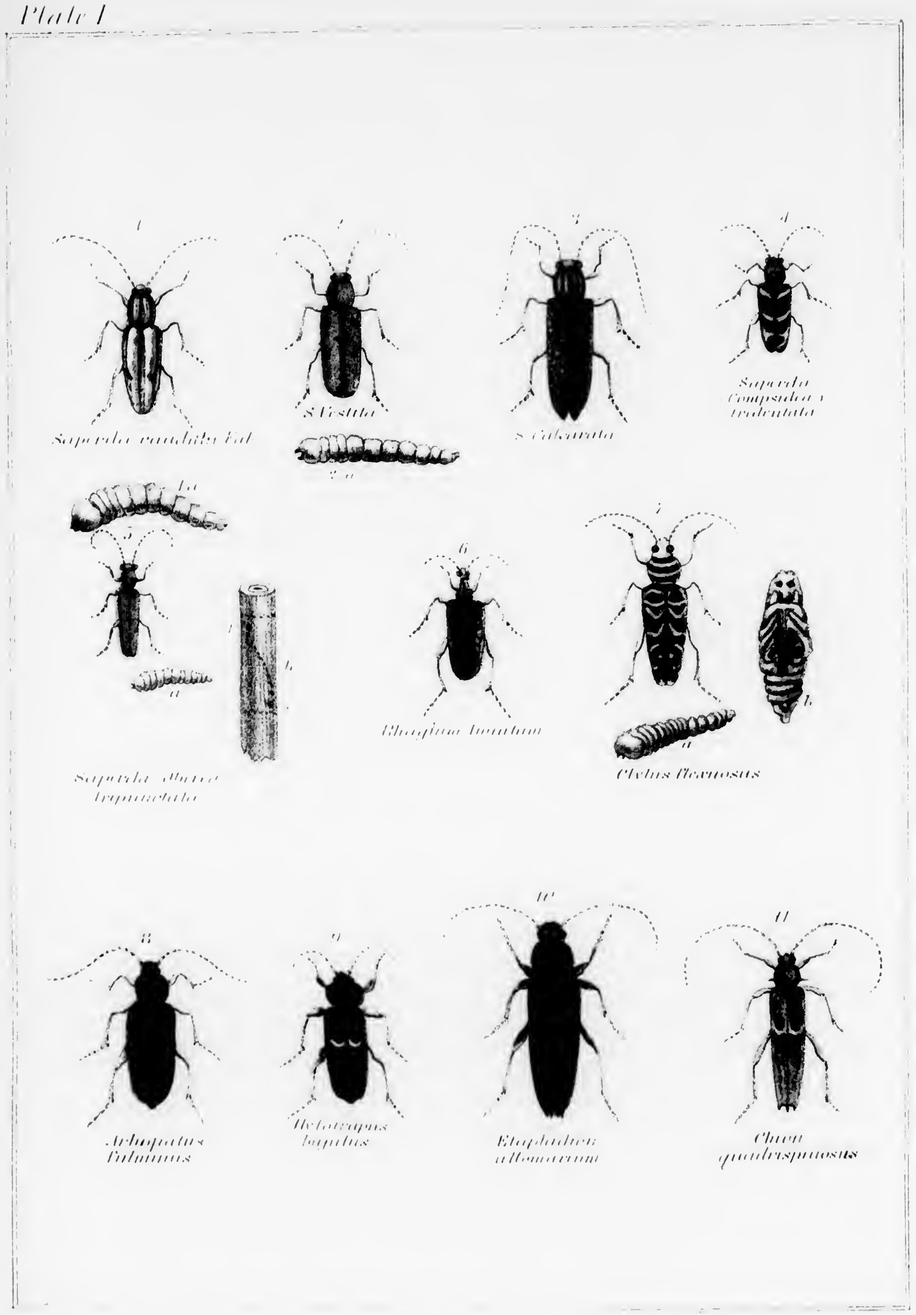
GREENHOUSE AND CONSERVATORY.

We are pleased to notice that our efforts to introduce cheap greenhouse structures to general notice have had a distinctly visible effect. The sketch given by "Schuylkill" in our specimen number excited extraordinary attention, and although two years have barely elapsed since the appearance of the article, hundreds of houses on the fixed roof principle are now distributed over the Union, where no houses at all would have been erected but for the immediate popularity of the idea. To lessen the cost of a greenhouse one-half, and in many cases two-thirds over former rates, was an immense stride to effect by one effort.

Every one now feels that there is no excuse for the absence of a conservatory or plant cabinet of some kind in connection with their winter residences, and the consequence is they are becoming "all the fashion," and are deemed as necessary to a complete house as the parlor or drawing-room. Many of the designs that we have recently seen by "first rate architects," look as if the authors had been, in the language of police courts, "shoving the queer," for certainly, as houses for successful plant growth, a good gardener would pronounce them miserable counterfeits. But this will all come right in time. We are glad to record the fact of the so general adoption of the principle.

The greatest troubles come with trying to keep the houses warm. In the endeavor to provide against frost, the plants become roasted. In the struggle with the Ice King, fires should form the *corps de reserve*. The house should be built on a warm and sheltered aspect. Then every crevice, crack, and chink, should be carefully closed by list, and the result will prove an astonisher in maintaining the temperature. Then shutters or mats may be employed to great advantage; we know one friend who has a curtain made of old carpet, which slides on rings along the front sash of his greenhouse, and he succeeds in keeping out a great degree of frost with very little fire. The principle might be carried still further, the whole slope of the roof might be protected by either a woollen or even cotton sheeting fixed on a roller at the apex, and let down under the glass. By horizontal wires drawn every few feet

Plate I



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INTENTIONAL SECOND EXPOSURE

under the space where the sheet would work, any "bagginess" that would otherwise be an objection would be removed. We have never seen this put in practice, but we are sure it would require but very little genius to make the idea work well. It would save its cost in fuel the first year, and add tenfold to health and beauty of the plants.

When fire heat must be applied, it should be led by flues as near to the coldest part of the house as possible; and when it is in operation the syringe must be often applied to make a moist atmosphere. It is the dry air fire heat necessitates that renders it so injurious to vegetation. Pans of water may also be set on or near the flues. Another danger also follows fire heat. When the sun shines warm plants usually dry at the top of the soil first, and it is easily seen when it requires water; but fire heat dries the plants from the bottom upwards, and the necessary syringings by moistening the surface, leads us often to think the plant is all right, when in reality it is under the shadow of death.

The remedy is a watchful eye, to detect the first appearance of wilting of the foliage, when the plant should have a thorough soaking of water, that will show itself through the hole in the bottom of the pot. The water employed should be as nearly as possible of the same temperature as the house, which can be secured by keeping a tub always full on finishing the daily waterings.

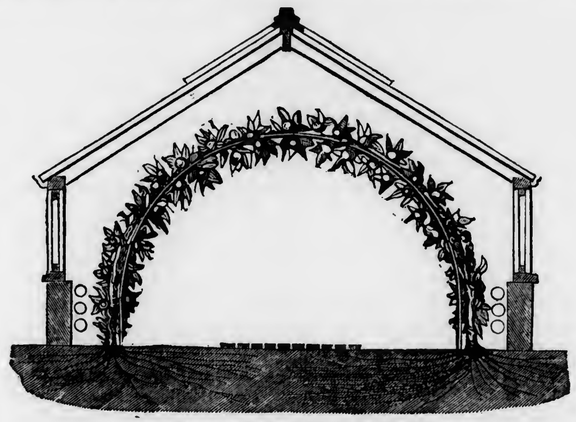
A conservatory requires rather a higher temperature than a mere greenhouse. In the one flowers in bloom is a chief object: to keep them well over the winter is more the point with the latter. Plants will not grow and flower well under 55°, but the temperature should not be allowed to go above 60°. In very cold nights, when there is a strong fire heat, the temperature may be lower. Hanging baskets, which are now so generally employed for room, cabinet, and conservatory decorations, frequently have their plants injured by getting too dry. It is a good practice to give them occasionally a dip for a few minutes entirely under water. Ferns and lycopodiums, also very popular, do best in the most humid part of the house. If in a room or place where the atmosphere is very dry, no success can be expected unless a glass case be kept for most part of the time over them.

Mildew often makes its appearance at this season in plant houses, especially on young and the tender leaves of roses that are kept growing for their winter flowers. Practical men are not yet agreed on the causes of mildew, but on one point there is but one opinion, namely, that mildew will not attack a healthy plant, if at all, as certainly as it will an unhealthy one. A good way to treat a mildewed plant, will therefore be to place it at once in the situation we can best command for a combination of healthy circumstances. The plant may have been partially crowded by others; set it by itself where it can have a good circulation of air all round it. It is perhaps near the door where it is subjected to frequent and sudden changes; or near the fire where it was rapidly dry and moist by turns; or in partial shade that induced defective growth: all this should be remedied. In desperate cases sulphur water proves an excellent remedy. Flower of sulphur is mixed with water and syringed over the plants. Dry sulphur peppered through a sandbox, would do as well, if the plant is syringed first—the water is not to "dissolve" the sulphur, but to make it stick to the leaves. When sulphur is used in this way it is important to success that the house be kept very warm for a short time, as it is the sulphurous fumes given off that does the work of death. Of course sulphur must not be suffered to ignite, or the sulphurous acid becomes sulphuric, and the plants as well as insects suffer. Constant cleanliness is important to healthy plant growth. Air should be freely given whenever the external air and that of the plant house is about the same, at other times it is dangerous.

A few nice plants will always be more satisfactory than a mass of crowded skeletons. Such plants as pelargoniums, calceolarias, cinerarias, &c., when properly treated, make such plump and happy looking objects, that the owners of such would not exchange them for a houseful of the pictures of misery so often exhibited. The secret is to keep them growing as much as possible, as near the direct light as possible, and as bushily as possible. As the pots become filled with roots they are carefully shifted into pots a size larger, and when these are filled again repotted into others, until a few weeks before their time of flowering. A thoroughly practical hand will keep them in very small pots, making up the loss of nutriment by applications of manure water, and carefully watching the signs of dryness in the soil, for the exact moment when to apply, but our remarks are not intended for the educated gardener, but for those to whom a little knowledge often proves a dangerous thing. The bushiness of a specimen is made by pinching off the strong leading shoots, and training the weaker unstopped ones out to the edge of the pot. This used to be accomplished by a bundle of stakes, making the plant look as uncomfortable as an old time drunkard in the pillory—the modern plan is to fix a band of twisted bast matting around the rim of the pot, and from this lead light invisible strings to any desired part of the plant.

VINERIES AND FORCING HOUSES.

The forcing of fruit continues to excite increasing attention, and is fast becoming one of the chief pleasures of the gardening art in every garden of superior claims to excellence. Peaches, nectarines, apricots, and cherries, particularly do well—the three former doing well under the same treatment in the same house. They can be grown either in pots, tubs, or in the open ground; the most usual mode being a combination of all. We have been most successful where some have been planted out against the wall of a lean-to house, and pots and tubs afforded all the space of the ground floor. For very early forcing these lean-to structures are the best, as they can be more easily kept warm than span roofs. For very early crops the houses may now be started, keeping them at about 55°, and increasing it to 60° in a few weeks after. The syringe must be kept vigorously in use in order to assist the bursting of the bud. For late forcing a span roof is best, as it has many advantages over the other kind. It encloses more space at a proportionately less cost, and admits of more beauty of arrangement. The following cut we have recently seen in the *London Weekly Magazine*, and affords a good hint for interior arrangement.



Where grapes are to be forced very early they have already been commenced, and will have the buds already burst, but as a rule very few attempt it till now, and they will come in nearly as early as any that have been already tried. We have in former numbers stated that one of the main points of successful forcing is to keep the roots healthy. Most plant disorders commence there, and in forcing this becomes more evident than in ordinary plant growth. In pots it must be seen that the water passes readily away after application. It is a good sign of healthy root growth that the soil dries rapidly after watering; if it do not, depend upon it there is something wrong. If the soil, especially if it is in a moderately large pot for the size of the plant, do not dry up for days after watering, shake out the plant at once, and repot it very carefully in new fresh soil. Under no circumstances should water be used in forcing of a less temperature than the house, and if it can be used from 15 or 20 degrees higher occasionally, it will materially help the vigorous root growth so much to be desired.

In cold vineries the pruning may be proceeded with as convenience admits. The advances which the science of pruning has made, make a very trifling job of winter pruning, which formerly used to be a formidable affair. Summer pruning is now so managed that the plant's strength is guided at that season into just the channels we want it, and all that is left now to be done is to cut away any portions of the vine, where we may wish it to push stronger next season. If the vine is weak we cut it down altogether.

Vines in the open air require very much the same system of management as these in cold vineries. If all the growth seems concentrated on the top, shorten in the weak ones below pretty severely, and very little on the top; and in the spring just after these strong top ones have pushed forth their buds several inches, strip them out, which will in a measure exhaust the vigor of that section of the plant, and give the lower ones a chance of appropriating to their use a portion of the nutriment which would otherwise have been absorbed to assist the growth of those taken away.

DUCHESSE D'ANGOULEME PEAR.—Originated in a hedge in the Forest of Armaille, and was named from its being found in July, 1815, about the time the French Royal Family returned the second time from exile.

ENTOMOLOGICAL ESSAY.

Read before the Fruit-Growers' Association of Eastern Pennsylvania at its Meeting in West Chester, on the 13th day of June, 1860.

BY S. S. RATHVON, ENTOMOLOGIST OF THE ASSOCIATION.

(*Continued from page* 329.)

INJURIOUS INSECTS.

Your Committee on Insects have not had an opportunity, since the last meeting of the Association, of making any new discovery of remedies against insect encroachments, nor yet to test the efficacy of those that have already been suggested. Nevertheless, as the present seems to be the proper time to *prevent* injuries from insects; and, as all may not have opportunities to refer to works where this subject is treated of in detail, a few remarks in regard to the habits of some common species may not be inappropriate. Among the noxious insects, permit me to present the following:

1st. *Saperda bivittata* of Say, or "apple-tree borer." *Saperda candida* of Fabricius—Plate 1, Figure 1. Length, from a half to five-eighths of an inch; color, light brown, with two white longitudinal stripes upon the thorax, and one on each elytrion, or wing-cover; antennæ, longer than the body. The larvæ is represented by fig. 1, *a*, and is a fleshy, whitish grub, tapering a little from the first segment to the end of the body. The head is small, brown, and horny. This insect makes its appearance in the perfect beetle state about the 1st of June, and continues with us until about the 1st of July, during which period it is mainly occupied in the work of fecundation and depositing its eggs; its food consisting of the tender leaves of trees. In addition to the Apple tree, it also attacks the Quince, the June-berry, the Mountain Ash, the Hawthorn, and other thorn-bushes, with the probability of also attacking the Pear, if it has not done so already. An orchard surrounded by a hawthorn hedge might prove a protection to the trees inclosed in it, as it would be likely to attract the borer to the hedge in depositing its eggs. The hedge, in turn, might be left to the protection of the birds, especially the woodpeckers, who above all others of the feathered tribes possess the most efficient instruments for the dislodging and destruction of worms. As these insects conceal themselves during the day, and fly abroad at night, many of them would also fall a prey to bats. But where the borer is *already* in the tree, Dr. Asa Fitch recommends the scalding them in their burrows, as the least injurious to the tree, and without disfiguring it. If the bark is penetrated with an awl, it will become apparent where the upper end of the burrow is, not far from which, also, will befound the worm. There make a small hole, and pour in the hot water through a narrow spout made for that purpose. After the hole is made, the cuttings of the worm should be cleaned out, and the hot water continued until it is seen oozing out below. To prevent the insect from depositing its eggs about the bottoms of the trees, they should be washed two or three times every week during the month of June, and, perhaps, the first week of July also, with a mixture of soft-soap and tobacco-juice. According to Dr. Harris, it takes from two to three years for this insect to mature itself in the larva state.

2nd. *Saperda vestita* Say, or "Linden-tree Borer,"—*Saperda cervina* of De Jean. Plate I, fig. 2. Length, from one-half to five-eighths of an inch; color, greenish yellow, and velvety in appearance; has three small black dots on each wing-cover; antennæ as long as the body; and general form much like fig. 1, but rather more slender. Fig. 2, *a*, represents the larva, which is also less robust than 1, *a*. This insect, which twenty or thirty years ago was only found in remote localities, is now becoming tolerably common among us. It makes its appearance about the same period that the apple-tree borer does, and continues about as long; but, instead of depositing its eggs about the bottoms of the trees, it deposits them in the axils of the branches. There is not a doubt that, in the absence of linden trees, it would deposit its eggs in apple or pear. Pieces of sponge, saturated with soft-soap and tied in the axils of the limbs of trees, are recommended as a preventive. Some years ago, the city authorities of Philadelphia ordered forty-seven large Linden trees in Washington Square to be cut down, on account of the injuries they had sustained from these insects at different times.

3rd. *Saperda calcarata*, Say, or "Poplar-tree Borer." Plate I. fig. 3. Length, from eight-tenths of an inch to an inch and an eighth; antennæ, about the length of the body; tips of the wing-covers end with a sharp point; color, blueish gray, finely punctured with brown; four ochre-yellow lines on the head, and three on the top of the thorax; scutel ochre-yellow, with irregular markings of the same color on the wing-covers. It possibly may be an introduced species, as no reference is made to it in the *Melshiemer Catalogue*. The figure is made from Says' description, as I have not access to a specimen. It is only introduced here on account of the character given it by Dr. Harris. This insect is rather rare yet in Pennsylvania, but is more common in some of the Eastern States, especially in Massachusetts, where, with other insects of the same character, it has been very destructive to the Lombardy poplar trees. It is the largest species we have in this country, and seems to be allied in habits to the European species, *carcharias*. It is liable to attack other trees, as well as the poplar, and ought to be looked after in good time.

4th. *Saperda* (*Compsidea*) *tridentata*, Olivier or "Elm-tree Borer." Plate I. fig. 4. Length, five-eighths of an inch, more or less; color, brown, with a tint of gray; antennæ, scarcely as long as the body; a three-toothed or three-branched stripe on the outer edge of each wing-cover, of a yellowish or a rusty-red color; sometimes with blackish spots and stripes on the thorax, and also upon the wing-covers; very variable in size, and colored markings. The grubs resemble the larva of other *Saperdas*, and are scarce three-quarters of an inch in length. This insect appears in vast numbers in some localities, but is not so general yet in Pennsylvania. Indeed, I have not found more than half-a-dozen specimens in so many years; but I received a small collection of insects from Missouri about a year ago, in which there were quite a number of them. In Massachusetts, however, they seem to be very common, having on one occasion caused the destruction of nearly all the Elm trees on Boston Common. The grub, which is similar to the apple-tree borer, only a little more flattened and less in size, operates mainly between the bark and the wood,—not penetrating very deeply into the wood, but entirely loosening the bark, and thus destroying the tree. As each female is capable of depositing about one hundred eggs, and as the majority of these insects are usually females, it will become apparent that this insect has the *possibilities* of being a destroyer of any tree it should attack, and it is mentioned here only on account of those possibilities, for as yet it has not been identified with the destruction of fruit trees. It may be necessary to state that these insects do not *uniformly* appear and disappear at the period heretofore stated; they are sometimes a week or two earlier and later, according to the state of the season.

5th. *Saperda* (*Oberea*) *tripunctata*, Fab. or "Blackberry" and "Raspberry Borer." Plate I. fig. 5. Length, about half an inch; form, cylindrical; color, deep black, except the forepart of the breast and the top of the thorax, which are a rusty-yellow; two elevated black dots on the middle of the thorax, and sometimes a third dot on the hinder edge close to the *scutel;* antennæ, moderately long. Fig. 5, *a*, the larva, a whitish grub, cylindrical in the middle, and thickened towards the end; *b* a section of the raspberry, showing the manner of girdling by the insect, where it deposits its egg. After depositing the egg at 1, in an incision previously made, it in some manner pushes it down to 2. I give this upon the authority of Mr. M. Zahun, of this city, who says he has watched the operation, and who also alleges that *there* is where the vine breaks off. This insect is a near relative of the Saperdas before-named, and formerly belonged to that genus; but, as it not only differs from them in its form and its habits, but also in its periods, it has been formed into a new genus, there being several species of them in this country. The larva bores into the pith of the raspberry. It finishes its transformations about the end of July, and deposits its eggs in the beginning of August. When the insect issues forth from the stem, it bores a hole, which so much weakens it, as to break it off by the slightest wind or by its own weight. I have seen the raspberry-bushes broken off just as farmers break off broom-corn, leaving the tops suspended. As the grubs of these insects remain in the stem of the raspberry, feeding on its pith during the greater part of the year, those so infected, although they may bloom, will not fruit, or will produce a very small and inferior kind. I have four species of them in my collection, and therefore the one that infests the blackberry may be different from the one that is found on the raspberry. I know no remedy against them; but, in the language of Dr. Fitch, would say, that, "To our nurserymen," and, I might add, fruit-growers generally, "it obviously belongs" to discover a remedy, "as they enjoy opportunities for observing it, such as belong to no other profession."

6th. *Rhagium liniatum*, Olivier; or "Pitch-pine Borer." Plate I. fig. 6. Length, from five to seven-tenths of an inch; color, variegated with reddish ash and black; antennæ as long as the head and thorax; the thorax is cylindrical, but swells out in the middle into a sharp-pointed tubercle or spine on each side; the wing-covers are wide at the base, and taper towards the ends or apex, coarsely punctured, between smooth, elevated, longitudinal lines. The larva of these beetles are found in immense numbers in pine trees, getting immediately beneath the bark, and causing it to fall off in large pieces, thus entirely killing the tree. The beetle is matured before winter sets in, but does not leave the tree until spring. I have introduced it here because it is becoming more common in this locality every year, having been brought hither, no doubt, in unbarked pine spars. In the absence of its *native* tree, it is liable to attack our ornamental pines. A large European species has been very destructive to the pine forests on the Continent of Europe. In the absence of *pine trees*, there is a *possibility* it might attack *fruit trees* instead.

7th. *Clytus flexuosus*. Fab. "Locust-tree Borer." *Clytus picta* of Drury, *C. robiniæ* of Forster. Plate 1, fig. 7. Length, from three-quarters of an inch to an inch; antennæ, in the males fully as long as the body, and in the females less; color, velvety black, ornamented with transverse yellow bands, of which

there are three on the head, four on the thorax, and six on the wing-covers; the third bands on the wing-covers united, when perfect, form the letter W, or a near approach to it; the legs are a rusty-red or brown. The females deposit their eggs in the crevices of the locust bark in the month of September, dropping seven or eight whitish eggs at a place. Fig. 7, *a*, is the larva, which during the first six months bores principally under the bark, but after that period it bores into the solid wood in an upward direction. Fig. 7, *b*, is the *pupa* or quiescent state of the insect. As a general thing, these insects come forth from the pupa in August, and feed on the pollen of flowers during that month and the following; but I have known them to come out of wood lying in the cellar, in the months of April, and May or June. I have also found them in hickory and white-oak, and have known them to be very destructive to hoop-poles of those kinds of wood. As these insects usually pair and deposit their eggs upon the locust tree in the month of September, therefore wood or hoop-poles cut *before* that season would be less liable to be destroyed by this borer, than otherwise.

8th. *Arhopalus fulminus.* Fab. A "White-oak and Hickory-tree Borer." Plate I. fig. 8. Length, about the same as the foregoing, and in general shape resembles it very much, color, velvety black, with whitish-ashy marks upon the wing-covers and the thorax, leaving a large black velvety spot upon the *centre* of the thorax; antennæ, less in length than the body. Not very common. Found in Lancaster County, though usually in remote districts. It is allied to the genus *Clytus*, from which it has been separated.

9th. *Hylotrapes bajulus.* Lin. A Pine and Fir-tree Borer. Plate I. fig. 9. Length, about three-quarters of an inch; color, rusty black, with whitish downy spots on the middle of the wing-covers; antennæ, only of moderate length; thorax, almost circular, with two polished black spots upon it; wing-covers, coarsely punctured; form, flattish. The grubs of this insect are exceedingly destructive to pine and fir trees, and also to the timbers of houses. I have observed great numbers of these insects at intervals for the last fifteen years, even in districts where no pine was growing. These may have been brought thither in lumber from the pine regions; but appearing so uniformly for so long a time has led me to suspect that they also attack other trees; and if our fruit trees are not in danger, at least our ornamental trees are, especially if they be pines. They come forth from the pupa in the months of June and July generally, but I have found them earlier, in company with *Clytus flexuosus*, and suspected that, with that insect, they had come out of a lot of condemned hickory hoop-poles which had been cut and piled in my cellar for firewood.

10th. *Elaphidion atomarium.* Drury. "Oak-tree Borer." *E. marilandicum* of Fabricus. Plate I. fig. 10. Length, from an inch and a quarter to an inch and three-eighths; color, dull brown, sprinkled with gray spots; antennæ, longer than the body in the males, and about the length of the body in the females; the wing-covers are terminated with two small spines on each. It lays its eggs in July in or near the joint of a leaf-stock near the extremity of a branch; and when the grub is hatched, it penetrates the centre of the branch towards the body of the tree, devouring the pith and forming a cylindrical burrow. The mature insect comes forth in June and July. Twenty or more species are found boring into various kinds of trees. Becoming very common. In the absence of oak, should not be surprised to see them take to the apple and pear as the Saperdas have done.

11th. *Chion garganicum.* Fab. A "Forest-tree Borer." *C. quadrispinosis* of Haldeman. Plate I. fig. 11. Length, about one inch; antennæ, in some males twice the length of the body; color, hazel, with a tint of gray; a short spine on the middle of each side of the thorax, and two spines on the end of each wing-cover; an oblique yellowish band across each of the wing-covers; form, slender and cylindrical. The grubs cut long galleries in the trunks of the trees in the direction of the grain of the wood, and come forth as beetles in May and June, and even as late as July. Becoming more numerous every year. It is partial to the hickory tree, but doubtless would also attack others.

The foregoing are a few of the long-horned *Coleopterous* insects, or "Capricorn Beetles," that bore into wood and are injurious, or are liable to become injurious, to fruit trees in general, and to apple and pear trees in particular. It must be evident, from their habits, that whilst they are doing us the greatest injury, they are entirely secluded from our vision, being in a grub form in the trunks and branches of our most valuable trees, and that the application of a remedy, if one were known, would be a difficult thing to make available. If we learned to *know* these insects, and the periods at which they make their appearance, we might, perhaps, keep them at bay for a short season by vigilant watching, and drenching the trees once or twice a day with a shower of soap and tobacco juice through a hand-engine. It occurs to me that the Ailanthus is a tree that is comparatively, if not entirely, free from the infections of insects; and also,

that whilst it is in bloom, the ground under it is strewn with *dead* insects, especially flies. A decoction of the *Ailanthus* has been beneficial in removing *aphides*, *rose-bugs*, and *other* "bugs," and therefore might be beneficial as an antidote against the Capricornus. But where a fruit-grower has a large number of trees, the attempt to drench or syringe all of them would involve no small undertaking in time and material. As these beetles are all night-fliers, therefore pine-knot torches or small bonfires kept burning in the vicinity of fruit trees during the season in which they lay their eggs, would draw many of them into the flames, and thus destroy them. Entomologists sometimes suspend a lamp, surrounded by a glass globe, over a large tub, or other vessel, of water, in order to capture insects for their cabinets. The insects fly against the glass, attracted by the light, and fall into the water. This is suggestive as a remedy, but, like the torch or bonfire, it involves the destruction of both friends and enemies. As an evidence that turpentine or many other pungent mixtures can have very little effect by their smell alone on these Capricorns, a large number of them seek the *Pitch Pine* trees as their favorite resort, and only attack other trees in the absence of them.

Let any amateur visit the collection of birds in the Academy of Natural Sciences in Philadelphia, and he will be struck with astonishment at the large number of species belonging to the families of woodpeckers that are scattered throughout the world. These all perform an immense amount of labor during the year, in ferreting out and destroying wood-worms and grubs of kindred species. When in the silent forest, our ears are saluted by the monotonous music of the "woodpecker tapping the hollow beech tree," "we may know by the sound that a *larva* is near."

TERRACED SLOPES.

BY WALTER ELDER, PHILADELPHIA.

That a neatly terraced slope is one of the masterpieces of the gardener's handiwork, all will admit. I have made several, and seen many others; but, generally speaking, they are appropriated to a wrong use, —that is, of making vineyards of them. I have never yet seen one of them wholly succeed. The causes I attribute to the failures are: first, the vines naturally send out many surface-roots to a great distance, which gather nourishment from night-dews and slight showers; but here they must strike deep, as there is but little surface space. Second. The grass on the banks attract a great quantity of night-dews, which hang on it like crystal beads until late in the morning, the vapor of which so moistens the air that surrounds the vines, as to cause the *pollen* to clog in the *anthers*, or it is scalded by the sun while it is yet moist, and but few berries set on the bunches, and many of them with black specks, which cause them to decay before they are full-grown; and it is rare that a perfect bunch is produced, except on the vines at the ends of the terraces, or those on the upper terraces where the rocks run higher than the banks above them. Third. The want of a current of dry air down the slopes, to lick up the dews at an early hour in the morning, and carry off the moist vapor and soften the radiancy of the sun. I consider this the chief cause of the fruit not setting, as there is nothing more essential in the culture of the grape than dry air and sunshine. Some unobserving persons may think that the air is as dry upon a southern slope as upon an airy flat; but such is not the case. I know of a vineyard upon a southern terraced slope, immediately west of a wood of tall forest trees, and the dews remain both upon the vines and the grass until ten o'clock in June; and, although the vines grow thriftily, the fruiting process is almost a failure; and who that is conversant with the nature of the grape-vine can be surprised at it?

The most appropriate use a terraced slope can be put to, in my opinion, is to plant it with flowering shrubbery, roses, and chrysanthemums. The early blooming kinds and roses will flower a fortnight earlier in spring. The roses will bloom later and more profusely in fall; and they, with showy chrysanthemums, will make a beautiful fall garden; and that makes the slope a particular ornament and pleasure, both in early spring and late fall, and forms a fine contrast with other parts of the grounds. Indeed, it may be said that a place is not complete without a neatly terraced and finely decorated hillside.

The following are some of the shrubs I would plant upon the terraces: Forsythia, Cydonia japonica, Spiræa prunifolia and Reevesii, lilacs, Deutzia scabra, Lonicera tartarica, Dwarf Philadelphus or Mock Orange, Weigelia rosea, Robinia hispida; and upon the upper terraces, Rhus cotinus, Hibiscus or Althea, the Double Red and Double White do.

[Flowering shrubs have a much prettier effect on terraced slopes than many persons would suppose. Such a terrace exists on the grounds of E. S. Sanford, Esq., at Chestnut Hill, Pa., and is the admiration of all who see it.—Ed.]

SKETCHES of PHILADELPHIA BOTANISTS.

BY L.

VI.—WISTAR AND MACLURE.

In honor of Dr. Caspar Wistar, Nuttall named the genus "*Wistaria*," of which the best known is the elegant Chinese Plant, originally called Glycine chinensis. This magnificent climber worthily commemorates the name of one who, though not a botanist specially, was an early President of the American Philosophical Society, a successful teacher of anatomy and surgery, a friend and patron of science, and contributed greatly by his Conversazionés, since called "Wistar Parties," to incite and nourish that love of science which has become a peculiar feature among the intellectual men of Philadelphia.

Dr. Wistar was regarded in England and America as one of the first medical authorities of his time. To his exertions and distinguished position, combined with his popular manners, the medical schools of Philadelphia are much indebted for the high position they have attained. He deceased in 1818, in the fifty-seventh year of his age.

A cutting from the first Chinese Wistaria brought to England is now growing in the Horticultural Society's grounds at Chiswick, trained upon walls eleven feet high, where it occupies a space three hundred and seventy-five feet in length,—a glorious monument to the fame of him from whom it was named.

The name of William Maclure, the philanthropist, and friend of science, and advocate of the universal diffusion of knowledge, the *Maclura aurantiaca* will hold in remembrance as long as the beautiful Osage Orange shall spread its glossy foliage on the banks of its native Arkansas, where, unsurpassed in richness and beauty by any other native of our woods, it hangs out its green or golden fruit, or miles of hedges stretch far away over the broad prairies of Illinois, "boundless and beautiful."

"Maclure was eminently philanthropic and benevolent, and expended very largely of his vast possessions for the general benefit of mankind. He believed that knowledge and intelligence are the true sources of human happiness and well-being; and, acting on this creed, he was ever ready to encourage and foster institutions for the diffusion of knowledge. He entertained the idea of setting up a great school or university, in which every branch of natural science was to have been taught."* In this opinion he was correct, if the term knowledge be considered as including that higher intelligence which "cometh down from the Father of Light" and leadeth into all truth. Knowledge, sanctified, can enlarge the domain of human happiness; but

> "they who know the most
> Must mourn the deepest o'er the fatal truth;
> The Tree of Knowledge is not that of Life.
> Philosophy and Science, and the springs
> Of wonder, and the wisdom of the world
> I have essayed, * *
> But they avail not."

Maclure loved the Academy of Natural Sciences because its objects were in harmony with his views of benevolence and the universal diffusion of knowledge. To his munificence it is indebted for its present existence and prosperous condition. Like Peter Collinson, he was a successful London merchant. He resided for many years in Philadelphia, and was elected President of the Academy to the time of his death, a period of more than twenty-two years. He made a geological survey of the United States, a description of which was published in 1809, and proves him the pioneer of American Geology. This thin octavo, I well remember, brought me, when a boy, many an hour of quiet pleasure, as I scanned his descriptions of the primitive transition, secondary rocks of Pennsylvania, though I longed for something more definite than vague terms such as Greywacke, Schist, &c., applied in the then infancy of the science to the formations for which our Rogers has at length found a nomenclature in his massy volumes, at once simple and beautiful.

* A notice of the origin, &c., of the Academy of Natural Sciences of Philadelphia, by W. S. W. Ruschlenberger, 1852.

VISIT TO FOX MEADOW.

BY GRAPTOLITE.

The "Fox Meadow" Gardens are situated on the Harlem Railroad, about 25 miles from New York City, near Hart's Corners Station. Grape-culture under glass, for market purposes, is the chief feature of these gardens, and, under the direction of Mr. John Ellis, the skilful manager, a high degree of success has been achieved. The grape-culture has not only attracted much attention, but the unique and graceful articles from the pen of Mr. Ellis, published in various horticultural journals, under the signature of "Fox Meadow," have won for the writer a good deal of reputation as a practical, sensible gardener and a keen and original thinker. A visit to Fox Meadow will well repay any one who is interested in good gardening and good grape-culture. The estate is a large one, comprising some three hundred acres. The gardens occupy twenty-five acres. The grape-houses are about twelve hundred feet long, all lean-to houses, built in a very plain, economical manner, yet so constructed and elevated on terraces, as to form very beautiful objects in the landscape. They are all forcing-houses, and almost the entire crop of grapes is cut and sold before the first of July. The Black Hamburg and Muscat of Alexandria form the chief part of the stock of vines. The borders are very large, (inside and outside,) and are elevated on terraces and very thoroughly drained. Peat, leaf-mould, and well-rotted manure, with good sod, were freely used in the composition of the borders.

The most striking peculiarity in the condition and management of the houses is this: the vines are planted only two feet apart, and are worked on the short-spur system for three years, when Mr. Ellis purposes (and has commenced) to cut down every alternate vine nearly to the border, in order to break some dormant eyes and get a new cane as directly from the root as possible.

Mr. Ellis argues, that when a vine has been fruited on the short-spur system for three years, and has consequently been much restrained in its wood-growth, it becomes stunted and inactive, ceases to form new roots, and hence a decline in its fruiting capacity must ensue, and has been observed in these houses. The idea is to cut down the vines, under the circumstances, and to give them time to make new wood and new root-growth, and to elaborate the power needed for hard forcing by one year of rest. The new canes produced after this plan, from five year old roots, are very fine, running, of course, to the top of the house, (thirteen feet,) and of large fruiting size; but we believe Mr. Ellis does not propose to fruit the new canes the whole length of the rafter the first season after renewal, but to gradually fruit and spur it, according to circumstances.

This method of planting two feet apart, and this alternate renewal system, is somewhat similar to Mr. Bright's proposed plan of planting and renewing the canes, as Mr. Bright renews his canes every other year, (after every fruiting season,) and Mr. Ellis spurs his vines for three years, and then renews the entire canes. Mr. Ellis thinks he can get more fruit from his vines on this plan, in a given time, than Mr. Bright can, and if not so large on the old canes, it will be of higher quality. Mr. Bright, we believe, contends that cutting down the cane every other year will keep them in better health and vigor for a longer period, and produce annually as many grapes, in a house of given size, as can be produced on the spur system, and of monstrous size of berries and bunches, and the finest quality.

The marked features of all Mr. Ellis' operations are practical good sense and economy. We obtained many useful hints from his well-stored mind, but we forbear to state them. Mr. Ellis has in press, and will shortly publish, an extended work on the Construction of Vineries, Orchard-houses, &c., with practical hints on the formation of vine-borders, vine-culture, notes on fruit trees, &c., &c., adapted to popular use. This work will be profusely illustrated with engravings of vineries, plans of borders, heating apparatus, &c. Mr. Ellis is decidedly in favor of inside borders for vineries; but he makes them very large, filling the whole inside of the house, and has some new and ingenious suggestions upon drainage, ventilation, etc.

We feel confident that the work will be one of much value to pomologists. A day at Fox Meadow Gardens is a day full of instruction and pleasure; but a book from the pen of "Fox Meadow," the author, will be like the essence of many days of observation and pleasant talk.

[We received, and insert this article with great pleasure, on account of some circumstances that we happen to know, but which do not "appear on the record." We are personally acquainted with our correspondent, and know that he is a great rival of "Fox Meadow" in grape-growing, and this tribute to his opponent is as generous, as we know from report "Fox Meadow's" excellent practice deserves. It reminds us of a story we once heard related by a friend of Nuttall, the Botanist. When Nuttall was in Arkansas, then a wilderness, a war broke out between the Creeks and some other tribe of Indians. In the midst of the battle, the ammunition of the opposing party gave out, and they prepared to run. The Creeks, however, sent them a message, that if they would only stay and finish the fight, they would share their powder with them. It was agreed to. Blankets were spread, the powder poured out, and scrupulously divided; when the tug of war again commenced, and the Creeks came off signally victorious.

When we see, as we sometimes do, the petty squabbling which some writers indulge in, in the columns of several of our agricultural contemporaries, we almost blush that we have ever written a word in favor of the peaceful influence of horticulture,—doubting whether murderers do not sometimes wear flowers in their button-holes—though Taylor says they do not—and have almost a feeling of envy toward the generous manliness of the untutored savages in the anecdote we have narrated.

A few such pleasant instances as our present correspondent furnishes will do much to restore our weakened faith in the true principles.—ED.]

HOT WATER FOR INSECTS.

BY W. H. DENNING, FISHKILL LANDING, NEW YORK.

On reading in a former number of your magazine the receipe for removing insects from plants by a warm bath, I could not help exclaiming "Eureka! away with the abomination of tobacco smoke, sul-

phur and all the evil smells destroying the sweetness of our Greenhouses for days and weeks, and what fools people are not to think first of simple expedients." Proceeding forthwith to the Greenhouse I summoned an assistant. Water was easily procured from a boiler, carefully graduated to 130°, and a rose tree immersed. I held the watch, and 4 seconds having elapsed, the tree was removed. I eagerly looked for scalded aphis, spiders, &c., but an unusual animation seemed to indicate their enjoyment of a warm bath.

Something is wrong! try another dip! and longer time. Tried 1 minute; same result! tried 5 minutes, same result! tried water at 140°, no difference. Not wishing to scald my plant I gave up the experiment. Seeing the receipe repeated in your October number, I would like to know where and how I was wrong in making the experiment? The bugs died at a temperature of 200°, but I think the plants would go and do likewise.

[The observations of our correspondent only tend to show that the same fire that would render an apple soft and juicy, makes the potato dry and mealy. This is owing not to the fire that roasts, but to the different natures of the subjects roasted. That hot water will destroy insects—as a general rule—is a fact within our own experience,—and is also attested to by numerous correspondents in private letters to us, as well as in some communications that have appeared in our journal. Our correspondent's failure cannot affect what has been done by others, or the principle by which it has been accomplished,—at the same time it seems inexplicable, and we hope he will continue his experiments so as to account if possible for the failure or otherwise.

If it were found that under some circumstances certain insects had the power of passing uninjured through a degree of hot water, that would under other conditions prove fatal to them, the water might be made greasy, as most insects breathe through very fine external pores, which grease would easily clog up; should they escape the hot water it would only be to die of suffocation.—Ed.]

EFFECT OF DEW ON GRAPES.

BY E. A. RIEHL, BOONVILLE, MO.

In the October number of the *Gardener's Monthly*, I find an article on the culture of the grape on Kelly's Island, in which the writer attributes the success there attained to the absence of fog and dew, and ask the correspondents of the *Monthly* to give their views and experience on the subject. Although I am not on the list of your correspondents, yet I will take the liberty of giving you my views and experience, and you may dispose of them as you think proper.

I have for many years been of the opinion that two things were essentially necessary for the healthy growth of the grape, namely: Natural, or artificial protection from dew, and thorough drainage. The reasons for entertaining this belief are these. Some ten years ago my father tried some experiments on three vines of the Isabella, planted on the east side of the house. At first they were trained close to the wall where they would be protected from dew by the projection of the roof, and while grown thus they bore regular and fine crops of grapes, but subsequently they were permitted to run on some framework so as to make a kind of arbor in front of the house, and where the dew would fall on the leaves, after which the grapes invariably rotted, both on the arbor and under the roof and on the wall, and I have observed the same thing in other localities, thus showing that it is not the fault of the soil or climate aside from dew; besides why is it that grapes do so much better when allowed to run on large trees? Not because they are not pruned as I have known some to contend, but because the foliage of the trees keeps the nightly dew from the leaves of the vine.

I have always noticed that here in Missouri, wherever the grape succeeds it is upon land that has thorough natural drainage, and if any part of the vineyard is in a spot so situated as not to have good drainage, the grapes will generally rot while the balance of the vineyard is perfectly sound. We can also see the same thing exemplified by noting the results of different years, and I think this has been one of the best to prove my opinions to be correct, for while in ordinary seasons more or less grapes are affected by the rot, this year they have been totally exempt therefrom, and the reason is evidently the unusual dryness of the season and but very little dew having fallen after the first of June.

Such are my views on this subject, and I give them for what they are worth, and should any one be led thereby to investigate the matter more thoroughly than I can do, and succeed in discovering the true cause of rot and its preventive, I shall be amply repaid for writing this.

[We should be glad if all our readers would consider themselves "on the list of our correspondents;" especially such as are gifted with such excellent habits of observation as Mr. Riehl's concise and suggestive remarks show he possesses.—Ed.]

"LEAD US NOT INTO TEMPTATION."

BY N. S. N., COLUMBIA, TENNESSEE.

We are so constituted as to be compelled to rely upon each other for much we know and do, then how fervently should we pray not to be led into temptation by those in whom we trust and confide. In your

indispensable Monthly, you and one of your contributors intimate that budding and grafting the *peach* on the *plum* will avoid the ravages of the borer. If this will accomplish an object so much desired, the discovery will prove invaluable. But the question is, will it prevent the ravages of the borer? We say from actual experience it will not. Four years ago, we saw the same remedy published, and hailed the suggestion with delight, and proceeded immediately to test its efficacy by having some 30 or 40 *peaches* budded and grafted upon a native hardy *plum*; they succeeded finely and grew off rapidly. We were delighted with our trees, until the time came when they had to be transplanted, when to our utter astonishment, we found them literally alive with the borer-worm from *one* to *eight* in each. They are now beautiful pyramids, but they have been more troublesome to keep clear of the borer-worm than if grown on *peach* stock, from the simple fact, they were planted below the union of the peach and plum, in which enlargment they seem to congregate in quantities, and out of which, it is more troublesome to expel them. They do not stop here, but extend their ravages even out into the collateral roots of the plum.

We have budded some of the finer plum upon the same stock, and they have shared the same fate.

We might say more upon this subject from our experience, in cultivating the trees and eating the fruit; but it would occupy too much of your paper. But if any other information is desired, the roots of the trees remain as evidence of the truth of the foregoing remarks, and ready to communicate the ravages the borers have made upon them. If this suggestion succeeds, it must be upon a different kind of plum from any we have here.

[Our note to "Alpha's" communication, had reference, as it will be seen, to the curculio or plum-weevil. Grafting the peach on the plum cannot of course be any remedy against the plum-*borer*.—Ed.]

MILDEW.

BY J. N. JONES, CHARLESTON, S. C.

Being interested, some years ago, in the subject of mildew on grape-vines and other plants, I made some investigations under the microscope, which altogether changed my views on the subject. I had always considered mildew as a disease of plants, or, at least, as a cause of disease; regarding it as a parasitic fungus, feeding upon the sap, obstructing the respiration, and destroying the vegetable tissue. I observed, however, that *before* the fungus made its appearance, and before any trace of it could be observed under a high magnifying power, the foliage in parts, and sometimes entire leaves, put on a peculiar glazed appearance, evidently caused by the exudation of some gummy or viscid matter oozing out from the stomata, gradually spreading over the surface, and drying in the form of a thin pellucid pellicle, scarcely distinguishable by the naked eye. Upon, or under, this pellicle, after some days, the vegetation of the fungus was distinctly observable in the form of fine threads ramifying in all directions, exactly as mushroom spawn runs through a "brick." A low magnifying power of two or three hundred shows the object beautifully in the form of most delicate lace-work. Fine particles of dust frequently adhere so thickly on the viscid surface, as to interfere with a good view of the object. In a few hours, under favorable conditions, little globular bodies may be observed forming all over the net-work of fibres. These burst through the thin layer of extravasated sap "coming up" very much like a fine crop of mushrooms. On twirling an affected leaf in a tumbler of warm water, the gummy matter dissolved and carried with it the fungi, root and branch.

The conclusions deduced from these facts seem to be, that mildew is not a parasite, in the proper sense of the word, but rather a scavenger decomposing and changing into another form the excrementitious matter, or whatever it may be, thrown off by the leaves. Mildew cannot exist upon a healthy vegetable surface; but wherever decomposition is going on, there mildew will be found in some form or other. The unhealthy exudation, from the surface of a leaf, of this viscid matter, which dries and, no doubt, decomposes on exposure to the atmosphere, forms a proper food for the mildew. The stomata, or pores of the leaf, being stopped up, it is impossible that healthy respiration can be resumed until the surface is perfectly cleansed. The cause which produced the overflow of sap (if I may so term it) may have been transient; but as long as the pores remain closed, it is impossible for the plant to grow healthily. The tissue of the leaf or fruit becomes unhealthy, under such circumstances, merely from suffocation, as it were.

The application of lime or sulphur may cause the destruction of the fungus by acting upon and purifying the viscid sap. Possibly, however, the plentiful use of warm or even hot water, where it can be used, might be quite as efficacious.

[It is, perhaps, needless to observe that we take precisely the same view of the question as Mr. Jones does. In the time of Linnæus, there was an obstinate controversy among the scientific men of that period, whether or not spontaneous generation of some of the lower orders of plants and animals ought to be received as a part of science. The great man, in his Principia Botanica, combats the idea by observing that it would be quite as philosophical to suppose that the horse or the elephant might spring

spontaneously into existence as any of the lower forms of animal life. He inferred that the rule that governed the highest developed form applied equally to the lowest in the same class.

We apply the same rule to the fungus tribe. In all the larger forms we well know that they grow only on decaying organic matter, and that this is the case up to the limit of our visual perception of them, and where the microscope must be called in to aid it. Why should a new rule begin merely because we cannot see the operation?

[We must confess that, in common with most men who like to use the faculties they are blest with, make their own observations, and do their own thinking, we have met with facts that seemed to stagger us in this view. A few years ago, we noticed a peculiarity in the bark of a Scotch Maple; and, on cutting off a piece, perceived the mycelia of some fungi spreading through the apparently healthy tissue. Not being able to reconcile the phenomena with our views, we sent the specimens, through a friend, to Dr. Curtis, whose knowledge of this department here is probably not second even to that of Mr. Berkely in Europe. He replied that he thought the bark must have been previously diseased. A closer investigation afterwards proved that this was the case. The tree had been transplanted some years before, and had never been in vigorous health since. The bark on the south-west side, exposed to the full sun, had died first, showing that an evaporation the mutilated roots could not supply, had taken place from it, and caused the tissue on the other side to fall a prey to disease, on the heels of which, mildew, we saw followed.

We have no doubt but that the rule holds good in all instances.—Ed.]

TARTARIC ACID AND POTASH IN GRAPE JUICE.

BY WILLIAM BRIGHT, PHILADELPHIA.

A few words in reply to Dr. Hayes, and others, in respect to the use of tartaric acid and potash, as special fertilizers for the grape, may not be uninteresting.

My idea of the matter is, that organic acids (other than the carbonic) may be employed as fertilizers, with success, to heighten the flavor of fruits; and that the tartaric acid, in combination with potash, in the form of the bi-tartrate, is of great service in grape culture. I have never supposed that the vine could be compelled to take up tartaric acid in excess, nor have I considered its effects, particularly, in reference to wine-making. My belief in the value of this salt is based upon experience in its use. It was added to the soil of the grape border merely with a view to supply one of the most important constituents of the grape in a soluble form, and not with the expectation of increasing the quantity of crude tartar in the juice.

Some ten years ago, a number of careful experiments were tried by Dr. A. G. Hull, of Newburgh, N. Y., since deceased, to ascertain what effect, if any, could be produced upon the flavor of strawberries, by the application of various organic acids in a very dilute form, to the plant beds just before and during the fruiting season. Dr. Hull tried the citric acid (lemon juice), malic acid (cider), tannic acid (tan-bark liquor), manure water, and spring water. A long report of the details of these experiments were published in the *Horticulturist*, then under the editorial care of A. J. Downing. The result was that citric acid perceptibly increased the *acidity* of the fruit without improving the flavor. Little attention was given to the action of malic acid, as the cider was shown to contain also tannic and gallic acids. Of the tannic acid, Dr. Hull said:—

"It must be conceded, that a free application of this acid has produced *unequivocal effects;* that it has surpassed all competing substances, in creating *quantity* of fruit and in imparting *flavor.*"

Dr. Hull, in the report alluded to, quotes William C. Bryant, the poet (who, he says, is equally at home amid classic folios or among strawberries and potatoes), as authority for the fact, based upon his experience, that potash had proved of great service as an application to strawberries; and Dr. Hull closes his report with these words:—

"A rule of action naturally flows to the cultivator: in developing the most valuable qualities of the strawberry, he can perfect the finest fruit in abundance and richness, by selecting *potash* from among the inorganic, and *tannic acid* from the organic elements of the delicious fruit."

Mr. A. J. Downing very cordially endorsed these views, and recommended a mulching of fresh tan-bark for strawberry beds, or watering with tan-bark liquor, and the application of wood ashes, containing potash (actually the tannate of potash), and ten years of later experience by thousands of cultivators has confirmed the soundness of these principles.

Now I look upon the application of tartrate of potash to the grape border, in the same light as of tannic acid and potash to strawberries. I am inclined to think that in the absence of tartaric acid, nature makes out to elaborate that substance from carbonic acid, or possibly from sulphuric acid. Of course we know nothing of these processes in plant life. But when the perfectly formed salt, bi-tartrate of potash is supplied to the soil in solution, I feel confident it hastens and perfects the fruit-forming power of the vine. Such has been my experience, and such is my firm belief.

I was not aware, till quite recently, that any one had doubted that the native American grapes contained tartaric acid and potash in abundance in their juice. But it seems that it has been questioned. If our natives had been found not to contain these substances, it might have had much effect upon their wine-making qualities. In this view the following article from the *Rural New Yorker* of Nov. 3, is of much consequence to grape growers:—

"Bi-Tartrate of Potash is so common in the grapes of Europe as to be thought essential to the excellence of this admirable fruit. It must be equally necessary in the grapes, cultivated or native, in our country It is strange that the opinion should have been originated that this salt is not to be found in our grapes, excellent as they are for fruit and in the wine manufactured from them. It is gratifying to know that the matter is already settled right.

"In the Patent Office Report for 1859, on Agriculture, are two papers from two distinguished chemists on this subject. The first is from Dr. Jackson on p. 57, and the second from Prof. Antisell, on p. 59.

"Dr. Jackson examined the juice of thirty-seven forms of the grapes in cultivation, and found tartaric acid, without which the tartrate cannot exist, in every one of them, varying from six-tenths of one per cent. to 1.9 per cent. The latter amount was obtained from the Clinton and the Bartlett grape, near Boston, and the former from the Sweet Water and the Bull's Concord seedling. Even two per cent. was obtained from No. 35 of Weber, on page 68. The average of the whole is more than one per cent., an adequate quantity.

"Prof. Antisell found tartaric acid in the Catawba grape and the salts obtained from it, in Green County, Ohio. Some salts from grape juice were sent to the *Rural New Yorker*, which seemed to contain the same.

"It is obvious to remark, that as potash is one of the ingredients of the bi-tartrate, there should be the adequate supply of potash for the grape vine to feed upon, as its roots will take it readily from the earth. Only a small quantity is needed, which will be found in the best vegetable manure, or may be easily supplied from wood ashes."

THE EMPLOYMENT OF CREEPERS IN HANGING VASES, BASKETS, &C., FOR DECORATION OF GREENHOUSES.

(Translated for the Gardener's Monthly.)

BY A. F., PITTSBURG, PA.

The handsomest ornament of our orangeries and greenhouses consists of hanging vases and baskets, in which are cultivated plants with long delicate stems, which luxuriate around the suspended vessel, and throw out above and below it their rich stalks or shoots. There are many plants, especially epiphytes or parasites, which cannot be well grown in ordinary garden pots, whose beauty cannot be displayed to perfection in another way, for by this means, the requisite material and situation can be readily furnished. The following short review of the culture of these plants, which from experience are known to succeed best in the different kinds of green and hot-houses, promises no other object than to assist gardeners and amateurs in their choice and to protect them from errors therein, and mistakes in the treatment of special plants.

The *Aotus gracillimus* is a luxuriant Leguminosa, whose long shoots, covered at the time of bloom with very pretty yellow and orange red flowers, hang down on all sides; increased as Erica; grows best in black mould and sand; greenhouse. The *Calampelis* (formerly Eccremocarpus) *scabra* grows well and produces a mass of fine orange-red blossoms for a long time. The *Campanula fragilis* suits for small vases, has pretty light blue flowers and long slim shoots, and succeeds well in a mixture of leaf and garden mould; increased by division. The different kinds of *Cereus* flourish by this culture, and produce at all times a fine effect, and particularly so when in bloom. They are very easily cultivated, and require only one rule to be observed to allow them to remain almost entirely dry during the winter.

The *Cobæa* scandens produces a fine appearance in hanging vases, but requires a large quantity of rich earth. This suits well for large greenhouses where it can be allowed to spread freely, yet it must not be omitted to pinch off the ends often in order to compel it to send out laterals in abundance.

The *Dillwynia* (Eutaxia) *sessiflora* is another New Holland Leguminosa for the greenhouse, which furnished a great number of pendant shoots and small orange flowers. It is most suitable for small baskets, and when in bloom is most charming; a mixture of leaf and garden mould and sand is recommended for its use. The *Disandra prostata*, a tender plant of the Scrophulariaceæ, naturally creepers, bears numerous small star-shaped yellow flowers, is easily increased by division of the roots, and demands a very rich soil. The varieties of *Epiphyllum* hung in baskets produce often as fine an effect as *Cereus;* their culture requires no extraordinary specialty—only to deny them water in winter and water freely in summer; to be planted in good rich earth, to which potsherds, broken tiles, or bricks have been added to insure perfect drainage. The finest are, *E. Ackermanii, aurantiacum, Bridgesii, splendens, Russellianum, truncatum* and *truncatum violaceum.* Among *Fuchsias* are many, which are naturally hanging plants, and peculiarly adapted for the use of vases affording a striking and agreeable display.

A well grown *Hardenbergia* (Kennedya) *monophylla* makes a fine show, yields a mass of spikes, of charming blue flowers, and prefers a mixture of equal parts of leaf mould, common soil, and sand.

The *Hibbertia grossulariæfolia* is one of the most beautiful hanging plants, and desirable chiefly on account of the fine color of the under side of the leaves and pretty continuous yellow flowers: needs only common soil, and can be easily propagated from cuttings in sand. *Lantana miniata, crocea, Sellowiana,* and several others, are very pretty, especially when mixed with *Lobelia* and *Heliotrope.* The *Lobelia erinus* and other creeping varieties, either alone or combined with larger plants are very graceful. Another very beautiful plant, which suits particularly well for low

windows, or on the rafters of high greenhouses, is *Lophospermum scandens*; best raised from the seed, sown in pots in March and kept at temperate heat, but can be obtained from cuttings which have been rooted during summer in earth and sand in a well shaded frame. As the older plants usually become bare on the lower stems, it is well to provide new plants as soon as the lower leaves begin to fall off. . . . The *Lotus Jacobæus*, bird's-foot trefoil, commends itself chiefly for small vases, and make the best show in combination with other ornamental plants, especially those of light color, with which its dark brown leaves produce an agreeable variety. It is fond of plenty of light, and must be near the glass; easily propagated from slips. . . . *Lysimachia nummularia*, though common in ditches and damp woods all over Germany, is not to be despised. It should be grown from slips in pots in the open air, and transferred afterwards to baskets, when flowers begin to show. Its rapid growth, long pendant runners, and yellow star-shaped flowers, fully warrant attention. Some varieties hang down in large trusses, whose lightness add to their beauty. . . . Many kinds of *Maurandia* deserve the same regard as Lophospermum, and require almost the same treatment. . . . The varieties of *Mesembryanthemum* add greatly to the adornment of vases: they should be treated like cactuses. The finest are, M. *aurantiacum*, *blandum*, *coccineum*, *micans*, *speciosum*, *violaceum*. . . . The *Mimulus moschatus* and *Nemophilla*, *insignis*, and other varieties, yield a charming adornment. . . . The *Nierembergia calycina* blooms freely and very early, and wants a rich soil, abundance of moisture in summer and dryness in winter. . . . *Petunias* do well also when they are not allowed to become too long. The rose, *Vicomtesse Decazes*, is a most suitable plant for this purpose, particularly when care is taken beforehand to give it the right shape when growing in the pot. . . . Because *Saxifraga sarmentosa* is common everywhere, it must not be neglected for its foliage, flowers, and again its long reticulated and filiform tendrils make a really happy effect: can be readily increased from the knots where the rootlets are developed on the runners. . . . The *Sollya heterophylla* when well grown is a charming plant, whose blue flowers are very pretty. It does best in a mixture of leaf mould or turf and common soil and most easly obtained from seed because the cuttings root reluctantly. . . . For baskets, the *Torenia asiatica* is very beautiful more on account of its free bloom than its growth, which is somewhat slow. As soon as it has bloomed in the room or greenhouse it should be carried into the stove and watered sparingly during winter. Slips rooted in August in a hot bed under a bell glass bloom mostly always the whole winter. . . . Of *Tradescantia*, all the known kinds are commended; *T. discolor* because it blooms the whole year, and *T. zebrina* for its growth and beautiful shading of its leaves: all easily obtained from seeds or pieces. . . . Most kinds of *Tropæolum* suit exquisitely, particularly *T. Lobbianum* and its varieties. The *T. Tom Thumb* does well for flat vases on pillars of terraces, balconies, &c., as also the different *Verbenas*.

For very large and extensive greenhouses, where abundance of space and light are furnished, there are several plants, such as *Passiflora*, *Clematis*, *Plumbago capensis*, &c., when in large baskets produce a striking appearance.

Should any one desire to cultivate creepers in vases, &c., it is essential to choose plants so as to make pleasing and tasteful contrasts of growth and color, and assistance cannot be so easily rendered here as the choice depends upon the sense of beauty and artistic taste. Care must be taken in transplanting small squat trailers to large baskets, where strong plants with large leaves and flowers are growing lest they be obscured, yet it is not to be denied that their beauty is often increased thereby—skilfully combining fine leaved plants with bright blooming ones—for instance, a Tradescantia zebrina, and a dark blooming Tropæolum, or a nice luxuriant Lycopodium, with a free blooming Torenia.—*Illustrirte Garten-Zeitung.*

[The names of a few favorites occur which I hope may find friends. *Cissus discolor*, *Vinca minor*, *Aeschynanthus parasiticus*, and other varieties, *Russellia juncea*, *Manettia cordifolia*, Torenia *asiatica pulcherrima*, a great improvement over asiatica, Thumbergia alata, &c.—Tr.]

THE ALLEN RASPBERRY.

BY LEWIS F. ALLEN, BUFFALO, N. Y.

In your paper of last month (November), I observe a report, purporting to be made by a Committee of "*The Fruit-Growers' Society of Eastern Pennsylvania.*" They thus speak of the *Allen Raspberry:* "A good deal of confusion has resulted from *errors in the dissemination of this plant.* Mr. L. F. Allen, of Black Rock, N. Y., originally introduced to public notice two varieties, the Allen and Red Prolific, which are entirely distinct sorts. Parties here, however, *have received direct from Mr. Allen these two varieties, plants nearly identical in every respect, neither of which corresponded with the description given in his circular*, nor with that generally grown among our nurserymen here as the Allen Raspberry."

Now, the remarks of the Committee which I have quoted and italicised, would, if true, convict me of deception towards the public, about which I have a word or two to say. I *have* introduced to the public the two varieties of raspberry above-named, *and no other*. They are the *only* varieties of red raspberry *I ever cultivated, or now have in my possession, or which I have ever sold or sent out to the public.* So my denial is as prompt and explicit as the charge, or inuendo, made in the report. The two varieties which I have sent out are as marked and distinct in their appearance and growth as any two varieties of red raspberry can be; and any pomologist seeing them together, either when growing or lying side by side in ripe canes, will detect the difference in a moment. As to my description of them in my "Circular," as the Committee call it, but which was intended to be merely rules for cultivation, a brief description only is given, which is, as far as it goes, accurate.

Since I first sent out these two varieties of raspberry, now several years ago, they have been largely sold and disseminated over the country by other persons, some of whom purchased their plants direct from me, and others to whom I have never sold a plant to my knowledge. If *they* have made errors or mistakes, I am not responsible for them. I trust that my denial of the fact on my own part is sufficient to convince "the Committee" who have made the report, that they themselves have fallen into an error. Many of those who have sold plants bearing my name, probably cultivate several other varieties, and amid the multiplicity of labors and laborers in the nursery at the busy season of transplanting, it would not be strange that mistakes should sometimes occur, and that one kind of plant should be sent away instead of another. I do not say that such has been the fact; but it would be no strange thing if such an instance should now and then occur.

I am happy to remark that "the Committee" have done no more than justice to the excellent qualities of the "Allen" Raspberry in their description of its growth and bearing. I cannot ask, and do not wish any better testimonial to its excellence; and will add, that the "Red Prolific" is quite as good in every particular of growth and flavor, although of different appearance. When their thorough hardiness, needing no winter covering, is added to the description, I fancy the public will look wide and far before they will find another red raspberry their superior, or hardly their equal. The "Committee" have not done so, at any rate. Some pomologists object to the numerous *suckers* which spring up from the "Allen" plants. That habit only shows it abundantly able to take care of its own propagation, and needs only the labor to cut them away that a patch of corn or cabbage does in clearing it from the weeds,—that labor the raspberries require to give them their full measure of bearing and perfect quality of fruit.

I have heard complaints, in some quarters, that the "Allen" is a poor bearer; while in other quarters it is the most successful bearer that is grown. Both statements are, no doubt, true, and illustrate the fact for which I have always contended, that *all fruits* have their own favorite soils and localities, as well as the reverse. No fruit, from an apple to a strawberry, can be named to which the remark will not apply; and for proof I need refer no further than to the discussions in the several sessions of the National Pomological Society which have been held during the last dozen years. Numerous instances may be given, but the fact is too familiar with all intelligent pomologists to need further remarks.

The "Allen" Raspberry got itself sufficiently into the good graces of the above-named Society a few years ago, to be placed on their list of "fruits promising well," without any agency of mine, however. At its last session it was quite as summarily "rejected," though, it appears, under the strong protest of a minority of members. I trust the majority now feel satisfied, that in tabooing the "Allen," they have given me a sufficient punishment for my temerity in speaking, in past days, some wholesome truths about "Dwarf Pears!" Of this last I will, *en-passant*, remark, that since my Dwarf Pear articles appeared, an entire revolution in the manner of working, cultivating, and restricting the variety of pears proper to be worked on the quince has been adopted by their propagators, in which the indulgent public have saved large losses, if they have not been largely benefitted. I charge them nothing for my labor in that line, although receiving any amount of contumely for my interference.

As to the "Allen" and "Red Prolific" raspberries, I presume they will continue to grow and flourish with all who choose to cultivate them in favorable soils and localities, despite their recent "rejection." They are now so plenty and cheap, that I have ceased to advertise them for sale, leaving that for others who are specially in that line; remarking, only, that but a day or two ago I received an unsolicited order, from several hundred miles distance, for every "Red Prolific" plant I had to spare, some thousands in number, and which I very cheerfully filled. I found the fruits strangers to the public, and have made them familiar, and, with most of the receivers, glad acquaintances. With that I am satisfied.

[A neighbor of ours, from a little bed of Allen Raspberry, under, we believe, one hundred feet square, sold "over" two hundred dollars worth of fruit, as he informed us at the fruiting season. His soil is low and damp. On high and dry grounds we have noticed a tendency to produce imperfect flowers. For our part, we should not like to spare the Allen from our collection.—Ed.]

DWARF PEARS.

BY X., PHILADELPHIA.

T. G. YEOMANS, of Wayne County, who has a large orchard of Dwarf *Duchesse d'Angouleme* trees, sent a barrel of selected fruit of this variety to Philadelphia a few weeks since, and it was sold for $35 63—and it is said the purchaser trebled his money in retailing them out. To show the size of the pears, we may mention that it took but 125 pears to fill the barrel. They weighed 127 lbs., or over a pound each. The best eleven barrels sold for over $300, or nearly $28 per barrel. With such prices, we can hardly wonder that, notwithstanding the danger from fire-blight—which this year has proved very destructive in many pear orchards in this vicinity—many farmers are planting large orchards of Dwarf Pear trees. Of course, the above figures do not represent the *average* price of *Duchesse d'Angouleme* pears; they only show the advantage of growing fine specimens, and of marketing them in the best condition. The average price is about $10 per barrel.—*Genesee Farmer.*

It is a pity, perhaps, to spoil a good story, but the above article needs a slight correction, and the whole truth of the matter may prove useful to fruit growers. The additional facts are these. Mr. Vansant, a confectioner in Philadelphia, paid Mr. Yeomans $200 for seven barrels of pears, one of them being valued, as above stated, at $35 63. The pears arrived here in apparently good condition, but within two weeks afterwards, they rotted so rapidly at the core as to become almost worthless. The largest specimens, in a sound condition, could have been sold for fifty cents apiece, and if in tolerable eating order the whole of them could have been disposed of at a fair profit. But Mr. Vansant could not, in conscience, offer fruit in such a decayed condition at any price, without telling the purchaser the facts; this of course spoiled the sale, and most of the pears were either thrown away or almost given away. None of them ripened properly.

Now what was the cause of this rapid decay of the fruit? The Duchesse d'Angouleme is generally a pretty good keeper. Were the pears picked too soon, before they were properly ripened? was it the warm weather? was it the injury received from transportation in barrels; or some other cause, which produced the disastrous result?

Other questions arise. Can fine pears be shipped in a partially ripened state, and transported long distances, in barrels or otherwise, and then be kept with success and ripened up by fruit dealers? [Mr. Vansant, be it noted, has had much experience in keeping and ripening pears.] Or must choice pears be kept by persons skilled in the business in proper fruit-houses, and then be taken short distances to market, in small and carefully prepared packages, just when they are in eating order? It must be confessed that a large proportion of the choice pears sent to this city from New York and Boston, are presented to us by the dealers in a sadly bruised, blackened, shrivelled, badly ripened, flavorless condition. No person, unacquainted with the real qualities of the Vicar of Winkfield, would ever suppose it to be a desirable pear, if he were to judge from the specimens usually found in our fruit stores. The public all vote dwarf pears a humbug, if the fruit-growers do not, unless we can furnish them with fruit in a better condition than this. Our own idea is, that the task of keeping and preparing fine pears for market must be done by fruit-growers, and that such pears must be transported in small packages with great care, and generally only short distances. Each neighborhood must grow its own pears. They cannot, probably, be shipped and handled like apples, with good success. At any rate, the facts of the case in question will prove highly instructive to pear growers.

"NORTHERN APPLES IN THE SOUTH."

BY W. S. LANGDON, NASHVILLE, TENN.

On page 302 of your *Monthly*, I find an extract from a letter of James Magoffin, of St. Stevens, Ala., with the above caption. He states that Northern apples are found to *improve* in his climate—the "oleaginous and saccharine matter singularly increased, and the aroma greater and finer."

I am sorry that he did not inform us as to their *keeping* qualities. There may be something in the gulf atmosphere that will *improve* in this respect!

In North Alabama, Mississippi, and Tennessee, where I have had an observation of many years, I can assure you, that northern apples are in *no respect improved*, except in *color*, and there is not a single northern apple—known to be such—that *will keep through the winter*. I will give a few specimens.

Æsopus Spitzenberg, Downing says, ripens from December to February. It was on exhibition at our State Fair, in Nashville, Tennessee, the 10th of September, *dead* ripe.

Northern Spy, Downing says, ripens in January and keeps till June, but in Tennessee it is *never* seen after Christmas.

Yellow Bellefleur, November to March at the north; here a fall apple. Baldwin, ditto.

Peck's Pleasant, November to March. I recently heard a nurseryman offer a *dollar* a piece for all of this apple grown in Middle Tennessee, to be delivered to him on the 1st of January.

In this way I might enumerate all the northern winter apples that have been fruited in this country. Besides this defect in the keeping, only a few varieties will hang on the tree till perfected. This remark is also true of the northern summer and fall varieties. No *informed* man will now plant an orchard of northern varieties of trees.

I would be glad to hear further from southern men on this subject.

ALL ABOUT STRAWBERRIES.

BY "SUBSCRIBER," BALTIMORE, M.D.

For nearly twenty years past, I have been an unpretending amateur in the great and good cause of Horticulture, but chiefly engaged in the cultivation of plants in a small way. Having a very great passion for cultivating plants, and enjoying *real delight* in watching the progress of vegetation, the *trouble* and *labor* necessarily incident to the successful cultivation of plants is a *pleasure*, not diminished by the lapse of years, but decidedly on the increase with the increase of years.

Not being favored with means for cultivation in a greenhouse, I have, this season, turned my attention to the growing of hardy plants, and, as the "*utile cum dulce*" is signally and truly combined in the *strawberry*, my efforts have been especially given to the growth of that delicious fruit.

Information has been respectfully sought from some of the most intelligent and successful growers of this fruit in the country, and I now tender my warm acknowledgments to those gentlemen at home and abroad, who have very promptly and no less kindly responded to my inquiries. I have asked particularly to be instructed as to the very best and most practically useful varieties, and the most celebrated varieties in every respect, both as to table use and marketing, I have been induced to believe, must be, the "Wilson's" Albany, Austin seedling, Wizard of the North, Triomphe de Gand, and Seedling Eliza. Not having been engaged in cultivating this fruit sufficiently long, I can only speak from information received from friends who speak experimentally about them; but my friends in this case, as well as in all other cases, are gentlemen of such reliability, that I am so thoroughly convinced of the truth, the *whole truth* of what they assert, that I adopted their testimony as my own.

First then, a friend writes me about the "*Wizard of the North*" thus: "I did not see the Wizard in fruit, as it was in the winter when I was in England and Scotland, but, *gentlemen of the highest standing in society, assured me, that the fruit of the Wizard has been known to reach the enormous size of* $9\frac{1}{8}$ *inches in circumference.*" From the very favorable antecedents in relation to the character of my friend who has thus written, and from conviction that *his* friends in Europe are such as any gentleman may rely on for all that is excellent, I am prepared to rely implicitly on his statements. What a size for a strawberry is $9\frac{1}{8}$ inches—truly it must be a *Wizard!*"

Secondly. the "Wilson's Albany" has so well established its character that nothing need be said about it, further than when a gentleman amateur or any one else, desires to have a choice collection of the most *justly* celebrated strawberries, he naturally and irresistably (for the truth you know is great and will prevail) turns among the very first to the "*Wilson*" for a *combination* of all qualites that are excellent. So much only is needed for the "*Wilson.*"

Thirdly, come the younger candidates for public favor, the *Triomphe de Gand* and *Seedling Eliza.* A reverend and kind brother in the ministry of Christ, writes me from his home, that among the numerous varieties which he has under cultivation (and, I am informed, he has 50 *acres in cultivation* of the strawberry), he gives a decided preference to the somewhat new, but no less noble berry, the *Triomphe de Gand.*"

The successful and courteous Horticulturist, *Mr. John Saul*, of Washington City, also assures me, that the result of a very careful test of the "*Seedling Eliza*" on his part, warrants him in saying, most decidedly, that this variety is the largest and best variety of the pines now grown.

And, now, Mr. Editor, comes the last, but by no means the least in size and other excellencies, the "*Austin Seedling,*" grown by the Shakers, at Watervliet, near Albany, New York. This, I am remarkably disposed to regard as my favorite, not only on account of its immense size (6 inches in circumference), but chiefly because it is a native of our own beloved country.

Hear the testimony given to the "*Austin.*" I must not be understood to say one word designedly to detract from the merits of any one of these pleasant candidates for the suffrages of their growers and consumers. I intend no such thing. There are now 65 varieties of the newest and best I could lay hands on, now growing luxuriantly in my enclosure, and I am putting forth my best efforts in a test of the merits of each and all of them, and am not at all trammelled by partiality in the case. But, to the "*Austin*"—the "*Great Austin.*"

A friend from the north writes me in this strain: After giving very strong testimony in favor of "*Wilson's Albany,*" he says: "I visited the grounds of the *Shakers*, near Albany, in this State (New York), at the season of *fruiting*; and, although I saw the fruit in bearing on beds that had been permitted to run wild, that is, the old plants exhausted themselves, and the young ones ran out and covered the ground into a compact mass of plants; and they were so thick that they could not get either light or air, such was the condition of the whole plot, about a half acre; in the spring, when they cut lanes or alleys through, using the plants taken out of the alleys for a new plantation, there was a small portion of the plot, about two of the beds, that got partly drowned out (it being a little lower than the rest) during the heavy spring rains, the fruit on these beds were *enormous and all large*, clearly showing that the others

were too much crowded. *The fruit was fine on all, and very fine indeed*, considering they had no extra cultivation. And, at that time, the earth was greatly parched up for the want of rain. The soil, being a sandy loam, the drought greatly affected it.

I was so well pleased with the fruit that I permitted friend Miller, the Shaker Trustee, to fill my order which I had sent in *conditionally*, that is, to take the plants, provided I found the fruit to come up to my expectations.. Some of the 1000 plants I have sold, the rest I have set for fruiting and propagating plants. I directed my brother to cultivate a lot of the plants. He set 100 in the spring of 1859, this spring he took up the 100 plants with a large ball of earth to each, moved them to his new place, and, notwithstanding the removal, every plant produced a quart of fruit, and I now have hundreds of hills or crowns that will produce a quart of fruit each.

The crowns which have grown this season in my garden are so large, that the leaves now measure from outside or across the hill or plant from 16 to 18 inches.

I obtained the Austin only this summer—of course I will get no fruit until next Spring.

I am confident that, with good culture, they will come up to the statement of friend Miller, that is, the fruit has been grown at the Shaker farm at Watervliet, near Albany, to the enormous size of 6 inches in circumference.

It is a Giant variety. The finest stalks are from 16 to 18 inches high, and prodigious foliage. The berries are all enormously large."

Another friend from New York has written to me lately, that the year before last he saw and handled berries grown on the "*Austin Seedling*" strawberry plant which measured accurately 6 inches in circumference. Now, Mr. Editor, this is about the size of a well grown apple. I have heard it said of a particular variety of cherry, that it took two bites before you could swallow it, but from the information received about the "*Austin*," I am fully convinced it would take several large bites before it could be swallowed without risk of choking.

[As a rule we prefer the direct experience of our friends, to that which they may gather from others; but we pass the above on account of the pains the respected author, who is known to us personally, has taken to "collect evidence" in behalf of the kinds specified.

But we would remark that parties are often honestly mistaken in their estimate of the value of any kind for general cultivation. Local circumstances have an astonishing influence on the strawberry, and granting the punctilious accuracy of our correspondent's information, some of the newer ones may yet prove unworthy of extensive culture.—Ed.]

BUCKINGHAM APPLE.

BY J. VAN BUREN, CLARKSVILLE, GA.

On looking over the proceedings of the American Pomological Convention as reported in the *Gardener's Monthly*, I notice that Dr. Warder, of Kentucky, "introduced an apple formerly known as the Buckingham, but which is now known by the name of the "Illinois Buckingham." The Buckingham is an old variety which originated in the garden of Col. John Byers in the year 1777, and was then called Queen, and was taken from Buckingham county, Va., where it emigrated into North Carolina and took the name of the county from which it was taken.

In Kentucky, 60 years ago, it was called Queen; in other States it has passed by the names of Late Queen, Winter Queen, Ox Eye, Blackburn, Merit Apple, Henshaw, and Byer's Red. In this section of country it is still sparingly cultivated under the name of Buckingham, but from its propensity to drop from the tree is nearly abandoned. Instead of adding to the present confusion in the nomenclature of fruits by clubbing old varieties with new names, we had hoped the efforts of the Society would have been directed to its simplification, and not to steal our Southern thunder for the benefit of any Northern State.

[We received the above late last month, but held it over in case any correction of Dr. Warder's remarks might be offered, in connection with the general invitation we extended.—Ed.]

EXPERIENCE OF A NOVICE IN VINERY MANAGEMENT.

BY DR. T., CHESTER CO., PA.

I send you a few berries of the Bowood Muscat. You see how well they keep. It has given me more satisfaction than any I have, ripening early with the Hamburg, and hangs the last without moulding. Syrian, Hamburg, Zinfindal, Golden Hamburg, and Trebiana, all that are left, are mouldy, and not fit to eat, whereas the Bowood Muscat is, as you see. By-the-bye, Trebiana is rather poor, somewhat resembling the Syrian, but not as large, and more acid.

My grapery has done finely this year, giving us a full supply of delicious grapes, which is very encouraging; particularly so, as I had not a single bunch from at least forty out-door vines. So I recommend all my friends and neighbors to build cheap grape-houses; for from the last few years' experience, it is the only way to have fruit to a certainty.

[The above was not sent for publication, but as exhibiting the successful application of principles to an excellent practical result, it will be so encouraging to others, that we are sure our friend will pardon us for printing it.—Ed.]

CHENANGO STRAWBERRY APPLE.

BY N. COLLINS, SMYRNA, N. Y.

In your notice of the Chenango Strawberry Apple you say you can discover no material difference between it and the Minister. Now I have them both in bearing, and they are about as nearly alike as the Rohan potato and the Hubbard Squash. The Chenango Strawberry, as I told you, originated in this county, and the Minister in Massachusetts. The Strawberry begins to ripen about the 10th of September, the Minister is full a month later. The two are somewhat similar in appearance, but yet can be easily distinguished by having specimens of both. The Chenango Strawberry was raised from seed planted many years since by a colored man named Frank. There were originally three trees in the same orchard, but one of them is dead and the others have borne abundantly the present season.

It was for a long time called the Frank Apple. Subsequently it was named the Jackson Apple; and lastly, the Strawberry, to which I attached the name of the county to distingush it from the early and late Strawberry's of Western New York. I presume the same apples are several weeks earlier with you than with us, so that the Minister would be ripe there about the same time the Strawberry is here, which may have led you to suppose they are identical. I think if you had both varieties growing in the same locality, you would find they were not so much alike as you now think them. The shoots of the Strawberry are light yellow white; those of the other are much darker and more nearly green. The flesh of Minister is much more firm than the Strawberry and the flavor of those grown here much inferior. It does not bear as young and not near so abundantly. The Chenango Strawberry is but little known beyond this and the adjoining counties. I sent some specimens to P. Barry while he published the *Horticulturist*, and he sent for some scions, and now you will find it in the catalogue of Ellwanger & Barry, in the list of those on trial. They have the Minister and I have never heard that they thought them alike. I have no other object in sending the apples than to disseminate it, because I think that for its season it has not superior.

[If, as our correspondent says, "the two are somewhat similar in appearance, the main difference being that the fruit of the Minister ripens a month later," we submit there must be a nearer resemblance between them than between "a Rohan potato and a Hubbard squash."

Our correspondent should remember that it does not follow that because a fruit may be well ascertained to be a seedling, it must necessarily be very distinct from kinds already known.

We had no specimens of the Minister by us to compare with the Chenango Strawberry. We only suggested the resemblance, and our correspondent's own letter shows we had good reason for so doing. As, however, he has the opportunity of comparing both together which we had not, and points out their difference, we deem his explanation satisfactory, and repeat that the specimens sent were in quality and appearance of most superior excellence, and we feel favored by the opportunity afforded us of testing them.—Ed.]

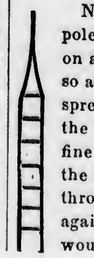
MAKING ICE.

BY BOREAS.

As I consider it almost as important that the public should be made acquainted with our failures, as well as our successes, in any experiments, I will state, that I once endeavored to fill my ice-house with ice obtained from the falling spray of a fountain. I set the fountain playing, with a rose on the nozzle, during several cold nights. The ice formed almost as fast as it fell, and I was in fine spirits at the prospect of getting my supply without the trouble of hauling it from a considerable distance and up a high hill. But when I commenced to cut it, I found it was composed of thin strata, with air between, and so soft and shelly, that it would not keep. Next season I think of making a small pond and filling it from the fountain. I find that a pond about one hundred feet square will fill my house.

[The above was received late last spring, and we have held it over till it should be again in season. As now is the time for the "ice question," it may bring out some good thing that will be of service to parties so situated.—Ed.]

Accelerating the Maturity of Cauliflowers.—A correspondent of the *Farmer and Gardener* says, in Ireland he made a slit two inches from the ground upwards into the heart of a matured cauliflower, put a piece of stick in to prevent a reunion of parts, drew up the soil two inches above the cut part, and staked to prevent the head blowing over by the wind, and the result was a head fit for market six to eight days before others not so treated.



New Apple Ladder.—Split an ash or spruce pole to within a few feet of the end; then put on a ring or insert a wrought nail and clinch it so as to prevent the pole from splitting further; spread it the right width for a ladder, until near the crotch, where it must gradually curve; confine it in this shape; bore and insert rounds the proper distance and it is ready to *poke up* through any little opening, and will rest firmly against a small branch where a common ladder would often cant or twist about.—*Maine Farmer.*

The Gardener's Monthly.

PHILADELPHIA, DECEMBER 1, 1860.

☞ All Communications for the Editor should be addressed "THOMAS MEEHAN, Germantown, Philadelphia," and Business Letters directed to "THE PUBLISHER OF THE GARDENER'S MONTHLY Box 406 Philadelphia."

TO ADVERTISERS.

☞ Copies of Advertisements, *when they occupy an entire page* of this paper, will be furnished to the advertiser, printed on good paper, for private distribution, at the low price of THREE DOLLARS per thousand. *Nurserymen* will find this an economical way of getting their *Wholesale Lists* and *Abstract of Catalogues* printed.

VALEDICTORY TO 1860.

At the close of our second volume, it is meet that we say a few words valedictorily and prospectively.

And in bidding adieu to the past, we do it reluctantly, as separating from a dear friend who has been kind and considerate towards us,—who has overlooked our foibles, and been liberal with our shortcomings, and generously credited us with the good we have aimed to do equally as if we had actually done it. Kind, generous friend, Oh horticultural public of 1860! How happy would that debtor be who, in the common commercial affairs of life, found his creditor so ready to "take the will for the deed" in satisfaction of all claims, as thou hast been in our case!

Still, if we have not done what we might, and perhaps ought to have done, we have performed at least what we promised to do. We offered a folio sheet, and gave a quarto, and subsequently heaped the measure to a neat octavo. Encouraged by public approval, as indicated by our subscription-book, we gave a costly frontispiece, occasionally colored, in addition; and in our wood-engravings we have been profuse. We have been particular in the introduction of this department, having noted, from infancy upwards, the lasting impression this style of education makes. Many of our toughest lessons in boyhood were so profusely illustrated with wood-cuts, that we have never forgotten them. To be sure, our village pedagogue employed *birch*, while the publisher uses *box;* but that makes no difference, so that the subject is made equally clear in each case.

Passing from the publisher's desk to the editorial department, we think the same result will be found in pledges redeemed and promises performed. We set out by the avowal that we should know "no North, no South;" and we have even ignored the whole Union as a geographical boundary to our sphere of usefulness. We have labored as strenuously for the cause of horticulture in Canada as for California and Florida, or Maine and Virginia. By "shooting a little with a lengthened bow," we may make the poet truly say:

> "These are our realms, no limit to their sway,
> Our work, our sceptre; all who read, obey.
> As far as art can reach, or artists roam,
> Survey our empire, and behold our home!"

And in the general management of the paper, we have carefully avoided every thing likely to wound the feelings of the humblest, with a single eye to the accumulation of facts and figures that might have some relation to the beautiful pursuit in which we are all over the whole continent engaged; and having thus nothing to charge ourselves withal, we feel

> "Like him who wraps the drapery of his couch about him,
> And lies down to pleasant dreams."

And yet not long to dream; for the future, laden with hope and fragrant with success, awakens us again to action. The fragrance of morning already diffuses itself around us with the dawn of 1861, and the full light will find us as earnest as ever; here clearing away, there sowing seed, and in every direction passing what encouraging words we can to the husbandmen. Our many friends, we know, will help us—not only that part of the little pronoun which represents the publisher, by doing every thing possible to make the paper known,—but *us*, also, of the editorial department, by contributing every little fact or observation that may have the slightest bearing on horticultural pursuits.

"YE MAY KNOW HIM BY HIS GARDEN."

You may judge a man from the bumps on his head, from the features of his face, from his style of composition, from his handwriting, from his gait,—why not from his garden? True, gardens are generally delivered from one man to another, and so cannot express the *pro tem.* owner's soul. Again, gardens are ordered like boots at the boot-maker's, and express the owner's idiosyncrasy still less than those boots express the shape of their wearer's feet. Still, some men there be who, like Jack in his house, live in the gardens they themselves planted. And of these men we "sing." Take, as first specimen, one of your near neighbor's garden. Look at it, and tell us, can it belong to anybody but to Peter Juniper Watkinson, the eminent lawyer? There is Coke upon Lyttleton in all the shrubs; there is precision in the rectangular walks; there is system in the flower-beds; the gravel seems of the driest, the grass of the palest, and the genius of special pleading gazes at you out of a couple of China vases before the house.

Take, as a contrast, a near neighbor on the left, pretty Mrs. Wimbledon, widow of the late Mr. Wimbledon, a young and pretty widow; with a garden that looks so intelligent; with flower-beds so dashing and flouncy; with premium strawberries; with altogether "so engaging a place," as people say, that many good folks would like to share it with the lovely Mrs. Wimbledon.

No. 3 is down in the hollow, old Rue, the bachelor's home. Looks very clean,—nobody can possibly say it looks dirty or slovenly. But the cleanliness is that of a ship,—the tidiness, that of a barrack,—all discipline: not the trace of woman anywhere. Evergreens predominate fearfully. Deep shade, also, bordering on misanthropy, morosity, austerity, and other similar Latin and Greek words. Reader, beware! Turn about, ascend the hill and peep in No. 4, Alphonso Galbraith's, the artist's, place. People who turn every thing into ridicule say it is like a bedstead; and so *it is*, at least in shape; so *obsquare* and so small. But a jolly little spot it is. Genius and poverty, jollity and good nature are in it. The same plants that seem to weep at Rue's, here smile broadly, and balance themselves in the sun with a graceful ease; and the pretty arbor, just looking like a temple of Venus, Bacchus, Comus, and all those full, half, and quarter gods, not to mention the quaint devices, the antique seats, the big Newfoundlander, *not* painted in iron, but alive and barking, the grape trellis, and, above all, the good taste throughout.

Nos. 6, 7, 8, and 9 of our catalogue shall not be noticed. Doctor of Medicine, of Divinity, Sheriff of the County, and Professor of Dentistry, one and all in different gardens.

No. 10 shall be the last. Plumley's that is. Don't you know Plumley? Why everybody knows Plumley, and everybody's wife particularly. His real name is Plumley Grabbitt. Dry-goods, you know. Garden made to order; the best for the money; the most complete assortment of styles; very rich and crowded; greenhouses, statues, wire-work, all sorts of things so beautifully crowded,—just like his shop-window in town. Made to be admired, and, what is worse, people *do* admire it.

Not to particularize any more, we will state it broadly: you may learn a man's bent from his garden. There is character in his garden,—also and most often the characteristic absence of character. In that case, you have the "hum drum" style of garden; the copy of somebody's copy of somebody else's copy of somebody else's indifferent original.

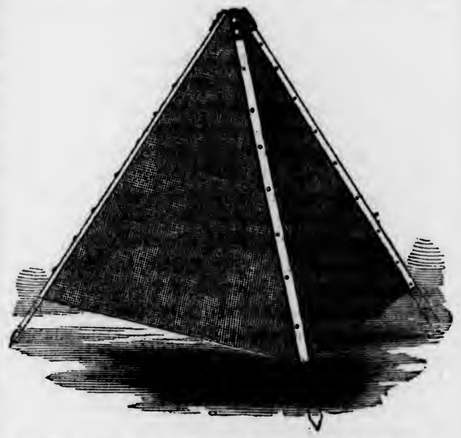
Yes, good reader, the garden is the mirror of the mind, as truly as the character of a nation is the reflex of the individuals composing it.

MR. RATHVON'S ESSAY.

We give in this month's issue the first plate of insects in Mr. Rathvon's Entomological Essay, colored. It is our intention, after passing it through the *Monthly*, to issue it in book form, with *all the plates colored;* but the expense will prevent our publishing the remaining plates in the *Monthly, colored.* The price of the work will be fifty cents per copy. As the number printed will be limited, we should be glad to receive the names of subscribers in advance. A liberal discount will be made by the dozen, and to societies and others who may wish to offer them as premiums to exhibitors.

BATES' PLANT PROTECTOR.

Mr. Daniels, of this city, has left at our office a little affair, of which the following is a sketch:—



It is formed of an umbrella-like triangle, that will open and shut, the spaces between the legs being made of mosquito netting. It is just the thing to protect egg plants, tomatoes, squash vines, and other plants, in early infancy, from gramenivorous insects whose only office here below seems to be to convince the skeptical that Job was not a horticulturist.

SURFACE-MANURING.

We were much pleased with the remarks made by President Wilder, at the late Pomological Convention, on surface-manuring; believing, as it is well known from our past issues, that the general recognition of this principle will work wonders in horticultural economy.

Truly, as Mr. Wilder observed, it is no new idea; but on this there need not be much difference of opinion. The man who popularizes an idea that is really a gain to the community, deserves, at least, to share whatever merits there may be in it. From the earliest records of antiquity to the present time, there has, doubtless, been a continual succession of minds who recognized the value of the principle; but yet it is a fact, that so far as our own generation

is concerned, the leading horticultural and agricultural spirits, from Judge Buel and Mr. A. J. Downing, downwards, have been opposed to it,—and the agricultural chemists of the present day, with very few exceptions, look on it as contrary to a correct theory of manurial management. The great objection has been, that much of the ammonia is lost when manure is applied in this way, which is, undoubtedly, the case; but the corresponding advantages far outbalance this difficulty.

It is a well-ascertained fact, that the most active feeding fibres are at the surface of the soil. They avoid the light; but they approach the atmosphere as near as they can consistently with this aversion. All the fibres beneath the surface will show, on examination, a gradually increasing weakness, in proportion to their depth. It has even been suspected,—and with much reason,—that all roots of any considerable depth beneath the surface do little else than supply moisture. They are the "hewers of wood, and drawers of water" in the tree's social system.

To "dig manure down into the soil, where the roots can get at it," is, then, mistaken policy. That system which applies it to the surface is the most rational of all.

Too much stress has certainly been laid on the necessity of preventing the escape of ammonia from manure. Barnyard material that may have lain on some neglected surface for several seasons, and, to the unassisted senses, has lost every perceptible trace of its ammoniacal properties, is well known to practical men to be of the most value. Even those crops which are supposed to require most nitrogen—to which end ammonia is regarded as the chief minister—are found in practice to do best in "well-decayed manure." In celery-growing, for instance, one year hotbed-dung is usually preferred to fresh; and the older the manure,—if three years,—so much the better is the resultant crop.

It is the action of atmospheric air on manure that prepares it for the food of plants. This process is best accomplished at the surface; and the best roots being on the same ground, all the best elements of culture meet under the best possible conditions of success. The great body of the soil must be looked on as rather a reservoir of water and inorganic matter, which is drawn upon by attraction as the surface loses them by evaporation and vegetable absorption.

The first preparation of the soil should be thorough. It will not retain heat and moisture unless it can be continued elastic and porous. This calls for draining, subsoiling, and, if the strata is tenacious, a thorough mixing of porous material. This once thoroughly accomplished, after-culture is deprived of much of its laboriousness and expense. An annual forking-up of the soil for the yearly crops, and a surface-dressing of well-rotted manure, accomplishes, for half the usual cost and trouble, double what can be accomplished under the old system.

We well know that there are scores of our best minds that will smile at our reasoning,—amused, not that we recommend the practice, but that we should think it worth reasoning on at all, as practice in their hands has so successfully demonstrated its truth; but there are hundreds of cultivators who are yet incredulous, and it is not right to ask them to abandon time-hallowed practices, without showing some reason for the trial of a substitute proposed.

ACTION OF FROST ON THE QUALITY OF FRUITS.

A Connecticut friend states that pears which usually have an astringent property, are rendered of the highest excellence by a slight exposure to white frost. The Vicar of Winkfield he particularly refers to as being rendered a first-class fruit by this process. We have a neighbor who has a very large Vicar; and it has been a curious subject for speculation with us for some years past, why the fruit on some portions of the tree should be very superior, and on others so absolutely worthless; and we think it quite probable that the hint above noted affords the real reason.

The after-treatment of fruit is of quite as much importance as obtaining good kinds,—and the note of our friend is worthy of more extended observation. It is well known how frost acts in removing the astringency of the persimmon; and it is just as likely to have the same effect on the pear. Many of our second-rate pears would be really delicious, but for a slight puckering flavor. If frost will aid in removing this objection, what a valuable fruit Louise Bonne de Jersey, for instance, would be! Of course, caution will be needed, as too much frost would induce decay.

Questions and Answers.

Cocculus carolinus.—A few days ago we received the following note from Mr. Robert Nelson, of Montgomery, Alabama:

"I cannot deny myself the pleasure of sending you the enclosed little bunch of a native perennial climber, which, I think, would be an ornament of the highest beauty in a camellia-house, as it could be planted in the ground in the greenhouse, and allowed to climb. Not the smallest part of its beauty is, that it keeps the berries on the vines all the winter. I have not analyzed it, as I never noticed it when in bloom."

[Though able to name the plant for our friend, we had no idea that the plant was near so beautiful as his specimens prove it to be. We so heartily second his views as to its value for either conservatory or open-air decoration, that we have had the annexed cut made of the specimen he sends us.

The berries are of the most brilliant glossy scarlet, and cover the plant most profusely. It will, no doubt, prove hardy as far north as the Trumpet-vine will flourish well, though, perhaps, the berries may not have time to mature and put on its fine color before frost arrives, but it would be admired for its graceful foliage alone.

The plant is considered by botanists as being diœcious, but it is more probably polygamous. The fact is worth remembering, as it is not advisable to raise such plants from seed. A plant that bears well should be selected, and layers made from the young growing shoots in June. We hope some of our southern nurserymen will soon have it on their lists for sale. The small figure represents a seed cleared from the pulp, and is quite a curiosity in its structure.

Large Potatoes.—*C.* says:—"Can you tell us what is the size of the nail-kegs used in Florida, to which you compare the potatoes grown in that State in your November number?" which we understand as a polite expression of his potatorial infidelity. We know nothing more than the statement conveys, which, as we duly credited, originally appeared in the *Southern Cultivator*.

Our correspondent's doubts originate, evidently, from his experience of the potato here. The root of the plant—the "potato" of our tables—being, properly, a bud only, must mature whenever the plant which produces it does, and the following season must die away and give place to a new growth, as it is well known potatoes do. Under such circumstances, it would be, of course, impossible for a tuber to continue enlarging "for three years without becoming pithy"! But can our correspondent say the potato plant may not continue growing in the mild climate of Florida for two or three seasons without maturing or dying down? If it does do that, there is nothing incredible in the statement of the Florida correspondent. The potato-tuber—properly its bud—would grow as long as the plant did it belonged to. It is not wise to discredit positive statements, for no other reason than because they do not accord with our limited experience.

In like manner we have heard parties dispute the probability of a potato producing white and purple tubers on the same plant. A statement which, independent of the positive evidence in its favor, is not only probable, but, to a certain extent, can be accounted for.

White, scientifically speaking, is no color. It is, in fact, the absence of all color; but, in the every-day language of horticulture, it expresses loss of color. Many plants with colored leaves and flowers lose their color, and become white or variegated, and these sports are continued by propagation from buds or cuttings; but it is found, in practice, that there is a continual effort on the part of the plant to regain its lost colors. Variegated hollies, yews, box, euonymus, cedars, and many other plants have to be continually watched to take out the green shoots that persist in coming out amongst the variegated ones.

The original color of the potato was blue. The white is a sport, and as in the other cases, propagated as it is by buds, there is a continual tendency to revert to the original color. Very few are the cases of white potatoes in a field of blue ones; but

blue degenerating, or regenerating, from the white, is an every-day occurrence.

Poet's Corner.—I am so much pleased with the contents of thy paper, that I intend to subscribe for it as long as it and me live. Yet there is a want, which, if supplied, would, I think, be an improvement, and that is a Poet's Corner, say half a column at the end, It would be interesting to thy youthful and female readers; and even sedate folks of my age would read it, as I would contribute occasionally to it. All poets have sung of gardens, flowers, and bowers. Let us have a Poet's Corner. I will wait for the number of first month to see what thee and thy readers think of it. John Arbor.

[Much obliged by our friend's compliments; but we fear we are lacking in patience to conduct such a department. We have an indescribable horror of bad poetry; and when we look at the "Poet's Corner" of some of our exchanges, and the quality of the stuff that passes muster to get there, we are sure the "galled jades of editors must wince" at the severity of the doom that ordains them to wade through perhaps hundreds of pieces to select even them. No, no, good Friend Arbor. Your own pieces would be, doubtless, very meritorious; but in opening the door, so many would rush in, that our nerves would soon break down, and your last service to us would be to write an elegy to our honor, and chaunt a dirge over our remains,—a melancholy duty, which, for reasons satisfactory to ourself, we wish to reserve for you as remotely as possible.—Ed.]

Names of Plants—*H. A. T., Crescent City, Iowa.*—We have a tree growing plentifully here that we call *Box Elder* or *Alder*, and I wish to know if it is not the same tree that is cultivated in the Eastern nurseries as Ash-leaved Maple? (1.)

The bark of the young trees, and limbs of the larger ones, are of a bright green color. I also send you two flowers for names. No. 1 is cultivated at the East, but I do not know the proper name of it. It is called Matrimony-vine. Can you give me the proper name? (2.)

No. 2 is one of our native plants, and is a beauty. It is a perennial, grows from one to two feet high, blooms in September. (3.)

[1. The same. Negundo aceroides.
2. Lycium barbarum.
3. Diplopappus linariifolius.—Ed.]

Pears.—We have received specimens of a seedling pear from Hon. S. Walker, which we wish to keep a few days for more perfect maturity before testing. We ask the same favor of delay from others of our friends.

Rooting in Moss—*E. C. A.*—I procured, last year, some Cherry Currant bushes, and, being much delighted with the fruit they bore this year, I thought I would make some cuttings from them. Now, having read about cuttings making roots very readily in moss, I concluded I would try this. Having prepared my cuttings about eight inches long, (September 14,) I placed them in horizontal layers, between moss in a soap-box, getting in eight hundred cuttings in eight layers. On the top I put a thick layer of moss, to insure moisture to the upper layers of cuttings. I then placed the box under glass in a cold hotbed frame. On examining my cuttings yesterday, I found them all beautifully calloused over, and even little roots projecting from the callus.

The object of my letter, Mr. Editor, is now to inquire of you, whether I may leave these cuttings in the moss all winter, or whether they had better be put in sand or earth now. A kind answer to my inquiry, through the *Gardener's Monthly*, would oblige me very much, and may be interesting to more of your readers.

[The sooner they are out of the moss after rooting, the better. They should be put for a few days after being set in a pot or box of soil, into a place a little warmer than the place they came from; and if with a gentle bottom-heat, so much the better.—Ed.]

Diseased Camellias.—Some one, who gives us no name, and the post-mark on whose letter is illegible, sends us the following:

"I send you a leaf as a sample of my camellias. I had them in a shady place all summer; potted or shifted them in September; they had bloom-buds on. The buds are falling, and the plants looking worse every day. I have no greenhouse. Sometimes they are kept in the cellar through the winter. I have them now in a sunk pit, with good glass sash for a covering.

"Will you please to let me know, through the *Gardener's Monthly*, why they look so, and how I may treat them? and oblige A Subscriber."

When "camellias are potted in September," unless they were previously very healthy, and in the hands of an experienced party who would know how carefully to water them, they generally "grow worse." Never shift any plant until it is just about to grow. The roots of your plants have become diseased, and do not act, and the leaves, deprived of sustenance, become brown and fall off. Keep them now as dry as just possible to maintain vitality, and early in spring cut them in severely, and set in a hotbed to induce a new growth.

Names of Plants—*W. M. B., Hancock, Ills.*—Clematis Virginiana, the Virginia Virgin's Bower.

Watermelon Molasses—*C. C., Winchester, Tenn.*—In the September number of your invaluable periodical, I noticed an article headed "Watermelon Molasses." As melons are very plenty in this country, I would like to find out how he makes it. I tried a small quantity of juice, boiling down to a syrup; but it had the taste of burnt molasses, though I was very careful in boiling not to burn it.

As your correspondent expresses himself willing to explain his process of making the syrup to any one asking him, I would like to get his address. If you do not have his address, could you give me any information about it,—whether the peculiar burnt taste can be got rid of? Also, how to clarify it from very fine particles of melon that straining will not take out, so as to make it clear like the syrup we buy at stores? If you will please answer this, you will confer a great favor.

[The gentleman referred to will, we hope, comply.—Ed.]

Strawberry-worm.—Is there any remedy (except finger-picking) for the worm that eats the leaves of strawberry plants? The full-grown worm is an inch long, white or very pale green. It appears at the close of the fruiting season, and remains about a month. The second generation comes in September, and is still (October 11) abundant, varying from three-eighths to an inch or a little more in length. Please answer in your next *Monthly*, and oblige a

Subscriber.

[We have never observed the insect our correspondent alludes to; and as the post-mark is illegible, and there is no clue to what part of the country our "Subscriber" lives in, we are unable to collect any information from others.

Will correspondents please remember that inquiries, to receive any chance of attention in the forthcoming number, must reach us before the 10th of the month. All the work of this department cannot be done in a few days before going to press. It is a pleasure to aid our friends if they will give us proper time.—Ed.]

Speakers at the Pomological Convention.—We are pleased to note the increasing interest of amateurs in horticultural influence. At the recent American Pomological Convention, the names of seventy-six speakers were reported. Of these, *fifty* were amateurs, and but twenty-six nurserymen.

Introduction of the Lombardy Poplar.—Can any of our readers inform us when and by whom this tree was first introduced into the States? We have heard the names of William Hamilton and Chancellor Livingston mentioned in this connection, but without any decided facts to substantiate the supposition.

Rooting Cuttings—*Wm. F. Steel.*—"I should like to inquire, through the *Monthly*, of Mr. Howland, Watson, or Smith, or others, if they can tell the readers of that valuable journal, how they can start the roots of cuttings as easily as they can cause the callus to form. I find it very easy to callus cuttings; but starting the roots is another affair. I find fine moss far preferable to any thing else for the callus to form in. Either green or ripe grape cuttings callus well in it. I have had roots start half an inch in it from green cuttings. I hope the *Monthly* will receive the success it deserves."

Grapes from Central New York.—Late last month we received a fine collection of grapes from Mr. W. Tompkins, Germantown, N. Y., which we highly prized as affording us an opportunity of testing the relative quality of fruit ripened there. We give the list in the order of quality: Concord, Raabe, Clinton, Diana, Catawba, and Isabella. We were surprised at finding the Concord at the head of the list, as it is the first time we have ever eaten one better than an Isabella when grown under the same circumstances. In this section the Isabella beats it in that one point.

Insects on Apple Trees—*J. G. M., Steubenville, O.*—The specimens are one of the common species of the insect coccus. They are usually exterminated by syringing with strong lye. We never saw them so numerously crowded as on your specimens. The trees must be considerably weakened by them. We should prune off and burn all the young twigs before cleaning what was left.

C. sends us a communication noticing Dr. Hayes' strictures on his former paper. As he expresses his "entire satisfaction" with Dr. Hayes' remarks, there is no immediate necessity for its publication; but it contains valuable hints on other subjects, and shall appear in our next.

Plants—*D. O. Reeder.*—Next month.

Books, Catalogues, &c.

The Illustrated Annual Register of Rural Affairs for 1861. By John J. Thomas. Published by Luther Tucker & Son, New York.

This is the seventh annual appearance of this useful serial, and is fully equal in interest to any of its predecessors. It is illustrated by one hundred and forty engravings of various subjects connected with rural life. It is replete with valuable suggestions, and just the thing to circulate amongst those

who may have old fogyish prejudices against "book farming;" and not merely is it valuable as a pioneer in preparing the way for a higher order of taste and refinement amongst those to whom a taste of these luxuries is most needed, very few of the most cultivated would peruse it without gathering from it useful hints and valuable suggestions.

Mr. Tucker deserves well of his country in more ways than one. It is to him we owe the origination and establishment of the *Horticulturist*, at a time when the attempt was thought madness, and the scheme an excellent one for the consumption of surplus funds at least. But with the editorial assistance of the late Mr. Downing, the project was eminently successful; and we envy Mr. Tucker the satisfaction he must feel at the present flattering condition of American horticulture, due as it is, in so great a measure, to his liberal enterprise and excellent judgment.

We have, at any rate, a pleasure in noting the fact, that though he must now be passing into the sere and yellow leaf of life, he is still laboring in the good cause as energetically and usefully as ever,—as the present little volume, his *Country Gentleman*, and other works so ably testify.

Descriptive Catalogues.

George G. Curtis & Co., Maysville, Ky. Fruit and Ornamental Trees, Roses, &c.

The perusal of this catalogue has very much interested us. It is not only one of the most complete published in the West, and got up with general accuracy, but has many points of original merit. Besides the general list of apples cultivated, there is a catalogue of Southern apples, with the names of the States attached where they originated, so that parties wishing to test fruits of their own districts, may have a chance of understandingly proceeding with their experiments. Mr. Curtis also consults the interests of his customers, by devoting the fly-leaf of his catalogue to telling them where they can procure the best journals to give them reliable information on all matters connected with the articles they may purchase of him, and names the *Gardener's Monthly*, the *Horticulturist*, etc., for which assistance to the cause for which we are laboring he, as well as other friends who have adopted the same course, will please accept our best thanks.

Dexter Snow, Chicopee, Mass. Verbenas.

W. R. Prince, Flushing, N. Y. Bulbous Roots.

John Rutter, West Chester, Pa. Grapes.

John Wilson, Albany, N. Y. Dahlias for 1859. This excellent list has been mislaid all summer, and only recently came to light, making us feel very much like Macbeth at the sight of that ghost. However, we have this advantage, we can say that since its receipt we have seen what is better,—Mr. Wilson's dahlias themselves, and can truly say that Adrien Carmail, Sir H. Havelock, Mad. de St. Laurent, Mount Vesuvius, Triomphe de Peck, and some others were amongst *the* finest we have seen this season.

Barnes & Washburne, Harrison Square, Mass. New Plants, Florists' Flowers, &c. One of the most valuable lists published.

John Saul, Washington, D. C. Roses.

Carew Sanders & Co., St. Louis, Mo. The secular papers have been talking recently considerably of the marvellous growth of St. Louis,—a fact of which the circumstances of its supporting so complete and varied a stock as this nursery represents, be a sufficient proof.

Thos. Learmont, Columbia, S. C. Evergreens, Shrubs, Roses, &c.

C. N. Palmer, Gallipolis, O. Fruits.

Fleming & Nelson, Augusta, Ga. Fruits and Ornamental Shrubbery.

Wholesale Lists.

J. W. Adams, Portland, Maine. Hardy Evergreens, &c.

Plumb, Wiley & Co., Madison, Wis. Fruit and Ornamentals.

A. S. Fuller, Brooklyn, N. Y. Grapes, Fruits, &c.

Hoopes & Bro., West Chester, Pa. General Nursery Stock.

John Saul, Washington, D. C. Fruits, Evergreens, and Ornamentals.

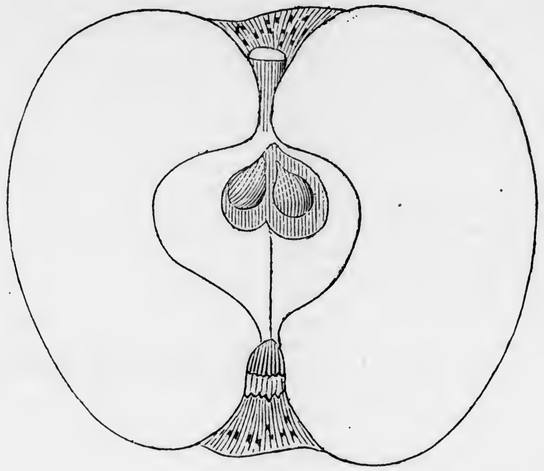
Bailey & Bro., Wilmington, Del. Roses, Grapevines.

B. H. Mace, Newburg, N. Y. Grapes.

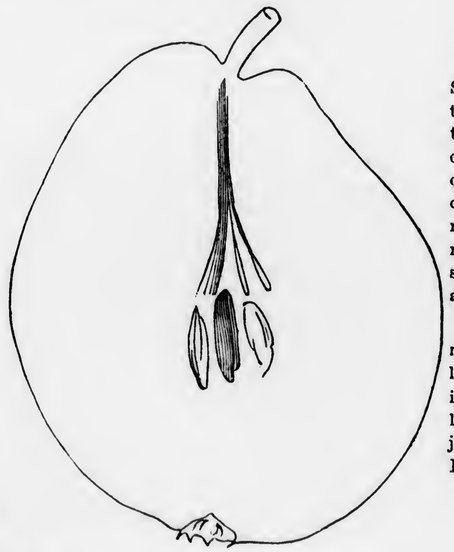
New and Rare Fruits.

The Elizabeth Grape.—We are indebted to Mr. C. W. Seelye's kindness for a specimen of this fruit, which we have already noticed in our columns. We were somewhat disappointed in it, as we were led to believe, from report, that it was supposed to be of foreign descent, and the experience of our best cultivators, from Mr. Longworth to those of more recent report, shows that all attempts to acclimate them will, sooner or later, end in failures, however much a few years' partial success may shake the faith of new beginners in that doctrine. But we were pleased to find that it is a genuine native white grape of the first quality,—a Rebecca in form, with the Maxatawny flavor. We expect to see a sharp contest between this and the Maxatawny for the supremacy.

Gracey Apple.—In our last we gave a figure and description of a new apple, from the pen and pencil of Mr. John M. Smith, of Greenville, Illinois. The same gentleman sent, at the same time, the following also:



Size, large, or above medium; form, regular, roundish conical; color, light green, thickly set with greenish white specks; stem, short, filling the bottom of the cavity; cavity, rather deep, regular; calyx, rather large, open, with short segments, and stamens persistent; basin, deep, irregular, ribbed; core, small; seeds, large, light brown; flesh, greenish white, tender, coarse-grained, with peculiar mild, sub-acid flavor; season, first of August. Raised from seed by a *Mr. Gracey*, of this county.



Shepard Seedling.—Under the name of the Shepard, Mr. Downing classes this, in his last edition of "Fruits of America," with the new and untested kinds. Specimens recently from Dr. Puffer, of North Bridgewater, Mass., shows that, so far as quality is concerned, it is a pear of the highest excellence. It was first introduced in 1852. It is rather liable to blow from the tree, and, so far, does not seem to do well on the quince; but it is a very strong grower and profuse bearer. The annexed cut and description are from specimens sent.

Shepard Seedling from Dr. Puffer. Fruit above medium, somewhat ribbed, conic obvate; skin, yellow, profusely covered with russet dots; calyx, small, in a very shallow plaited basin; stalk, short, sunk a little in a small basin, set obliquely; flesh, rich, very juicy, with a perfumed vinous flavor; of best quality. Eaten October 15th.

Imperiale and Muscat Calliabæ Grapes.—I send you, by express, a few samples of grapes, which I would like your opinion on.

1st. Imperiale. This is from a vine I imported from Leroy, of Angers, and has borne with me for the first time. It is early, and was ripe in a cold vinery about the 5th of August, and has hung ever since on the vine. You will perceive that it is a very large grape, with great solidity of flesh. The vine is a very strong grower; and, when it attains greater age, the bunches and berries will, no doubt, be larger than at present.

2d. Muscat Calliabæ. This is another new grape, obtained from the same source. The vine is yet very weak. Last year it bore for the first time. The bunches and berries were then double the size; but too many were allowed to mature on the vine, which weakened it so that the fruit is small and not so high-flavored this year as even last. I think it will prove a fine grape when the vine attains strength.

I also send you two bunches of white grapes. I had to put in small bunches to fill up the box, there not being room for large ones.

3d. This is one I got, long ago, from Prince, of Flushing, N. Y., as the Golden Chasselas, which is usually classed as the same as the Royal Muscadine or Chasselas de Fontainbleau. I have the latter from two different sources, and it is quite different.

I send you, No. 4, Chasselas Blanc Royale, also got from Leroy. This has proved so nearly alike to my Chasselas de Fontainbleau, that I can see no difference. You will perceive it is quite different from the Golden Chasselas. As the latter has a fine musk flavor, I would have taken it to be the Chasselas Musque; but it does not crack like the latter, and ripens well in the open air.

Will you be so good as to inform me, through the columns of the *Gardener's Monthly*, what you think of the two new varieties? and also what is the proper name of the one sent as the Golden Chasselas?

I have a number of other new sorts that should fruit next year. Also a lot of seedlings. One fruited this year in the open air,—a seedling from a foreign sort. It is very peculiar in growth, ripens very early, and is very good. Unfortunately, all the bunches were pulled when I was absent from home. I hope to send you some next year, and also some very fine seedling gooseberries, crosses with the native varieties, that I think are ahead of any thing yet out.

Yours truly, James Dougall.

[Our abominable post-office system, by which fitness for position is made secondary to political services rendered to successful candidates, is becoming an evil too great to be patiently borne. Mr. Dougall's letter arrived here seventeen days after the express company handed us the box. By the time that reached us, the grapes were not in good condition.

The Imperiale, however, is a very fine grape, with the long, tapering, and slightly shouldered habit of the Black Prince; and with a dark Japan-black color, that renders it quite striking. It is certainly a grape of great promise.

2. Muscat Calliabæ (Caillaba is probably the correct orthography,) is a purple grape, with the berries very compactly set on the bunch, and with a deliciously perfumed flavor. To say that it was a St. Peter's with a Muscat flavor, would, perhaps, convey a good idea of it.

3. It was eaten before we received the letter, but we had no suspicion that we were eating any thing but Golden Chasselas, which we think it truly was.

4 is White Sweetwater.—Ed.]

Recipes for Fruits and Vegetables.

"The lady who contributes a good recipe for the public benefit, deserves as much credit as he who introduces a new fruit or vegetable."—*Good Authority.*

Vegetable Oyster, or Salsify.—This excellent plant grows like a parsnip, and is in flavor very much like fresh oysters. Scrape them, and cut them round in thin slips; boil them tender in milk and water, season them well with pepper, butter, and salt; make a nice toast, moistened with the gravy laid in the bottom of the dish, and pour the whole over it. You could scarcely detect the difference. There should be but a suitable quantity of the gravy; too much lessens the flavor. It is sometimes cut up and parboiled, chopped fine, and fried in batter. The roots may be first cooked tender, then fried whole in batter. [This is the very best mode in which to cook this fine vegetable. We have raised it constantly for a dozen years, but never use it until about the end of October. They preserve best left in the ground, like the carrot, to be used whenever the frost will admit of their exhumation.—*Germantown Telegraph.*

Potato Salad.—In your "domestic," when you are giving directions for the cooking and use of sundry vegetables, perhaps you might add a mode of making a potato salad much used in some parts of the continent, and is thought by many to be delicious eating, particularly with salmon, or fish in general, or indeed anything else. The mixture of vinegar, oil, mustard, salt, and hard egg is the same as for common salad, and according to taste; the potatoes are sliced when cold, with beet-root also sliced. The cottager may merely use the vinegar, salt, and mustard, and add sliced onions.—*E. W., Cottage Gardener.*

Apple Pie Melon.—Cut, pare, and take out the seeds, cutting crosswise, stew until thoroughly done, using as little water as possible, and when done, turn into a cullender or cloth to drain, then add sufficient sharp cider vinegar to give the tart (I prefer vinegar to acid), and then proceed the same as in making green apple pies. The addition of a lemon adds to the flavor. Bake with under and upper crust. They make fine preserves or may be stewed and put up in cans, the same as other green fruit, and they will afford a fine substitute for sauce or apple pies through the summer.—*Farmers' Advocate.*

Parisian Mode of Roasting Apples.—Select the largest apples; scoop out the core without cutting quite through; fill the hollow with butter and fine soft sugar; let them roast in a slow oven and serve up with the syrup.

Celery Sauce.—Take a large bunch of celery, cut it fine, and boil it till soft in a pint of water; thicken it with butter and flour, and season it with salt, pepper, and mace.—*Rural American.*

Fox Grape Jelly.—Split and seed the grapes. Dissolve an equal weight of white sugar in water and put to boil, removing all the scum; add the grapes and boil; try the syrup, and if it jellies, they are done.—*Farmer and Gardener.*

Domestic Intelligence.

Flora of Japan.—A correspondent of the *World*, dating from Japan, middle of April last, says:—

"We had our lamb and green peas a fortnight ago. Radishes have gone to seed; lettuce is fibrous; strawberries, 'snakeberries,' as the Japanese call them, are plenty in the fields—strawberries in size and color only, for they are dry and tasteless as the apples of Sodom. The apricots have more than half their growth; the good-for-naught cherries are turning red. Cucumbers of a little more than a finger's size, brought to market in little shallow straw baskets that hold two of them, are sold for a penny a basket.

I have seen no curiosity of vegetable growth greater than that of a Wistaria I came upon a few days ago. It grew at the foot of a high bank overhung with cryptomeria, where stood an old wayside shrine. Like the oak of Summer Chace, it was

"—— hidden to the knees in fern."

while its creeping vines ran riot over a plantation of palms, stunted by this green serpent's embrace and the branches of a large tree that had been felled by its side. Two feet above the ground this Wistaria had a girth of five feet! About fifteen feet from the ground it divided off into a multitude of snaky vines that extended fifty feet horizontally over the tops of the stunted palms, or twined around their trunks and among the branches of the fallen tree, a curious mass of tangled growth. Its lilac-colored flowers swayed with the wind in pendulous racemes a foot and a half long. The Japanese dwarf this vine extremely, training it also over arbors where its long pendants have an effective display. The lilac-colored variety grows wild in the hills about Kanagawa. The pure white variety I have only seen cultivated as dwarfs; it probably comes from some other part of the island.

I have before spoken of the Azaleas. Nowhere else in the world, I fancy, do they have their equals. I have seen the hill-tops all aglow with their crimson petals, as though a conflagration was sweeping across. I have seen the bushes or small trees, as in Japan they might be called, bordering the woodland paths with a prodigal display of purple, and scarlet, and crimson, and orange, and yellow, loading the air far and near with perfume in that inexhaustible profusion which nature sometimes loves to exhibit. I have picked the blossoms, and throwing them down on the earth, have measured them as they rested on their petals a foot in circumference! A Montan peony lies before me whose broad disk, not exceptionally large one, measures two feet around. The Pawlownia (*Pawlownia Imperialis* of Siebold) is now in bloom. It is indigenous to Japan, and might be easily mistaken for the Catalpa, which it closely resembles.

Two features in the Flora of Japan cannot fail to strike every observer—the beauty and great variety of its evergreen trees and shrubs, the same extent and variety of flowering trees and shrubs. Of these last, from the opening of Spring until now there has been a constant succession. I hope yet to see many of them growing on American soil. There is a rubus now in bloom whose flowers are as large and nearly as perfect, and quite as beautiful, as our own double white roses. I have seen the vine growing in country farm-yards to the height of ten feet, white with its scented blossoming.

Apples for Wisconsin.—The Pomological Society of Wisconsin recommend for that State for general cultivation: Red Astrachan, Sops of Wine, Carolina Red June, Duchess of Oldenburgh, St. Lawrence, Wagoner, Pomme Grise, and English Golden Russet. The last was very highly recommended for western culture. Early Harvest, although not hardy, yet on a firm, dry soil, with a low top, was regarded as valuable. Early Joe had proved hardy and productive, and well adapted to amateur culture. Maiden's Blush was well esteemed, but

somewhat tender. Fall Orange always did well. Jersey Sweet, Rambo, Domine, and Vandevere Pippin, had proved too tender. Fall Wine slightly so, and very productive. The Baldwin was found to be very tender, quite unproductive, and of no value. The English Russet succeeded only on high and dry soils. The Red Romamite quite hardy, but the quality poor. Herefordshire Pearmain was highly recommended; usually hardy on dry soils, but failed on low grounds. Rawles' Janet was found to lack vigor of tree. Northern spy succeeded well. Blue Pearmain, hardy and good, was very unproductive. Tallman Sweet and Fameuse were both highly recommended.

POTATOES.—At a late meeting of the New York Farmer's Club, Mr. Carpenter said he planted last year sixty varieties of potatoes. This year he planted only five for his main crop. He recommends in order as named:—

Davis Seedling.—Red skin, white inside—cooks dry and mealy—very prolific, but like all other red varieties does not sell well in New York market—can be planted closer than the peach blow, and is more prolific—shape long—seed end deeply indented—size large—grow in a bunch—very clear of rot.

Dikeman.—White, with pink eyes elongated, originated some six years since at the west; early and good the year round. (Mr. Fuller believed it to be the old pink eye.)

Prince Albert.—Long, white, smooth, prolific, a good table variety, late in the season, bears a good price.

Dover.—Red, round, eyes indented, very choice.

Bulkley Seedling.—Planted a few this year, but from the experience he has had, cannot recommend it.

Mercer.—Good, but abandoned in Westchester County on account of its rotting.

Peach Blow.—Rots badly and grows too rank.—*Life Illustrated.*

OBITUARY.

We regret to learn of the death of Mr. GEORGE C. THORBURN, the well-known florist and horticulturist. Mr. Thorburn fell into a vault at Grace Church on the 9th ult., and received injuries which have caused his death. He was under appointment to take charge of Mount Vernon as soon as it should pass into the hands of the Ladies' Association, as we have already stated in the *Monthly*. He was one of the earliest friends of our journal, and was highly esteemed by a large circle of friends, who will regret to learn of his death. A daughter of Mr. Thorburn died a few weeks since, while on her way to England, from injuries received by falling down a stairway of the ship on which she was sailing. Mr. Thorburn's first remark on receiving his injuries was, "Am I to die like my daughter?" This coincidence of casualities is remarkable.

Foreign Intelligence.

CULTURE OF THE CHRYSANTHEMUM.—For decorating the conservatory or ornamenting the drawing-room during the two gloomiest months of the year, no flower equals the Chrysanthemum.

Being a successful cultivator of these favorite plants, I beg to furnish you with my mode of treatment. In November and December take cuttings from the strongest laterals, insert each in a 3-inch pot, in a compost of loam, leaf soil, and silver sand; then plunge them in a cold frame, and when well rooted shift into 4-inch pots, in a compost composed of two parts good rough turfy loam of rather a stiff texture, one part thorough decomposed dry cow dung, with a sprinkling of river sand and charcoal to keep the soil porous. Care must be taken that they are re-potted before the fibres get too much matted, and continue shifting from size to size until the end of July, when they should be settled in their blooming pots, 10-inch. Too much attention cannot be paid to drainage; for although the Chrysanthemum delights in moisture, it will soon show signs of distress if the roots are water-logged from want of sufficient care on this point. When they get their last shift, use plenty of pounded potsherds, not less than three inches in the bottom of the pots, over which put some fibrous pieces of turf to keep the drainage open.

When the plants are about six inches in height they will require stopping, taking only the crown, as every eye left gives a break more. If you wish to show that the plants are grown on one stem only, extract all the bottom eyes, so that the plants may show two inches of clear stem; keep them near the glass, giving them abundance of air; but care must be taken to exclude cold cutting winds, and protect from frost. As soon as the plants break and the laterals are about four inches long, they will require stopping, and as the weather becomes warmer use weak liquid manure. Particular attention will be required in pegging down the shoots, as some are very brittle and apt to break. They will require going over often, bringing then down gradually to within two inches of the pot; for if you peg them down to the soil, they will strike root. Stop again when the shoots have grown four inches, and continue doing so up to the middle of July. About the beginning of June they should turned outside into some sheltered situation, avoiding putting them under walls, trees, &c.; plunge them up to the rim of the pots in coal ashes, attend to frequently mulching the pots with rotten horse dung, to keep the sun from scorching the rootlets that are near the surface.

As regards training use four sticks in each pot, round which put a hoop of wire; and as the plants advance in height, use another if requisite.

Horticultural Societies.

PENNSYLVANIA HORTICULTURAL SOCIETY.

The November Stated Meeting was held on the 20th inst.

The greatest attractions were the Chrysanthemums. Mr. Eadie's were the finest specimens we ever saw. Some of them measured *fifteen feet* in circumference, were perfect in shape, and many of them had between two and *three thousand* flowers expanded on them. They were Pomponcs, and consisted of Madame Lafarge, La Citrine, Sacramento, Rosette. Bob, Napoleon.

Mr. Dreer had some very fine kinds on exhibition, as follows:—Those marked * we thought extra fine.

LARGE-FLOWERING KINDS.

*Virginie Miellez, *Remus, Margaret of Norway, Eliza Pele, Mt. Vesuvius, Aimee Verrier, Cassy, *Cassanda, Ruttier, Admirable, Madam Guaillaime, Marshal Duroc.

POMPONE.

Turnette, La Carmelitte, Mignonette, La Precieuse, Roi d'Lilliput, Blondinett, *Fleurette, Soliel d'Or, Blanch Alquilou, Mad. Martin, Belot Dufougerc.

The new *Centradenia grandiflora*, with larger leaves and flowers than the two other well known kinds, by Mr. McKenzie was considered a good acquisition. We noticed amongst the plants exhibited, hollow glass label, described at page 41 of our last volume, which had a very neat and pretty effect. In the same collection of plants, a noble specimen of Farfugium Grande was universally admired.

The Fruit department was not extensive, but very select. We noticed the Schuylkill pear, a kind resembling the Petre in form and appearance, but that kind does not keep long after gathering. These specimens were gathered in September. In Mr. Baxter's collection, the Niles formerly confused with Easter Beurre, but very distinct, were beginning to color. The Princely apple by Mr. Noble, were beautiful looking specimens. Very fine Black Hamburg Grapes were exhibited by Mr. Matheson, from Mr. Yarnall's—the second crop from the same vines in one season. Pine apples, in Pots, ripe, from Mr. Baldwin's garden. A communication was read from Mr. Parry, who deserves much credit for his monthly contributions of specimens of various articles for the public information—on different raspberries. Specimens of the branches of the kinds referred to were exhibited. The Marvel of four seasons from Le Roi of Angers, was identical with Belle de Fontenay, obtained from a nursery near Philadelphia, though it is believed there are two distinct kinds under these names.

Allen's Red Cane, and the *Allen* also, showed well marked characters: the former with stiff, erect shoots, with a purplish bloom; the last with brown, and somewhat recumbent stems. The French, from Mr. Concklin, was composed mainly of Bagley's perpetual (which latter by the way is believed to be identical with the old perpetual Antwerp of our old Pennsylvania, and perhaps other settlements), and of another kind not recognized.

The following is the list of officers chosen for the ensuing year:—

President—M. W. Baldwin.

Vice Presidents—James Dundas, B. A. Fahnestock, J. F. Knorr, Robt. Cornelius.

Treasurer—R. Buist.

Wm. Saunders—*Corresponding Secretary.*

Henry Hay—*Recording Secretary.*

Prof. of Entomology—S. S. Rathvon.

Prof. of Botany—Dr. Darlington.

Prof. of Hortl. Chemistry—Jas. C. Booth.

FULL CORRECTIONS OF OUR REPORT OF THE POMOLOGICAL SOCIETY'S MEETING.

From circumstances which we alluded to last month, we naturally expected our report to be imperfect, and cordially invited gentlemen to send us such corrections that they might wish to see made in this chapter. To those gentlemen who have done so we tender our best thanks.

We are pleased to record that most of the parties to whom we have applied for corrections, have expressed themselves pleased with the general accuracy, and have had no alterations to offer. When it is remembered that our report is the fullest that has ever yet been attempted in years past,—and nearly one-third fuller than any one now attempted; and that, *in proportion to the length of the report*, it contains fewer errors than any other, either professedly in full or in the abstract,—and that the whole report was published within a few days after the adjournment of the Society, without any opportunity of correcting any part of it by comparison with any other published report, we think the credit which has been given to our reporter is fairly and honorably earned.

The following are, we believe, all the additional corrections we have to make:

APPLES—*Stansill.*—Mr. Berckmans said, "I have the Stansill, among several varieties Mr. Steele sent me some years ago. They were not ripe when I left. Last year I had a specimen keep till January.

Rawles Jeannette should be spelled Rawles' Janett, the name being an English local corruption of "June-eating." Sometimes these apples are called "Janettings" or Juneatings. In Mr. Berckman's remarks, "At least as far as nursery trees of this species is concerned," was spoken by him in reference to some other subject not reported.

Hawthornden.—The remarks credited to Mr. Harvey, by their tenor appear to belong to Mr. Hovey; but we have seen or received no certain statement to this effect. Mr. Bateham's and our own corrections in the last number, with these, we think, now renders the Apple report complete.

CURRANTS—*Imperial Red.*—In Mr. Strong's remarks, the last sentence refers to *Gloire des Sablons*, with the addition of "judging from a single season's experience." We believe Mr. Saunders stated to us verbally, that he was not correctly reported on the *Gondoin* variety, but we do not remember that the error was specified.

STRAWBERRIES—*Brighton Pine.*—Mr. Strong said, "In general, it is *not* regarded as a poor bearer. The leaves sometimes blast in dry weather."

GRAPES—*Creveling.*—Mr. Mitchell said, it "is no *better* in my place *than* the Isabella."

Clara.—The same gentleman: "It has borne very large *crops* of grapes." Our report left out "crops."

The Mario .—Mr. Strong received his *vines*, not his "information," from Dr. Grant.

Pauline.—Mr. Berckmans said it *never* mildewed. "When the the leaf has crumpled," &c., should read, "It has a crumpled leaf, and is distinct from all others." Another grape, confounded with the Pauline, called the Logan, should read, the *Long*. In Mr. Campbell's remarks, we believe the "Logan" is properly the one referred to, and we presume the kinds got confused in the minds of the speakers through the street noise that prevailed, and the low tone caused by the illness of one of the speakers. Mr. Berckmans subsequently said, instead of what is reported: "The Pauline Grape ripens earliest." In reference to maturity between that variety and the Long Grape, Mr. B. did not say any thing about the Lincoln resembling it, but stated that it was far different from Lenoir, and that the Lenoir was distinct from the Lincoln Black July, Sumpter, &c,—the former having a larger bunch and *coloring* juice, and productive; whereas the Lincoln has a *colorless* juice, small bunch, and is a poor bearer. Mr. Mitchell's remarks on the same grape are correct in substance, but more awkwardly reported than he expressed them.

Allen's Hybrid.—Mr. Strong is reported as saying, "The vine clings strongly to the fence." It should read, "The *berries* cling strongly to the *bunch*."

Massachusetts White.—Mr. Strong's remarks were in reply to a question. He was called upon to defend a report of a committee, but made no allusion to his membership.

PEARS.—*Mr. Coit* is spoken of as "Hoyt" throughout the report.

Beurre Nantais.—Mr. Wilder said it made a fine *pyramid*, not "pear," and bears *abundantly*.

Hosenschenk.—Dr. Eshleman, we believe, said it did *not* succeed within thirty miles of Philadelphia.

Lodge, Mr. Wilder said, was a straight *grower*; and Mr. Reid, "one of the best of its season."

Buerre Mentignon should be Buerre *Montgeron*.

"Euchid" should be *Uvedale*.

Selleck, Mr. Scott said he believed, was a seedling of the *Bartlett*.

Congress.—Mr. Vicks' report, we believe, correctly refers to Mr. Saul the remarks we have credited to Mr. Steele.

Omah Pacha should be *Oma* Pacha.

Golden Beurre of Bilboa.—Mr. Bergen said, it *barely* lives on quince.

In Dr. Boynton's remarks, he is made to say, on page 33, line 44, that he got his phosphate from "vines," instead of *bones*. Line 9 from the top, "fibrous exhalations" should read, *liquid* exhalations. Lines 29 and 30 is not clear, but we leave it as the reporter made it. Line 4 from the bottom, "Oxbury Russet" should be *Roxbury* Russet. Page 34, line 11, "calcium of soda" should, probably, be "chloride of sodium." There may be a few other immaterial errors in Dr. Boynton's remarks; the corrections we have made are our own.

In the summary of "Fruits Promising Well," *Raabe* Grape and *Washington* Pear should be added.

We conclude with the following, that has been handed us for this chapter—a draft of an *unspoken* speech by Mr. Pierce, who was accidentally absent when the meeting adjourned. Many of the members, knowing Mr. Pierce's intention, were unprepared with a similar resolution, or we well know, from the great gratification Mr. James' liberal hospitality afforded all the members, as they freely expressed, it would have been enthusiastically carried.

Mr. President:

I wish to ask the attention of the Society for a few minutes. I must own that I feel somewhat obstructed in what I am about to say, by the choke-pear of modesty,—a fruit not much cultivated by modern pomologists.

I wish to call the attention of the Society to a particular fruit. It is well known to most of you. You have nearly all freely partaken of it, and are, I think, all prepared to bear testimony to its being luscious, juicy, and of highly vinous flavor. It is properly a seedling of this Society. I allude to the splendid entertainment given to the members of this Society by our worthy Treasurer, T. P. James. I move that it be added to the list of those that promise well, also to the one for general cultivation. And I will further add, that I hope it will continue fresh in the memory of us all; and that our friends of the Massachusetts delegation will either present us the same fruit, reproduced, at our next biennial meeting, or, at least, a highly-colored illustration of it.

YALE AGRICULTURAL LECTURES.

The public will be gratified to learn that the novel experiment of the *Yale Agricultural Lectures* of last Winter was so successful as to induce its repetition this Winter on a more complete scale. The course will commence February 5th, and continue through the month. These lectures are given under the auspices of the *Yale Scientific School*, or Scientific Department of Yale College, as a supplement to its newly instituted course of practical collegiate education, and for the benefit of the public at large. A new and important feature of this course will be its complete illustration by specimens, drawings, models, and animals. Life-sized paintings of groups from celebrated herds, will be included in these illustrations. The lectures on training and breaking horses are to be accompanied by practical illustrations. The lecturers of last year will take part in the course, and other eminent names, with a variety of new subjects will be added to the list.

The expenses of the course will be met in part by voluntary contribution. The lectures are under the direction of Prof. John A. Porter.

FRANKFORD WORKINGMEN'S HORTICULTURAL SOCIETY.

According to arrangement, our Annual Exhibition of Celery came off on Saturday, the 28th. The hall was decorated with evergreens, wreaths, designs, etc., which communicated to the whole affair a pleasing and cheering aspect.

During the afternoon and evening, the hall was free for visitors, and not less than twelve or fifteen hundred persons came, and all went away pleased and highly gratified with the result of our labors, many of them expressing a desire to aid us in the cause next year, not only with their means, but with their names; and though we are only workingmen, we expect next year to have an exhibition that Frankford may be proud of.

The winners of the Prizes were as follows:

For White—First, Andrew Walsh; Second, James Ruth; Third, Enoch Guy.

For Red—First, Andrew Walsh; Second, Thomas Wilson; Third, Jas. Ruth.

Seventeen other Special Premiums were awarded for other vegetables.

[We are pleased to hear of the increasing interest that has sprung from the little beginning made by the workingmen connected, we believe, with the factories at that place. In addition to the above modest report, we have received a Frankford paper, from which we gather that great enthusiasm is manifested for the Association by the citizens of that borough. We should be delighted to hear of the establishment of similar societies in other places.—ED.]

GENESEE VALLEY HORT. SOCIETY.

The Show made by the Horticultural Society yesterday in the display of Fruits and Flowers was by far the largest and finest ever made, the number of exhibitors was much larger than usual and a new interest appears to be awakened in the Society. The show of Roses was unusually fine for the season, the same may be said also of nearly all the other classes of flowers shown.

The specimens of fruits were generally larger than the average and very fair.

The department of Hardy Grapes attracted much attention, as it was large and rich, many varieties being exhibited which our citizens never before have had the privilege of examining.

The attendance throughout the day and evening was quite large and on the whole the exhibition was entirely satisfactory and we believe realized the highest expectations of the managers.

In our report of the Horticultural exhibition yesterday we omitted to mention the fine collection of fruits, flowers, &c. from A. Frost & Co., and also the collection of fruits from Ellwanger & Barry, but the awards will show the opinions of the Committees on the various articles.

REPORT OF COMMITTEE ON FRUITS.

Apples—Best collection of apples, J. Donnellan & Co.
2d best, Ellwanger & Barry.
Best 12 varieties, A. Covey, Penfield.
" " " J. Donnellan, & Co.
Best dish of apples, H. E. Hooker & Co.
Pears—Best collection pears, Ellwanger & Barry.
2d best, H. E. Hooker & Co.
Best 10 varieties, H. E. Hooker & Co.
" dish of pears, (Louise Bonne de Jersey,) Ellwanger & Barry
Plums—Best collection of plums, Ellwanger & Barry.
Peaches—Best 6 varieties peaches, J. Donnellan & Co.
Best dish of peaches, Moses Smith, Brighton.
Quinces—Best 12 specimens quinces, Ellwanger & Barry.
Hardy Grapes—Best collection Hardy Grapes, Ellwanger & Barry.
2d do. do., A. Frost & Co.
Best 3 varieties, (Delaware, Diana and Elizabeth,) C. W. Seelye.
Best dish, (Delaware,) James Craib, gardener to S. Mathews, Esq.
Foreign Grapes—Best collection foreign grapes, Jas. Craib, gardener to S. Mathews, Esq.

L. A. WARD, Chairman.

REPORT OF COMMITTEE ON FLOWERS.

Bouquets.—Best table bouquets—A. Frost & Co.
2d best table bouquets—C. W. Seelye.
Best pair hand bouquets—A. Frost & Co.
2d best pair hand bouquets—C. J. Ryan & Co.
Best pair hand bouquets made from flowers grown in open ground—C. W. Seelye.
2d best pair hand bouquets made from flowers grown in open ground—Ellwanger & Barry.

The display of flowers was unusually fine for the autumn, although but for the heavy rain and hail storm of the previous night, it would have been much better.

Roses—Ellwanger & Barry exhibited over 200 varieties of roses, and among the number were 25 perpetual moss, a most interesting class at this time. For the *best collection*, the prize is awarded to Ellwanger & Barry. Second best to Frost & Co. For the best ten varieties to Frost & Co. In competition for this premium, Ellwanger & Barry presented, Lion des Combats, Dr. Marx, Dr. Roque, Gen. Jacqueminot, Laura Remond, Baron Prevort, Peonia, Mr. Griffith, Giant of Battles and La Reine.

Frost & Co. presented Gen. Jacqueminot, Marguerite de Vanbrum, Mad. Knorr, Sydonie, Ville St. Denis, Marquis de Hilso, Henrion de Pensey, Marshal Gasper de Valliere, Jules Margotten and Mad. Angeline Grange.

Although no prize was offered for perpetual moss roses, the committee take pleasure in awarding to Ellwanger & Barry a special premium for their large and fine collection. They also consider their collections of Teas, Bengals, Noisettes and Bourbons as worthy of especial notice.

Dahlias—The dahlias, no doubt were severely injured by the storms of the previous night. The committee had some difficulty in deciding between merits of the two principal collections, but finally awarded the prize of the best collection to Frost & Co. Many of the exhibitors in this class did not seem to understand the premiums offered, and though their flowers were exceedingly fine, they were not so arranged and entered as to compete for the prizes offered for the best 20 and the best ten varieties. Had this been done, the decision of the committee might have been different. They awarded the prize for the best 20 to J. Donnellan & Co. For the best 10 to Ellwanger & Barry.

Verbenas—Best collection to Ellwanger & Barry. Best 12, J. Donnellan & Co.

Phloxes—Best collection, and exceedingly fine, Ellwanger & Barry.

Asters and German stocks exhibited the committee do not deem worthy of a premium.

Annuals—Best collection, C. W. Seelye.—2d best Frost & Co.

JAS. VICK, Chairman.

REPORT OF COMMITTEE ON VEGETABLES.

There was very little competition in this department. Mr. George Cooper made a large display of a great variety of vegetables, all of which were well grown, and very superior specimens, for which the Committee awarded a premium of $2,00.

Best musk melons, George Cooper.
" Water melons, J. Donnellan & Co.
" Onions, J. D. Pillow.
" Winter squash, Wm. King.

Five varieties of cucumbers, grown by N. J. Goldsmith, all extra fine specimens commended. R. J. DONNELLY, Chairman.

MISCELLANEOUS ARTICLES.

The Committees on Miscellaneous articles found their duties very light, there being only a few articles entered in the department. After an examination of what was presented, they made the following awards:

To Mrs. Dr. Ripley, for a suspended cone basket, (not properly a hanging basket, but in good taste,) containing a tastefully arranged bouquet of flowers, a discretionary premium of $1.

To Mr. J. W. Miller, for several paintings of flowers, in oil colors, a discretionary premium of $2.

To Mr. George Fraunberger, for a moss basket of fruit, very finely arranged, a discretionary premium of $1.

Mr. W. H. H. Barton presented several bottles of native grape wine of the vintage of 1858, but as there was no competition, the Committee were unable to Judge of it by comparison.

The Committee regret that so few articles of merit, or indeed of any kind, were exhibited in this department, and hope to see a large and choice variety at a future shows of the Society.

D. D. T. MOORE, Cha'n
C. W. SEELYE, SECRETARY.

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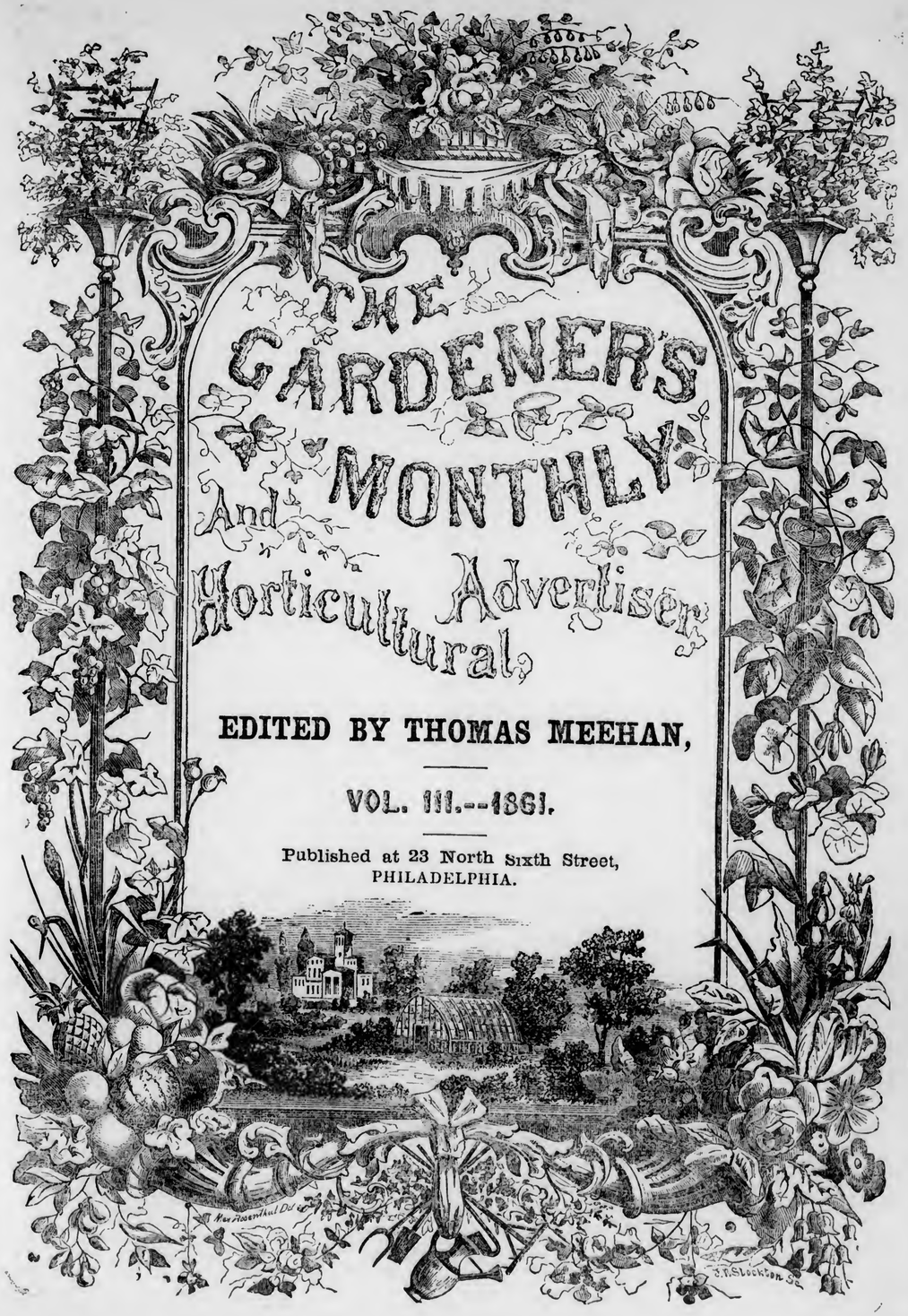

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