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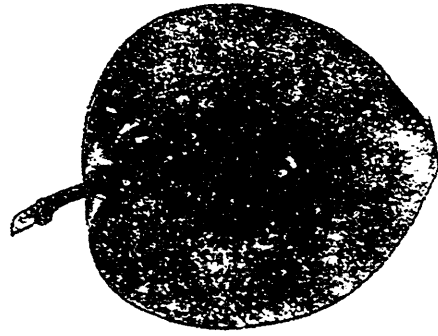


FIG. 252. CHYBOL.

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CHABOT

IT is only about twenty years since the Japan plums began to be propagated in America for commercial purposes, and it wonderful how quickly they have become distributed throughout the United States and Canada, while still almost unknown in Europe. Perhaps this is because the European varieties succeed so well there that the Japan varieties are not sought after in that country, while here the former class are subject to many drawbacks, such as black knot, plum rot, etc., from which the Japan varieties are apparently more or less exempt.

The Chabot first fruited at Maplehurst in 1902, and at once attracted our attention as being exceptionally beautiful in appearance and delicious for eating. It was imported from Japan by Mr. Chabot, of Berkeley, California, and afterward sold to Mr. Burbank, who introduced it to the trade in the year 1886. It has borne several names, as for example, Yellow Japan, Bailey, etc., but in justice to the importer, it is now generally known as the Chabot. A good many are puzzled over the pronunciation, so we may as well state that the accent is upon the last syllable, phonetically written it is "Shab-bot."

This plum has been tested at our Geor-

gian Bay station by Mr. John Mitchell, of Clarksburg, and described by him as follows :

"A very strong grower, of a large beautiful and stately top; bears the third year; fruit about the same size and shape as Red June, but not quite so conical; skin amber, and nearly covered with red spots and markings; very attractive; season late in September; very hardy."

At Maplehurst our record of its season is the first half of September, but perhaps it would be ten days later at Clarksburg. It did not bear the third year after planting with us, indeed it was about the fifth year before we had any samples. No doubt early bearing depends a good deal upon the soil; and our deep rich sandy loam encourages the production of too much wood and too little fruit. In respect to size also, it was larger with us than Red June, indeed, almost equal to Washington; but with us the crop was light, while with Mr. Mitchell probably it was heavy.

Everyone who has fruited it gives the Chabot credit for being the best Japan of its season, which is about two weeks later than Burbank. The flesh is yellow, and the flavor very pleasant, though inclined to cling to the stone.

Editorial Notes and Comments

HOW FRUIT BUDS ARE MADE.

THE common notion that fruit buds are structurally distinct from leaf buds is questioned by Mr. E. S. Goff (American Garden, 1901). He claims to have abundant evidence that leaf and flower buds are in a measure interchangeable; and that by proper pruning a flower bud may become a leaf bud, and that, by ringing, a leaf bud may become a flower bud.

Of course we all know the fact, without knowing the philosophy of it, that ringing, or wrinkling the bark, tends to the formation of fruit buds; and that dry weather is also conducive to the same, but why? Because such conditions are restrictions on the movement of the prepared food in the branches, and the surplus water in the sap is thrown up through the leaves, and the remainder becomes concentrated and rich in

prepared food. Whenever, then, the water supply is increased, the tendency is towards growth and to the formation of leaf buds; and a decrease in the water supply, for the reason given above, tends to make flower buds.

Another significant fact is that as soon as active wood and leaf growth ceases, the formation of fruit buds begins, and may continue until cold weather sets in. This would encourage the present system of our best fruit growers, who cease cultivation in July or August, and seed the ground to a cover crop, thus causing early maturity of wood before cold weather. If a tree were too much inclined to wood growth, and too little to fruit production, it is evident that the earlier in the summer that cultivation ceases and the cover crop is sown, the more hope of a crop of fruit the succeeding year.



FIG. 2599. EXPERIMENTAL PLUM ORCHARD AT JOHN MITCHELL'S, CLARKSBURG, Showing Clean Cultivation, Ready for Cover Crop.

IDEAL TILLAGE.

A GREAT change has come over the ideals of the Ontario fruit grower during the last fifty years. Formerly fruit trees were planted in the corners of the snake fences because they were supposed to need no cultivation, and the apple orchard was seeded down to orchard grass, never to be broken until the trees had to be taken out on account of old age.

Now we find the orchard will repay the owner for the most careful and thorough tillage, unless the desired results can be attained in some other manner. The ideal tillage of an orchard begins as early in spring as the soil can be worked, before it has begun to lose its moisture, and continues during the growing season of the tree or plant, which ends in July or August.

As has been shown in these pages by Prof. Reynolds, the rainfall in most parts of Ontario is amply sufficient for all vegetation, if it can be kept in the soil and not lost by evaporation or by cropping before the time when plant growth should cease and the wood mature in preparation for winter. Constant shallow tillage, by spreading a dust mulch over the soil two or three inches in depth, will wonderfully retain this moisture in the soil beneath, where it can be used by the trees or plants.

MANURE AND MOISTURE.

THIS conservation of moisture becomes doubly important when we understand the relation it bears to plant nourishment. All plant food is taken up in solution, so that if moisture in the soil is lacking during the growing season to dissolve the mineral plant foods, the trees and plants will get little benefit, no matter how much fertility may be in the soil, or how much fertilizer may be applied. In this possibly we may find an explanation of the frequent disappointment in the use of commercial ferti-

lizers, which, in a dry soil, might remain sometime unused.

CONTROLLING THE MOISTURE.

ON the subject of controlling soil moisture the Farmers' Advocate makes the following pointed remarks:

Someone has said that the best crop to grow in an orchard or fruit plantation is cultivators. That is especially true this year, for it is seldom we experience such a dry spring, and the beginning of summer seems to bring no improvement in the situation. Now is the time moisture is needed. Trees and bushes and plants are now pushing their growth. Where fruit bearing has begun, an additional burden is imposed. In the absence of rain, we must do what we can to get moisture from the air, and hold what we have by means of the dust blanket or soil mulch, a frequent and shallow stirring of the surface soil. We cannot control the rainfall; irrigation is hardly practical here, and entirely out of the question over the parts where the land is rolling, but we can exercise a great deal of control over the moisture in the soil by frequent cultivation. It is the next best thing, and a means whereby we can do a great deal to counteract the effects of drouth. I believe the time is near at hand when we shall be doing this with our grain crops as well. The question of controlling the moisture is one of the biggest ones confronting the Ontario farmer to-day, as well as the fruit grower. We must use the cultivator.

ORCHARD TILLAGE AND MANAGEMENT.

H. P. GOULD, assistant pomologist in the United States Department of Agriculture, in Farmers' Bulletin 161, "Practical Suggestions for Fruit Growers," treats on tillage as follows:

As a fundamental factor in progressive orchard management, systematic tillage is a practice of comparatively recent introduc-

tion. While the practice has become quite general during the past few years, and is growing more so, the principles underlying the operation are not so fully understood as they should be. A better understanding of these principles will make the operation more effective, because it will be more thorough.

The offices of tillage are several. Among the more important ones are:

1. The setting free of plant food by increasing the chemical activities in the soil.

2. The soil is made finer and hence presents greater surfaces to the roots, thus increasing the area from which the roots can absorb nutriment.

3. The surface of the soil is kept in such condition that it immediately absorbs all the rain that falls during the summer, when it is apt to be dry. Little is lost by surface drainage.

4. Moisture is conserved thereby. Where the surface remains undisturbed for weeks the soil becomes packed, so that the moisture from below readily passes to the surface and is evaporated, thus being lost to the growing crop. If the surface is kept light and loose by tillage, so that the capillarity is broken, but little of the soil moisture comes to the surface and evaporation is not so great. In this way nearly all the moisture remains in the soil, where it can be used by the plants.

5. Thorough tillage has a tendency to cause deeper rooting of the plants. The surface of the soil is made drier by tillage during the early part of the season than it would otherwise be; hence the roots go where the soil is moist. The advantage of deep rooting during drouth is obvious.

The relation of plant food and moisture to the welfare of crops and the influence of tillage thereon should perhaps receive some further attention. Doubtless all farm crops—not excepting the tree fruits—suffer more from lack of moisture than they do from lack

of plant food in the soil. All of the nourishment which the plant gets from the soil is taken in solution, and unless there is an abundance of soil moisture to dissolve the mineral plant foods it is evident that their presence in the soil, even in limitless quantities, could avail nothing for the good of the crop. The ideal tillage, then, is that which begins as early in the season as the soil can be worked, while there is still an abundance of moisture in it, and continues until mid season—that is, through the growing season of the plant. The aim should be to keep the surface, to a depth of 2 or 3 inches, as light and as loose as possible. This will be equivalent, so far as conserving the moisture is concerned, to spreading a mulch of straw or sawdust over the soil. The constantly moist condition of the soil under such a mulch is a matter of frequent observation.

But tillage, to be of value in fruit growing, must be practiced judiciously. If the soil is tilled when it is too wet, more damage may be done by a single cultivation than a whole season's effort in corrective methods can overcome.

There are cases where conditions will suggest that tillage of any kind is unwise. Such fruits as the strawberry, which produces its crop close to the ground and early in the season, obviously should receive little, if any, cultivation before the fruit is harvested. The practice of tillage, however, is correct in principle. The wisdom of the grower must suggest the proper application of it.

SOW A COVER CROP.

THIS is the month to cease cultivation of the orchard, and to seed it down to some cover crop; a course which not only lessens the labor of cultivation, but gives the busy fruit grower an opportunity to harvest his fruit during the autumn months. Oats or rye have been sown in some parts, but if rye is used it must be plowed under early in

spring or it will rob the ground of its moisture. Crimson clover is one of the best cover crops, where it succeeds; Mr. D. J. McKinnon, of Grimsby, has had excellent results with it, while at Maplehurst, an almost adjoining fruit farm, we have had failure during two successive seasons.

If once it takes hold, it helps to seed itself, so that if one can succeed with the first sowing perhaps the successive crops would be more certain.

We have had good success with Canada peas, sown in August, they furnish nitrogen and consequently improve the land. They are not destroyed by the early frosts. The cow pea has been much boomed, and in the Southern States it is perhaps the very best cover crop, but at the north it is killed out by the earliest frost.

THE HAIRY VETCH.

THE Hairy or Winter Vetch (*Vicia villosa*) has already been referred to in these columns as one of the very best cover crops for the orchard. It is not a rapid grower in the hot weather, but in the cool months of autumn it becomes quite vigorous and covers the ground completely. It is one of the best nitrogen collectors. Analysis has shown over 200 lbs. of nitrogen per acre, for a growing period of three and a half months, as the result of growing this plant. The only difficulty is the present scarcity of the seed. This, however, will soon be remedied, for the seed is easily raised, and if an orchardist can only procure a small quantity to start with he can easily grow sufficient for his own use each year.

OATS AS A COVER CROP.

TWO years ago, at a meeting of fruit growers in Rochester, we heard a representative fruit grower from Michigan say that in his state oats was the favorite cover crop. We have not yet tried it, but have several times mentioned it as possibly

desirable, but usually the criticism was adverse because it would winter kill. None of the critics, however, have had confidence enough in it to try it, and therefore none of them could speak with authority. Now comes the report of the Michigan Station for 1901, in which the Horticulturist, L. R. Taft, speaks of oats as a cover crop as follows:

"Oats seeded alone as an orchard cover crop grew 15 to 18 inches high. They held snow and leaves well during the winter, lessened the freezing and thawing of the soil, and also prevented the soil from freezing to as great a depth as on uncovered soils. The lessening of the injury from frost is considered one of the most vitally important results to be secured with orchard cover crops. Where oats was used as a cover crop the ground in the spring was practically free from weeds and remained moist considerably longer than where other crops were used. The oats was easily worked in with a disc harrow, and it is estimated that the cost of cultivating the orchard when oats was used was fully one-third less than when crimson clover was sown. Rape and turnips used as cover crops, while fairly satisfactory, were unsightly during the winter and gave off an offensive odor. Crimson clover seeded with oats was less satisfactory than either sown alone."

APPLES IN THE ORILLIA DISTRICT.

SECRETARY CREELMAN, of the Provincial Department of Agriculture, and Alex. McNeil, of the Dominion Department of Agriculture, visited Orillia last month at the request of the Board of Trade, to look into the apple-producing capabilities of the Orillia district. The members of the Board of Trade did everything possible to put the visitors in the way of securing the information required. Committees were appointed to drive them from place to place,

and to arrange for meetings with representative farmers of the district. The visitors found more Duchess apples than any other one variety. For these there is a fairly good local market in the Muskoka district before the summer visitors leave the highland and lake country of Ontario. There is also a certain demand for the same variety of apples in the mining and lumbering country along the north shore. At most, however, this market is limited in extent, and there are quite as many Duchess produced now as there is demand for. Very few winter apples are grown about Orillia. The Peewaukee is grown more extensively than all the other winter varieties combined. These have given fairly good satisfaction except that the fruit, being large, is apt to fall from the limbs while the trees are young. As the trees grow older this fault is in a measure remedied.

The Wealthy, which is grown to some extent, has given splendid satisfaction, being a good yielder and thriving well. Messrs. Creelman and McNeil will recommend that no more early apples be planted, and that a number of the Duchess already planted be top grafted with winter varieties. The Duchess is not so satisfactory as the Tallman Sweet for this purpose: still it serves very well for grafting on. In winter varieties they recommend the Greening, Ontario, Ben Davis, Wealthy, and Baldwin as a list to choose from, with the preference of confining as much as possible to one or two of these varieties. The Spy does not seem to do well about Orillia, although it does remarkably well in the Georgian Bay district.

ONE CONSIGNEE.

WHILE we advise contract sales as the best in all cases where practicable, it is evident that there will often be a surplus unsold, which must go forward to the commission merchant. We must not,

therefore, despise this middle man, who is often of the greatest service to the fruit grower.

Many, however, make the mistake of dividing their shipments, even in the same market, between several consignees. This is a great mistake, because it brings a man's fruit into competition with itself.

The wisest plan is to select one good reliable consignee in each city, and be as constant and regular in shipping goods to him as possible. He will soon learn the brand of his consigner, and make it known among the buyers, and will then often make sales in advance even of the arrival of the goods.

AMENDMENTS TO THE FRUIT MARKS ACT.

MR. E. D. SMITH'S bill to amend the Fruit Marks Act came up for discussion in the House of Commons last month, and was lost on a division. The aim of this bill was to provide for the inspection of fruit by Government inspectors before it was shipped, so that the responsibility for proper grading would rest on the Government inspectors. As the act now stands each packer must do his own grading and marking and become responsible therefor. The Hon. Mr. Fisher, in opposing the bill, said that no one should be as capable of properly doing the work of grading and marking as the packer himself, and that to inspect only ten per cent. of the packages, as Mr. Smith had proposed, would not sufficiently guarantee the quality. It would also be impossible to obtain a sufficient number of qualified inspectors at the season when they would be most required. The guarantee of the shipper, Mr. Fisher thought, would be worth infinitely more than any government guarantee, and the fruit grower, by a personal oversight of the grading and marking, had an excellent chance to build up his reputation.

Another bill by Mr. Henderson, of Hal-

ton, which provided for the defining of what should be second grade apples, was also lost on a division. The Minister of Agriculture agreed that it might be advisable to make a general provision in the act specifying what quality of fruit should be graded XX, and expressed a willingness to introduce an amendment for that purpose before the close of the session if it was thought necessary.

GERMANY SHUTTING OUT AMERICAN APPLES.

THE new tariff law of Germany, which will go into effect as soon as certain treaties have been made which must be negotiated in order to avoid complications that would arise under the new law, provides that between September 1 and February 1 no apples shall be shipped into Germany in packages, boxes, or barrels, or in any form except in bulk. This bars the crops of the United States and Australia. The crop of Canada was barred, anyway.—*London Free Press*.

POWER SPRAYING IN THE UNITED STATES.

MR. W. A. MACKINNON, chief of the fruit division, recently attended the large meeting held at South Onondaga, N. Y., in the Hitchings orchard, which has become quite famous on account of the unusual methods of management prevailing there. About 300 people were present at the meeting to witness the spraying demonstrations, to examine the orchard, and to study the system of cultivation which has made it such a success. The consensus of opinion among these practical orchardists was that power spraying was the only method suitable for large orchards, and that while individual fruit growers with small orchards might not find it profitable to purchase power outfits, yet by combining in the

purchase and operation of the sprayer they could spray all their orchards much more economically than they could do it by hand.

In Delaware a few orchardists started to use gasoline as a power, with the idea that one outfit would be sufficient for several farms, but they have such large orchards that they have found it profitable to purchase a power outfit for each. Fruit growers from that State seem to be delighted with the new method. When told that the Dominion fruit division was giving orchard demonstrations to show our farmers the value of power sprayers, they were lavish in their complimentary references to the practical educational methods of the Dominion department. It was freely admitted that in such matters Canada is in advance of the United States. It is evident over there that the new system has come to stay, although with them it may be only the richer and more extensive orchardists who will take it up at first. In Canada, however, it is quite practicable for a group of farmers owning 3,000 or 4,000 trees among them to cooperate so as to have all their spraying done with a power outfit costing from \$250 to \$300.

NEW SAN JOSE SCALE REMEDY.

A NEW San Jose scale remedy is being tested with considerable success in the Niagara fruit belt. It is known as McBains' Soluble Carbolic Insecticide. No boiling is required. It mixes instantly with cold water. It is claimed to destroy all kinds of scale, fungus and parasites, and can be used for spraying in winter and summer. To one gallon of mixture add 25 of water in winter and 50 in summer. Use as a winter spray when the leaves begin to fall, and as a summer spray after the buds are nicely formed.

THE PEAR LEAF BLISTER

WE have several times received from subscribers in various parts of our Province, samples of pear leaves having black corky spots upon them, and these were either a mystery to the senders, or else supposed to be either leaf blight, or scab. After consultation with Prof. Fletcher, of the Central Experimental Farm, we were able to reply that the cause of the trouble was a minute mite (*Phytoptus pyri*), belonging to the same order (*Acarina*) as the cattle tick, and the itch spider. Fig. 2600 shows an adult mite, greatly magnified. Indeed, these mites are so small that they cannot be seen without a glass, and to study their structures a first-class microscope is necessary.

Bulletin 61 of the Cornell Experimental Station, gives a most excellent account of this mite, written by Prof. Slingerland. To give an idea of their diminutive size, he says that it would take 150 of them placed end to

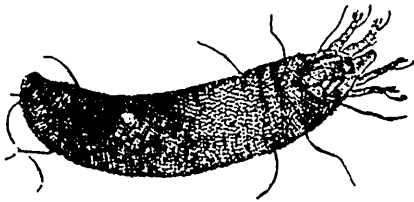


FIG. 2600. PEAR LEAF BLISTER MITE.

end, and 600 side by side to measure an inch. These tiny mites winter underneath the outer scales of the buds, fifteen or twenty having been found underneath a single bud scale. Thus situated, they are ready for mischief early in the spring.

The diseased portions of the leaves are

really galls, produced by these mites, and within them the eggs are deposited; they are quite easily distinguished from the fungus spots by their blister-like corky appearance.

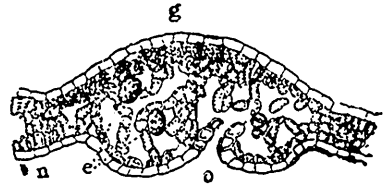


FIG. 2601.

Fig. 2601, from the bulletin referred to, shows a highly magnified section of a pear leaf through one of these galls, *g*, showing gall; *n*, *n*, normal structure of leaf; *o*, opening of the gall; and *e*, eggs of the mite.



FIG. 2602.

Later in the season the galls dry and turn brown or black, and are more conspicuous on the lower side. The leaf in the meantime has shrunk to its normal thickness, as shown in Fig. 2602, in which *g* is gall, *n*, *n*, uninjured portion of leaf, and *o*, opening to gall from under side.

Various remedies have been experimented with, but the most successful one, according to Prof. Slingerland, is a thorough spraying in winter with kerosene emulsion diluted with from five to seven parts of water. Apply from every side, so as to reach all autumnal buds, for it is about them the blister mite is most abundant.

THINNING FRUITS.

THE past season has demonstrated more clearly than ever the necessity of producing a better grade of fruit than can be grown by the "let alone" method so long practiced by most of our growers. The results of thinning out a liberal amount of fruit from an overloaded tree or plant are (1) that the foliage becomes more vigorous and more resistant to insect and fungous pests; (2) the remaining fruit grows larger and more perfect in size, color and quality; (3) the larvæ of the codling moth, the insect producing wormy fruit in the apple, pear and quince and the larvæ of the plum curculio that produces the wormy plums and cherries, are destroyed in the immature fruit when it dries up or decays on the ground, and much less labor is required to sort and pack the remaining fruit when it is harvested. The price obtained for fruit from carefully thinned trees or plants is certain to be much higher than if all the fruit were allowed to remain unthinned, while the cost of thinning is not much greater than would be the extra cost of the final picking and sorting of so much inferior fruit.

The best time for thinning fruits is as soon as it can be determined what specimens are injured by insects or by any other

cause. The best time for the apple, pear, peach and plum is early in July. The grape should be thinned as soon as the size of the bunches can be determined, which may be the last of June or the first of July. The amount of fruit to be removed will depend largely upon how much has set. In some cases three-fourths should be removed. In the case of peaches and plums the fruit should not mature on the branches nearer than six inches apart if the whole tree is fruiting. With apples and pears the amount of thinning to be done must depend upon the size and vigor of the trees, but all wormy and deformed fruits should be removed even to the extent of taking the entire crop, for in the majority of cases such fruit only serves to increase the number of insects the next year and will not pay the cost of harvesting if allowed to mature. In thinning the grape all small bunches should be removed if the fruit is intended for market, as only large, full bunches will sell for good prices, and only a limited amount, depending upon the strength of vine, should be allowed to remain on each cane. In vineyards at full growth from 10 to 20 pounds of fruit will be all that each vine can mature and retain its vigor.—*Massachusetts Experiment Station Report.*

MARKETING CHERRIES.

THIS is an old topic, but will be of interest, notwithstanding. I see nearly every day, in fruit time, examples of loss and waste, in putting fruit upon the market in an unripe or unmerchantable condition. Only the other day I saw in a grocery some cherries in a drawer in front of a grocery,

which had been picked as much as six days sooner than they should have been.

They were not only small and green but very imperfect. There were stems without cherries and cherries without stems, and all together about as uninviting a lot as I ever saw.

The next day I brought some to market, which I had picked myself carefully with the stems, putting in no specimens which contained defects visible on the outside.

Without telling the grocer that I had any, I asked him if I could sell him some. "Why, no," he said; "we have cherries and they go very slowly." I got him to look at the few baskets I had and he asked me my price and took them and ordered some more for the following day. He paid me a higher price at wholesale than he asked for the others at retail, so that it is altogether possible that the party furnishing the others did not receive more than half or two-thirds what I did.

The cherries being picked green were not more than half size, so the picker had to pick double the number for the same measure, losing the growth as well as the beauty of

the matured fruit, which is the most salable quality fruit possesses.

It is worse than useless to take to market a single specimen of anything which is too poor to be consumed.

There is a loss in marketing immature fruit. There is a loss in size and increase in labor and a final loss of price. Cherries require the most careful handling of any fruit sold, and I find it is profitable to hire it picked by mature hands of good judgment. They will more than save their wages in the discrimination they use in gathering the fruit.

In gathering large cherries with the stems six or eight quarts per hour can easily be gathered. I find that they are best marketed in the quart berry boxes; this saves rehandling and much mussing of the fruit. —L. B. Pierce in *Green's Fruit Grower*.

THE ACIDS OF FRUITS.

THE grateful acid of the rhubarb leaf arises from the malic acid and binoxalate of potash which it contains: the acidity of the lemon, orange, and other species of the genus *Citrus* is caused by the abundance of citric acid which their juice contains: that of the cherry, plum, apple and pear, from the malic acid in their pulp; that of gooseberries and currants, black, red and white, from a mixture of malic and citric acids: that of the grape, from a mixture of malic and tartaric acids: that of the mango, from citric acid and a very fugitive essential oil: that of the tamarind, from a mixture of citric, malic and tartaric acids: the flavor of asparagus from aspartic acid, found also in the root of the marsh mallow: and that of the cucumber, from a peculiar poisonous ingredient called fungin, which is found in all fungi, and is the cause of the cucumber being offensive to some stomachs. It will be

observed that rhubarb is the only fruit which contains binoxalate of potash in connection with an acid. It is this ingredient which renders this fruit so wholesome at the early commencement of the summer, and this is one of the wise provisions of nature for supplying a blood purifier at a time when it is likely to be most needed. Beetroot owes its nutritious quality to about nine per cent. of sugar which it contains, and its flavor to a peculiar substance containing nitrogen mixed with pectic acid. The carrot owes its fattening powers also to sugar, and its flavor to a peculiar fatty oil; the horse radish derives its flavor and blistering power from a volatile acrid oil. The Jerusalem artichoke contains fourteen and a half per cent. of sugar and three per cent. of inulin (a variety of starch), besides gum and a peculiar substance to which its flavor is owing. —*Chemistry of the World*.

NOTES FROM THE FRUIT EXPERIMENT STATIONS.

THE following reports from the various Fruit Experiment Stations give a good general idea of the outlook for fruit throughout the province:

FROM WENTWORTH.

In reply to your enquiry with regard to fruit prospects, I may say everything looks very promising. In fact, there is entirely too much fruit set. Unless nature does some thinning a great many orchards will be overloaded. The fruit and foliage never looked healthier than at present, not the first appearance of fungus on either fruit or leaf, not even on Flemish Beauty pears, and very little trouble from insects, except curculio, which has been pretty bad on plums, but nearly all varieties need thinning. If we get rain for the berries from the present indications there will be a great abundance of everything in the way of fruit.

Winona.

M. PETTIT.

FROM BRUCE.

The prospects for fruit in this district are only fair; we have had some very hard frost. Apples promise very good so far, and trees are healthy and free of scab. Pears promise fair, and plums very good crop, but they were damaged some by a very heavy wind, rain and hail storm on May the 28th. Cherries will be a light crop, as are also red and black currants. Raspberries promise to be fair, and strawberries a good crop.

Walkerton.

A. E. SHERRINGTON.

FROM SOUTH SIMCOE.

Apples have set a large crop of fruit. Pears bloomed sparingly with me, and there will be a light crop of fruit. Japan plums

will also be scarce; indeed, all varieties failed to bloom. Common sour cherries have set a nice crop; my Dyehouse are nil. Strawberries promise a large crop now that the late cool spell is over. We had a light frost one or two nights last week, but I cannot see that any harm has been done.

The late dry spell, just at planting time, which here was a little later than usual, owing to the plants having made little or no growth till after the 24th, has been hard on the spring set plants; indeed, there will be a shortage in next year's supply, as many of the plants have died.

The native varieties of gooseberries, such as Pearl and Josselyn, have set a nice crop, but the foreign varieties, owing evidently to the scourging they got with the mildew last season, have not only failed to bear, but nearly every bush is dead or partly so. Columbia and Whitesmith have stood the winter the best.

Shaffer raspberry winter killed badly, while Columbia came through the winter sound to the tips.

Nantyr.

S. SPILLETT.

FROM ONTARIO COUNTY.

The present prospect for fruit of all kinds was never better in this section. The fine sunny weather at blooming time had a very beneficial effect in aiding the fruit to set well and many varieties both of apples and pears will require thinning severely to get large samples. Almost every tree planted in 1896 and 1897 will have fruit on this season, and the fruit is fully one week in advance of former years. This is the eighth year our Spies have loaded in succession, although

many fruit growers will insist that the Spy is only a biennial bearer. The fine weather is also developing the insect pests, and unless spraying is attended to vigorously a large percentage of the fruit will be unfit to sell. There is more attention being paid to the orchards in this district this season than for many years previous, as orchardists are beginning to realize that unless their fruit is AI buyers and shippers will pass them by.

We had our first ripe strawberries on the 29th ult., two weeks earlier than last year. Small fruits, with the exception of grapes, are looking splendid, and promise a good yield if weather is favorable.

Whitby. R. L. HUGGARD.

FROM SIMCOE.

With regard to the fruit crop. We have had a fine rain lately, but too late to save the strawberry crop from serious injury by the previous long spell of drouth. The crop is below average in quantity and quality. Raspberries will likely be a medium crop if showery weather continues. Blackberries are in fine shape and promise a very large crop. Plums, medium, some trees heavily loaded, many entirely barren. Cherries and pears are light; cherries not half a crop. These were no doubt injured by the heavy frosts in May, just when the blossom buds were bursting, as there was a heavy bloom, but it failed to set fruit. Early apples will not be more than half the crop of last year. But winter apples so far promise an excellent yield, about average, and the quality will likely be good.

Craighurst. G. C. CASTON.

FROM ST. CATHARINES.

W. H. Bunting, in a report on the fruit situation to the Sun, says: "The prospects at present, barring a heavy dropping of the tree fruits owing to the continued dry

weather, are very promising for a large and abundant crop of all kinds of our more important fruits, with the exception of apples, which, owing to the unusual crop of 1902, will be of only moderate quantity this season, some varieties and some localities showing good average, while others are comparatively light, and in some cases none whatever. We are now experiencing a great lack of moisture, and while in some localities there have been a few showers and heavy rains of short duration, which have relieved the situation to some extent from many portions of the province reports are coming in of scarcely any rain since the first of April. This fact, coupled with the heavy frost early in May, which did considerable damage in the eastern part of the province, points to a marked scarcity in the smaller fruits, such as strawberries, raspberries, etc.

"In this (St. Catharines) section strawberries are ripening about ten days earlier than usual, and the season will likely be of short duration. Cherries and plums are well set, and as a great deal of spraying has been, and is still being, done, no doubt these crops will be of satisfactory quality.

"Peaches promise a full crop, with the exception of Early Crawford's, which were cut down by the May frost, and the Elberta, which has suffered severely from the curl leaf, and will no doubt drop their crop. I have as yet heard of no successful remedy for this difficulty, although the Bordeaux mixture and the lime, sulphur, and salt mixture has in some cases lessened the effects of this disease.

"Pears have not set heavily, with the exception of the Kieffer, and one or two other varieties, which have promise of full crop.

"The vineyards generally are looking well, and give promise of a heavy crop of fruit this year. A word of warning to our vineyardists will, however, be in order. During the past two or three years the dis-

ease called 'black rot,' which has done so much damage in Ohio, and in portions of New York State, as well as in the western part of our own Province, has gained a strong foothold in the Niagara district, where by far the larger portion of the grapes consumed in Canada are produced. This disease has affected primarily the Rogers variety, but has also made, during the past two years, severe inroads upon the vineyards of Niagara grapes; and in some instances has taken hold of the Concord as well. Thorough and frequent applications of the Bordeaux mixture have been shown to be a specific for this disease, and it would seem a matter of prudence for all owners of vineyards to be on the alert and check this disease before it shall have spread over the entire district and have destroyed what is fast coming to be the most important fruit product of the section referred to.

"Taking it all in all, the coming fruit season promises to be a busy one for the aver-

age fruit grower. With the great scarcity of competent help, and consequently much higher wages to be paid, and a general increase in the cost of handling the crop, unless a good distribution of the crop be made and fair prices realized throughout the season, it may be that many of our growers may not consider an abundant crop of fruit an unmixed blessing. A full crop, however, will no doubt result in putting an abundance of the gifts of the Great Creator into the hands of the thousands of our cities and towns who in years of scarcity cannot afford to enjoy them. It only remains for our express and transportation companies to awake to the situation and provide such facilities, both as to moderate rates and prompt service, as shall supplement the efforts of the vast body of earnest fruit growers of our Province, and the close of the season will see all concerned—producer, handler, and consumer alike—well satisfied with the result of the season's operations."

ORCHARD MEETINGS IN NEW BRUNSWICK.

UNDER direction of the Department of Agriculture for the Dominion, a series of twelve orchard meetings was held in New Brunswick this spring.

They were addressed by Mr. Alex. McNeil and Mr. G. H. Vroom, Dominion Fruit Inspectors, who gave practical demonstrations in pruning, grafting, spraying, and "orchard repairs" generally.

Not a little of the success of these meetings was due to the efforts of Mr. Thos. A. Peters, Deputy Commissioner of Agriculture for New Brunswick, and Mr. W. W. Hubbard, representing the agricultural interests of the Canadian Pacific Railway.

The following notes are from Mr. Mc-

Neil's report to the Chief of the fruit division:

Our meetings covered the St. John Valley from Andover South, as well as the points between St. John, Hillsboro, and Shediac. This wide range of country may be conveniently divided into two districts, the one lying north of Woodstock and the other south. The northern division is growing the hardier varieties of apples, and in certain favored spots the Ben Davis and some of the winter varieties succeed. The southern district is growing all the commercial varieties, but the Duchess (New Brunswicker) is the commonest variety, and in many places is grown to the exclusion of all others.

The quantity of early apples is about sufficient for home consumption, and it is doubtful whether large plantations of such varieties as Duchess, Red Astrachan, or even such good fall varieties as the Gravenstein and Yellow Bellflower should be made. The European market at present is the only one that can be said to be unlimited, hence only such varieties as will carry successfully can be recommended for large plantations of commercial fruit. In the northern districts there is still room for experiments in the matter of winter varieties. Although many of these have been planted, the results as reported by the growers are somewhat conflicting. The care, however, given to orchards varies so much that it renders any conclusion impossible. It is therefore highly desirable that experimental orchards, not necessarily large, should be planted in different sections of the country, under conditions as uniform as possible. Such orchards would not only be an example of the best methods in orcharding, but would give reliable data with reference to varieties. Although I am not in a position to speak absolutely upon the subject, I am of the opinion that the varieties most in demand in the European markets can be grown in this district, though it would be no doubt better to top-graft on some such stock as McMahon's White or Tallman Sweet. It may be taken for granted that with ordinary precautions all the commercial varieties can be grown in the southern district.

The orchardists of New Brunswick are making one or two serious mistakes in orchard practice. In most of the orchards the trees are planted from 12 to 16 feet apart. This is altogether too close; much better results could be obtained even with the Duchess, a small growing tree, if it were planted 25 to 30 feet apart. Large growing varieties, such as the Rhode Island Greening and Northern Spy, should not be planted closer than 35 or 40 feet apart. The

saving in close planting is only in the rent of the land; there is a serious loss in the difficulties of performing all orchard operations. The rent on the land occupied by a tree, even at the greatest distance, should not be more than ten cents per tree, a sum that is soon gained by the ease with which spraying, pruning and gathering of the fruit may be done.

This close planting practically leads to letting the orchard run to sod, and to this fact I feel sure we can attribute much of the want of success that has been reported in individual cases. I take it for granted in recommending orchards in any place, that clean culture is to be the rule. We visited, in Fredericton, the orchard of Mr. Gillman, where we saw a splendid example of comparatively wide planting and clean culture. The vigor of his trees was so much greater than that of the orchards in the neighborhood, grown in sod, that all who have carefully studied the conditions must agree that clean culture must be the general rule for orchards. In nearly every orchard visited we found the trees badly infested with oyster-shell bark-lice, and Sun-scald was quite prevalent. For the former it was recommended that when the trees were dormant they should be sprayed with a lime whitewash made just as it would be made in use with a brush, strained carefully and applied with a spray pump. In addition, spray carefully with a kerosene emulsion when the bark lice are moving in June. For sun-scald it was pointed out that if the tree were leaned a little toward the southwest, so that the limbs would shade the trunk, and if the pruning were not too severe, this injury might be prevented. There appears to be some difficulty in getting suitable nursery stock, though it is likely that the Department of Agriculture, working through the Agricultural Societies, will make an improvement in this matter.

The necessity for thoroughly under drain-

ing orchards is not appreciated as it should be. Much of the land, especially along the banks of the St. John river, appears to be admirable in situation and soil for orcharding, but much of it requires very careful under draining before successful orchards can be obtained. There are so many springy places, even on high land, that uniformity in the orchard cannot be hoped for except by under draining.

The prospects for orcharding in New Brunswick appear to me to be good. There is, however, a lot of educational work to be done. There is scarcely a farm upon which

there is not at least five acres suitable for orchard purposes. Presuming that fifty trees were put upon an acre we should have 250 trees in each orchard of five acres. It would not be too much to say that at the age of eight years, when these trees are coming into bearing, each tree would be at least worth \$10.00, so that practically the value of the farm could be doubled in eight years by placing an orchard upon it. This orchard would furnish remunerative employment for a large number of people, and thus prove itself a benefit to every other industry in the country.

PREPARING PLUMS FOR MARKET.

IN most cases experience has proven that plums, if shipped to market in ten-pound grape baskets, provided with handles, and put up in neat, presentable shape, will bring the producer a greater per cent. of profit than if shipped in half-bushel, or bushel crates, or packages. A careful picker can fill the basket direct from the tree; but the usual plan is to pick into large receptacles, then, carefully sorting the plums, to place them in packages ready for the market. This frequent handling removes a great deal of the bloom from the fruit, which removal should be avoided as much as possible. By the use of a single table, similar to the one shown in the engraving, from the American Agriculturist, plums and other

similar fruits are easily sorted. The top of the table should not be over three feet long and two and one-half feet wide. The sides and back, *r, r, r*, may be eight inches wide at the back, tapering to three inches in front; the front guards, *c, c*, should be less than three inches high, leaving a six-inch space between the inner ends; the slanting board, *g*, is six inches wide. To operate it, place the fruit carefully upon the table, the sorter occupying a chair in front of the table, with a basket on his lap. Both hands can then be used in removing the leaves, limbs, damaged or imperfect fruit, throwing the refuse into baskets; *m, m*, located upon the floor, at a convenient point upon each side. The perfect fruit or that intended for shipping, is rolled in front, and passes over the incline, *g*, into the basket. This table need cost but little, and may be made in as crude or elaborate a form as wished. In working, the elbows can rest upon the guards, *c, c*, which will make the operation much easier. An ordinary table can be fitted with these simple appliances, and quickly removed after the shipping season is passed.

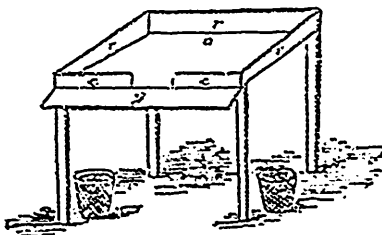


FIG 2603. FRUIT SORTING TABLE.

EUROPEAN FORESTRY

BY

MARCEL HOEHN,

BERLIN.

FORESTRY is a subject so comparatively new in Ontario, and yet of so great importance to our people that anything we can learn from those who have had experience should be welcomed. The following interesting article is contributed by one of our correspondents, who has had long experience in forestry in Germany:

The question is often asked, Why is it that in Germany and France forestry has been successfully practised by the government for a century and a half, and we are only now thinking of teaching coming generations how best to conserve our forests? By long years of education and practical experiment, forestry has become an art in those two European countries. There, as a rule, they look ahead. They reforest their woodland and do not deforest it. It is managed as carefully as a gold dollar. Everything is eked out and boiled down systematically before they enter the woods. The forests are cropped when they are ripe as regularly and methodically as a farm crop. They have no open season methods, for one crop is followed by another crop in regular rotation. They have no denuded woodland, for one crop is immediately followed by another, and the last is always better than the one preceding.

When the original forests are cropped in order to start a new or young plantation, every tree is removed. Nothing is spared except a few nurse trees, and each one has to pass inspection, for it would be poor policy to leave one which is partly diseased or crooked. The ground is never in better condition to grow young seedlings than just

after the removal of the original forests. Nature has provided the forest floor, with millions of seeds of all kinds, and they are only waiting for sunlight and air. Under a thick shaded canopy they will not germinate readily. Young forest seedlings under this systematic treatment must come up together properly and crowded thickly. They must touch each other, and the more struggling and fighting that goes on amongst the plants the better. Otherwise there would be a failure, as the forest plants must pass through a regular series of transformations all together in order that they should develop in a uniform manner and produce regular stems, and it is in this camp or school that such transformation must take place before the plants are thinned. There are only two stages of growth in a young forest; the nurses and the young seedling.

Under this system it is surprising how rapid the growth is. In five or six years the young seedlings are ready to be thinned, and in fifteen or twenty years you will have a forest of which you may be proud, for it will be a delight to look at. We cannot view the art of forestry as practised in Germany or France to-day without feeling the deepest respect and admiration for it. It is a credit to skill and long and patient experiment, resulting in improved methods. As all the trees are of one age, they are of the same height and thickness, all straight, smooth, sound, and without limbs on the trunks. In a systematic forest there will never be any over ripe trees, for as they are all of one age they will all ripen together and be cropped together.

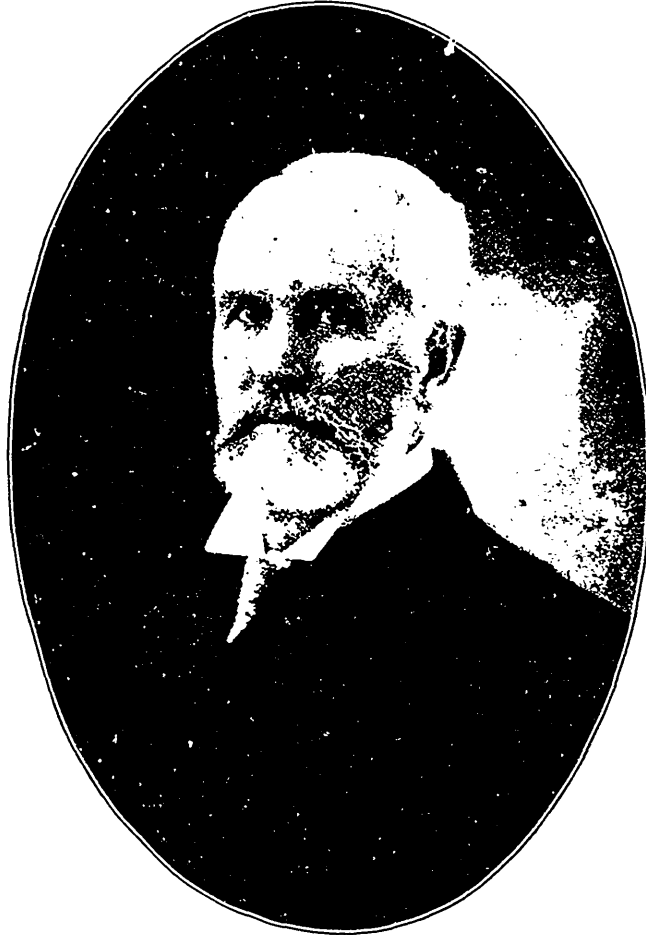


FIG. 2604. JAMES MILLS, M. A. LL. D.

JAMES MILLS, M. A. LL. D.

"God might have made a better man than an Irishman, but he never did."—Inon.

DR. JAMES MILLS was born of North of Ireland parents, in the County of Simcoe, Ontario, in the year 1840. There, until he reached twenty-one years of age, he received a most thorough training in all the practical details of Canadian farm work, as the farm upon which he was brought up, and upon which he worked, was one of the best managed and best cultivated in the province. So far his life had been intensely practical. A serious accident formed the turning point in his career. At twenty-one he lost his right arm in a threshing machine, and, thus handicapped, he stood upon the threshold of his life work with responsibility, and what some might call disaster, staring him in the face. He then entered the public school and began his education at the time when the majority of young men have already finished. Hitherto his training had been manual or physical: now he began to

develop the mental side of his nature. From the public school to Brantford Grammar school, and thence to Victoria College, Cobourg, he was led in his studies. From Victoria College he graduated as Bachelor of Arts in 1868, taking the gold medal for the year for the highest rank in general proficiency. Thus closed the second period of his life, and the seven years of study and preliminary training. After graduation he taught for a while in the Cobourg Collegiate Institute, from which position he was promoted to the headmastership of the Brantford High School. This institution was then in rank a third or fourth rate school; under Mr. Mills it soon became a Collegiate Institute, and began to attract attention as one of the most successful for training young men and young women for general work, for teachers, and for university examinations. The growth of this school and its reputation for thoroughness and good discipline suggested a man for the Agricultural College when the presidency became vacant. The offer came to Mr. Mills from the Government entirely unsolicited, and was accepted in the summer of 1879, when began the fourth period of his life, the work in which he is still engaged. The Ontario Agricultural College had been established in 1874, and for many years had many and great difficulties to contend with. We sometimes hear a great deal about the agricultural colleges of the United States, but they have been forced, in order to maintain an existence, to enlarge the scope of their work by including technical, teachers, and even commercial courses. In many of these colleges the agricultural course has been the least successful. The attempt, therefore, to maintain an Agricultural College on its own merits in this province has presented peculiar difficulties, and the success achieved is much to the credit of the various officials who have from time to

time guided its course. When Mr. Mills became president the college was still working up hill, fighting its way with little encouragement, and with much opposition. For the past twenty-four years he has devoted his unstinted energies to the work. The college is a large institution, and has presented extraordinary problems to solve. It has had a hard struggle to gain the recognition and approval of the very class for which it was established. It has all the perplexities attendant upon a large boarding school. It has had to overcome the prejudice aroused by having had, in its earlier days, a number of students who were not agricultural in their bringing up or in their inclination. The students are now coming from the best farms in the province, and the institution is becoming more and more every year an Agricultural College for Ontario.

The work of the college has been greatly enlarged during President Mills' regime by the addition of third and fourth year courses, and affiliation with Toronto University, whereby the degree of Bachelor of Science in Agriculture is conferred upon its students.

The high esteem in which President Mills is held by the farmers of Ontario, and the very high regard in which he is held by the leading agriculturalists of the United States prove that his work has been successful. Personally, President Mills has the best wishes of all; he is known as a man of energy and thoroughness. He has shown the greatest courtesy to the many thousand farmers with whom his work brings him in contact at Guelph and elsewhere; he has kept himself free from party politics, and is as acceptable to Conservatives as to Reformers. His administration of affairs is clear and above reproach. He has never been known to seek praise or publicity, to sound his own praises, or encourage others

to sound them for him, to gain any notoriety by pulling or tickling the ear of the public. He has simply done his duty, and that not always a pleasant or a popular one, and has allowed himself to be judged by the public on the merits of the work done. His work speaks for him, and the agriculturists and others of this province know that the Ontario Agricultural College embodies the life work of President Mills and the many

energetic workers by whom he has surrounded himself during the past twenty-four years. Since Dr. Mills has been given full control of the College things have become settled into systematic methods, and one can see evident marks of progress in every department. Since the college opened last September more than seven hundred students have been enrolled.

FLORICULTURE FOR WOMEN.

RAISING flowers in greenhouses for market is a profession for which women are proving themselves especially adapted. It is a business that has to be learned like any other, but with a little experience added to natural qualifications, such as perseverance, energy and common sense, one is sure to succeed. The plant I own and am running at the present time was started on \$250, and I have built up a large, well-paying business. Given an acre of land, the first requisite, of course, is a greenhouse. A modest one can be built for \$100 and a rough heating apparatus put in for \$50. The cost of plants and seeds is slight, and other expenses, such as tools, fertilizers, cold frames for starting the plants, etc., would amount to little on so small a scale. The secret of success is to utilize every inch of space. In a vegetable house the tables can be filled with lettuce, cucumbers or tomatoes, while rhubarb and mushrooms can be grown on the ground underneath. A good head for planning is a necessity, and no time must be wasted between crops.

The best location for such a venture as this is a small town or community of pros-

perous people. In a prosperous community you do not have to market flowers; customers will come to you for them. I sell all my flowers at my greenhouses. The profit is in decorating and set pieces rather than in cut flowers. A great advantage in this profession is that there is so much room in it for originality and taste. A branch in which a great deal of money can be made is in the sale of plants. All kinds of bedding plants are wanted in May and June for lawns, parks, cemeteries, cottages at the seashore, vases and wayside nooks. Pots filled with two or three California violet plants in bloom brought seventy-five cents in this city last winter. Pansies are in demand in their season. Ferns, palms and orchids grace your dining rooms, churches, etc. The filling of window boxes, designing new effects in jardinières and hanging baskets is a line in which a woman can be very successful. The rose in all its colors is one of the most profitable flowers to grow under glass. The demand is great and people must have them.—*M. E. Cutler before Massachusetts Horticultural Society.*

Civic Improvement

A DEPARTMENT DEVOTED TO THE INTERESTS OF THE HORTICULTURAL SOCIETIES OF ONTARIO, AND OF ALL OTHER BODIES INTERESTED IN THE IMPROVEMENT OF THE SURROUNDINGS OF OUR CANADIAN TOWN AND COUNTRY HOMES.

SUGGESTED LINES OF WORK.

BY

MISS JESSIE M. GOOD, SPRINGFIELD, OHIO.

USUALLY the first question arising in a new association is that of adequate funds to cover the work desired to be accomplished. This difficulty is met in several ways. First, of course, by membership dues. Then by subscription or donation. Third, by some form of entertainment. There is a wider latitude in entertainments for civic than for church work. One association I know of netted more than three hundred dollars by giving a steamboat excursion. We cannot all live

by river or lake, but every town has some favorite resort. Musicales, theatricals, lawn fetes, picnics, are all popular.

Many places have found it to their advantage to have depositories in prominent stores, banks, etc., for the accommodation of those who favor the organization but have not time to attend meetings or assume the duties of committee work. Strangers, charmed by the town's beauty and cleanliness, often put money in these depositories, which should be neat and plainly labeled with a brief statement of the objects of the association. There is a growing tendency among old established improvement associations to send out collectors. These collectors may be paid by the day or with a percentage of their collections. There are also art associations which loan or rent pictures for exhibitions. An art loan, if properly advertised in the towns around you, with excursions from certain points on each day, ought to pay well if properly managed. A flower show, to which an entrance fee is charged, is an appropriate means of raising funds for civic improvement. A rose show is the thing for June, a chrysanthemum



FIG. 2605. SHRUBBERY SCREENING HIGH BOARD FENCE.

show for autumn. Preparation for the latter must be made in spring, and will be found an excellent thing to keep alive the interest of your association. I would have plants and cut flowers of other varieties for sale, but roses and chrysanthemums must be the main feature. The sale of plants and cut flowers never fails to bring the treasury a handsome sum.

As to the application of money, you will as usual find you never have money enough for the work you desire to do. I advise new societies to concentrate the little they have in putting in order the most unsightly and offensive place or places in town—alleys, sidewalks, gutters, the railway station, the public square, the church or school yards, or the cemetery grounds. Whatever it may be, put it in order and keep it so.



FIG. 2606. THE ROAD PASSING THE FAIR GROUNDS BEFORE IT WAS IMPROVED.

Make it so clean or so pretty that it is noticeable.

Do whatever most needs doing, and do it so systematically and thoroughly that no adverse criticism can be made: do it tactfully, make no enemies. Let the city officials know that you intend to work in harmony with them and to support them in all their efforts for the public welfare. As the secretary of one association wrote me, "we do

the things that are outside the province of an alderman's duties, while, by arousing public opinion and a general civic pride, we really make it easier for them (the city officials) to make laws tending to the town's improvement."

There has been much curiosity regarding the management of the prizes offered by improvement associations. One association, after some experience in this work, has divided its city into four districts, through the middle each way as nearly even as possible, and to each district offers the following prizes: Ten dollars for the best lawn (this includes front and back yards, shrubbery, flowers, and general neatness of alleys and gutters). Five dollars for the second best premises. Ten dollars for the best kept school yard. Five dollars for the second best (money to go to the janitors, or whoever does the work). Ten dollars for the best kept lawn about a public building other than a school house. Five for second best. This last prize will include the postoffice, library, court house, church yards, etc. Three dollars for the best window or porch box. Two dollars for second best. Five dollars for the best grown vines that cover fences, porches, or windows. These vines to be the tender annuals, not the hardy vines that require but little care from year to year. Ten dollars to the neatest and most improved premises (front and back) along any railroad within the city limits. Five dollars to the second best. The improvement to be judged by comparison with the condition of the property the previous year.

A special prize of ten dollars is offered for the best kept premises of a man or woman living in rented property, and whose income does not exceed twelve hundred dollars a year. I should have stated earlier, perhaps, that all these prizes were limited to applicants whose incomes do not exceed the above sum. The aim is to arouse interest

in beautiful surroundings among people whose income obliges them to take care of their own lawns. This prize gave possibly the most satisfactory results of any offered the previous year. A member and interested friend of the association has offered eight prizes of five dollars each to go to a boy and girl in each of the four quarters of the city as divided by the association, who can show the best flower bed planted and cared for by himself or herself. The boy or girl must not be over sixteen years of age.

The offer of these prizes was published several times in each of the city papers. Neat circulars were printed and distributed to the pupils of the various schools until the offers were thoroughly understood. All applicants must file the notification of their entrance in the contest by the 15th of June, and as soon after as possible the awarding committee will visit the premises of all contestants and examine them from gutter to al-

ley. Another visit is paid in August and another in September, after which the committee announces the winners. No one knows the days the committee chooses for its visits, and the prizes are awarded strictly on the merits of the premises as found.



FIG. 2607. THE SAME ROAD AFTER BEING IMPROVED BY THE LOCAL SOCIETY.

PARKS AND GARDENS

BY THE EDITOR.

IT is a remarkable fact that only of recent years have public parks become numerous, for previously parks and gardens were exclusively private property, and none but the wealthy could have the full benefit of such luxury.

Nowadays a great change is coming over the nations, and even the governing bodies of our towns and cities are coming more and more to appreciate the great value of such breathing spaces for the health of all classes, as well as for their enjoyment and recreation.

Perhaps the highest ideals of park beauty are to be seen in Great Britain, where the magnificent parks connected with private estates have cultivated public taste in that di-

rection and led to a universal demand upon governing bodies to provide similar privileges for the people at large. So rapidly has this spirit developed in that country that already there are more than one thousand public parks and pleasure grounds in the British islands, of which two hundred are in London and fifteen in Glasgow. The total area of the parks of London is about 19,000 acres, and that of Glasgow 1,000.

Nor is the United States lagging at all behind; for since Boston and Chicago have taken the lead in establishing magnificent park systems, the whole country seems alive with enthusiasm, and even our own Canada is waking up to her wonderful possibilities along this line.

SCHOOL GARDENS

BY

PROF. W. LOCHHEAD, O. A. C., GUELPH.

SIGNS are not wanting that school gardens will play a more prominent part in the education of the child in the near future than they have done in the past. In Europe the influence of school gardens has been felt for many years, and most of the governments of northern Europe have provided liberally for their maintenance. In Austria the school garden is maintained for the specific purpose of improving the general education and instruction of the scholar. There it is "a large outdoor slate on the soil to put living things on to be rubbed out." In Sweden it aims to give an industrial training along with a general education, and it has done

much to promote agriculture. In Prussia the school garden plays an important part in the industrial training of the child, and has very materially advanced the fruit-growing industry of that country. In France and Belgium, school gardens have done much to promote the growth of flowers, vegetables, and fruit.

Some educationists believe that the Austrian ideal is the best, as it does not attempt to give an industrial training along with the primary education. Whatever may be our views regarding this matter, this much is clear that the main purpose of the school garden should be to improve the instruction given in the school. It should be incorpo-

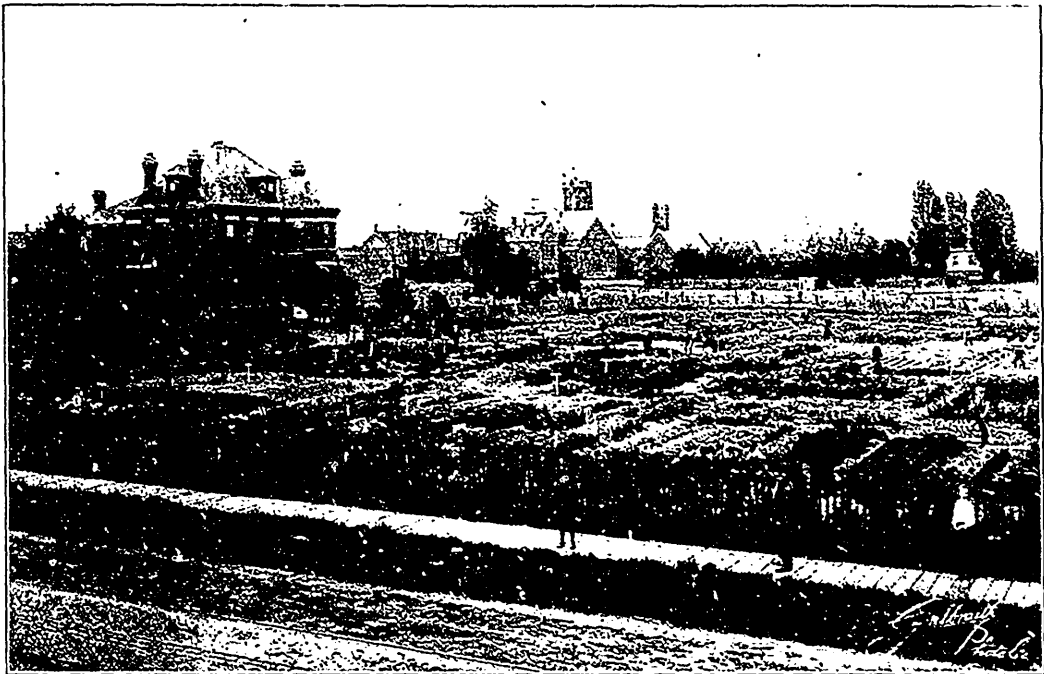


FIG. 26cS. BROADVIEW BOYS' GARDEN, TORONTO

rated into the organization of the school. As one writer states, "Every subject of the time-table should be modified by garden work, and the instruction in almost all of these should be improved by being more real and vivid and more stimulating through manual labor." Many persons will ask: "Of what value are school gardens?" In answer to this question, the value may be stated concisely as follows: (a) It inculcates habits of order, care, neatness and method, and forces the child into a habit of constant observation; (b) it brings the mind into closer communion with nature; (c) teacher and scholar are brought into closer touch; (d) physical recreation of a helpful, pleasurable nature is provided; (e) it provides a hobby that may keep many from less desirable occupations during their leisure time; (f) a greater interest is taken in garden work in the community; (g) indirectly, a love for home and its environments is created; (h) it gives boys and girls the rudiments of an industrial training which may be of value in later life.

ments of an industrial training which may be of value in later life.

From the instructional point of view school gardens are valuable on account of the large number of special studies which may be carried on by the children in connection with them. Some of these special studies are: (a) the broad distinction between soils—the different kinds, and their differences as far as can be made out without too elaborate experiments; (b) the germination of a large number of seeds, and the way the different seedlings get out of their seed coats; (c) the development of the different flowers, the formation of the fruit and seed of the garden plants; (d) studies of insects, birds, and fungus diseases which are common in every garden; (e) the record of weather conditions which influence the growth of plants, and the use of such instruments as the barometer and thermometer; (f) improvement of the soil by spade work, manuring and draining; (g) how plants are

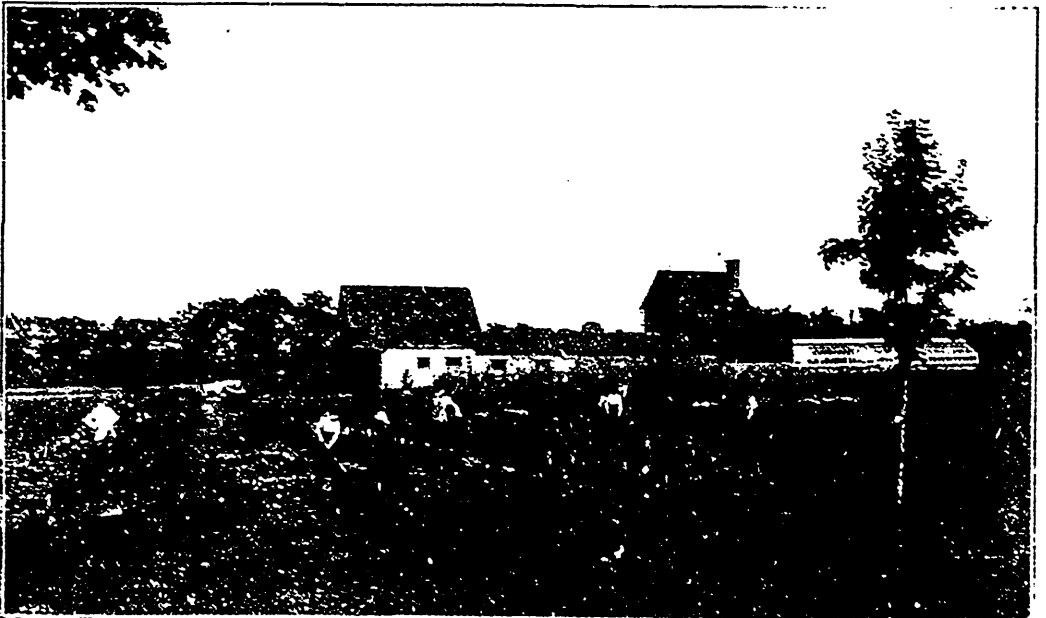


FIG. 259. SCHOOL GARDENS AT HARTFORD.

constructed and nourished, and the conditions for their healthy growth; (h) the selection of seed in the production of better varieties.

School gardens may also be of great service in the teaching of arithmetic and geometry in a rational manner. For example, such topics as the following come up at every turn: (a) the number of plants required to fill a given space: (b) the garden account, supposing that the seed and mature plant have their value, and that a boy's time is worth something: (c) the comparative cost of two plots treated differently; (d) the calculation of the percentage of sound seeds in a given sample in a germination test: (e) the calculation of losses by insects, and the gains by beneficial birds, frogs, and insects: (f) the laying out of the plots in various forms will bring home to every pupil the

be asked by the pupils during the progress of their garden work which will often stagger the best teacher. Such familiar phenomena as the growth of stems upwards, the roots downwards, and the branches horizontally, will be brought forcibly to the minds of the pupils who will undoubtedly ask for an explanation. What happens when water is poured on dry dusty soil? How does water rise from the saucer to the soil in the pot? How many plants shut up before rain? Why is there no dew under the shade of trees? Why do not the leaves of cabbage become wet with rain? Questions such as these will occur to the mind of the average child who is interested in garden work.

During a recent trip to New England the writer paid a visit to the School of Horticulture at Hartford. This school is under the charge of Prof. Hemenway, and it situated in the country about a mile from the end of the street car line. Arrangements are made with the schools of the city of Hartford whereby the children may take garden work after 4 o'clock and on Saturdays. The experience of the last three years reveals the fact that the children are seldom absent, and that the "street loafers" have become quite industrious boys. It seems to the writer that such could be done in Ontario by the introduction of school gardens such as those at Hartford.

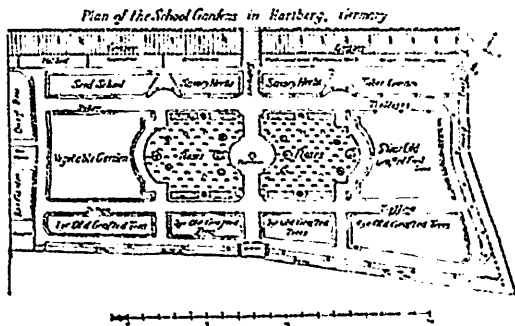


FIG 2610. SCHOOL GARDENS IN HARTBERG, GERMANY.

meaning of straight lines, curved lines, circles, triangles and squares: (g) the construction of these plots to scale: (h) the estimation of the slope of the garden, etc.

In the solution of many of the problems which have been indicated, drawing will come in as essential, especially in the making of diagrams to illustrate important facts in the structure of plants and insects, and in the delineation of beautiful flowers and leaves.

It is wonderful how many questions will

The experience of the Director of the Broadview Boys' Institute in Toronto shows clearly that garden making and garden keeping may be made a potent factor in the education of the boys during their leisure hours. When boys prefer tending their garden plots to witnessing a football match in an adjoining field, it is surely time for the authorities to take action and provide garden grounds where all who will may have plots.

In every town there is usually one or more persons of leisure who could conduct school

garden work along the line of that in Hartford. Not every man who can keep a garden will make a good leader and instructor of boys and girls. That man must be a person whom the boys will respect and obey, for there will of necessity be considerable drudgery work, which the average boy detests, and did not take into consideration when he took up garden work. That man, moreover, must be systematic in his own work and bring about an orderly system of the work in his charge. He must be able to give short talks to the boys both in and out of doors, concise and to the point.

Grounds suitable for work of this kind must be provided at a convenient distance from the homes of the boys. In a matter of this kind there would in most cases be little trouble in finding an area large enough for 50 or 100 small plots each 10 feet by 25 feet.

Then tools must also be provided, but fortunately these are not costly. Each boy should have a set, composed of a garden rake, a garden hoe, a hand weeder, and a line, for which he would be held accountable. A few digging forks and spades should also be at the disposal of the class.

In Hartford the school assembled in a small room, fitted up as a class room, at an appointed hour, received their note books, and copied instructions dictated by the master in charge regarding their day's work. The attendance was recorded by the pupil himself in a special page of his note book. As soon as the early plants began to mature the boys were allowed to take home material from their own pots, but they were required to note in their books the amount of stuff taken.

These gardens were conducted through the entire season, holidays and all. Whenever a boy failed to do his work properly, or refused to obey orders, his plot was given to

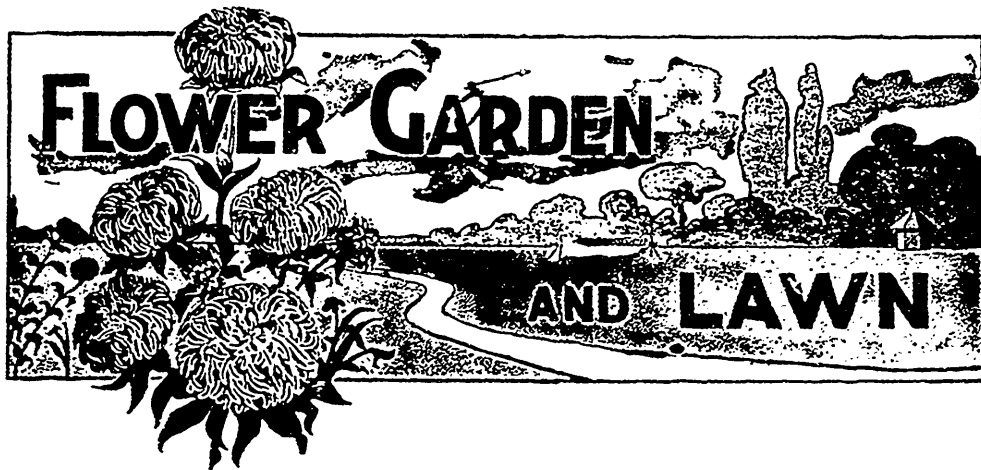
another boy, for there were always more boys in Hartford willing to do garden work than there were plots.

In early spring, before the plots could be worked, instruction was given in the greenhouse or plant-house in mixing and sifting soils for potting plants, in planting seed, in potting and repotting plants, and in pricking lettuce and tomato plants.

The rules, which are printed on the inside cover of their note books, are: Each pupil is required to

1. Be regular and punctual in attendance.
2. Keep his garden orderly.
3. Keep his record book correctly.
4. Leave his tools cleaned and hung up before going home.
5. Be courteous to all, and if absent or late furnish excuse from parent or teacher.

It occurs to the writer that now is an opportune time for our Horticultural friends to forward a movement which is undoubtedly a most important one. If the school board will not act immediately it remains for the friends of the movement to take hold of the work themselves and give instruction. Very likely a little money will be required, but this will be forthcoming as soon as the object is placed clearly before the public. There is no more civilizing influence anywhere than that of school gardens, and history tells us that one of the greatest advances in the history of the race occurred when men began the cultivation of plants. He then became a home builder, and gave up his wandering, nomadic habits. One writer of the present day believes that the "tramp" is the product of the tendency cityward, which is so strong in the present age, and is a "reversion" to the primitive habits of our ancestors. The children are crying out for gardens; the home demands a garden; the state should insist upon gardens; and civilization will revert without gardens.



FLORAL NOTES FOR JULY

BY

WM. HUNT,

O. A. C., GUELPH.

STIRRING THE SURFACE SOIL.—The hotter and drier the weather is, the more need there is of surface stirring and tilling the soil around growing plants, in beds or borders. By hoeing or stirring the surface soil to about an inch in depth, a loose earth mulch is formed that is as necessary and beneficial to plant life as overhead watering. In fact, deluging the soil around plants, as is often done by watering them from the nozzle of a hose, is oftentimes almost as harmful as it is beneficial, unless the soil is kept well stirred. Deep tillage is seldom necessary, and is sometimes hurtful, as it disturbs the roots of the plants. Light tillage and frequent is best in summer time, and is best done when the soil is fairly dry. Never hoe or tramp about on the beds or borders when the soil is wet and sticky. Leave the surface rather rough and lumpy, and do not rake it fine.

DAHLIAS.—These beautiful late summer and autumn flowering plants like a moist atmosphere to grow in. Syringe or sprinkle

the foliage every evening in hot weather, if possible. If quality rather than quantity of bloom is wanted, there should be only two or three of the strongest shoots left to grow. All the small weakly shoots should be cut out. If exhibition blooms are wanted only three or four blooms should be allowed to grow on a stem, the small lateral buds should be picked off. Cow manure diluted with water in the proportion of twelve pails of water to one of cow manure well mixed together and allowed to settle before using, makes a splendid fertilizer for dahlias, roses, hardy hydrangeas, or almost any garden plant that requires a stimulant to assist its growth. Once a week will usually be sufficiently frequent to apply this fertilizer. Orange, India rubber plants and palms will also be much benefitted by an application or two of this fertilizer during the summer, more especially if they have not been recently repotted.

CALLA LILIES.—Calla or Arum lilies should be started into growth about the end of July for early winter flowering. If it is

necessary to repot them, now is the best time before active root growth has very much developed. Give them light rich soil and a few pieces of broken pot for drainage. Do not over pot them, as an over large pot induces leaf growth, but few flowers. Good drainage, plenty of water, and a moist warm atmosphere, are the main essentials for success with Callas. Too much soil around the roots is not necessary or desirable when they are grown in pots in the window to secure bloom.

CHRYSANTHEMUMS.—Pinching the growth of these plants should be discontinued after about the second week in July. The plants should be potted early in August if they have been planted out in the garden; or re-potted into larger pots to flower in if they have hitherto been grown in pots.

PELARGONIUMS.—These plants, that are often known as Lady Washington geraniums, should not be given much water during July. Keep the soil barely moist, so as to dry off and harden the wood, prior to cutting them back, which should be done in August. Pelargoniums should be stood outside during the summer in a partially shaded position. Stand the pots of these and all similar plants on a bed of coal ashes an inch or two thick. This is necessary to keep earth worms out of the bottom of the pots.

GERANIUMS.—Plants of these that have been kept pinched back should be allowed to grow freely after the end of July, but the blooms should be picked off until about the end of August if they are expected to flower well during the winter months. Cuttings of geraniums, salvias, heliotrope, coleus, etc., will strike readily in sand outside in the garden at this season of the year, and will make nice plants before winter. Shade the cuttings during the hottest part of the day, and keep the sand well moist, but not soddened. Old plants of geraniums in pots should be cut well back, allowed to break into growth slightly again, and then be repotted. Old

plants treated in this way will flower well during winter.

LILIES.—Late in July or early in August is usually the best time for planting new clumps of garden lilies, or of transplanting and dividing old clumps of lilies. It should be remembered, however, that lilies of almost all kinds dislike moving or transplanting very often, so that it should only be done when absolutely necessary from overcrowding. Lilies do not like manure placed near their roots when transplanted, a mulch of strawy manure on the surface of the ground around them is much more beneficial than if placed around their roots under the ground.

Lily of the Valley may be transplanted toward the end of August. These should not be planted too deeply. An inch of soil planted over them is generally sufficient. The soil should be patted down fairly firm with a spade after the pips are planted. A light mulch of long strawy manure applied late in the fall will help newly planted clumps of these beautiful little gems of the lily species. They give the best results when planted in a partially shaded situation.

FLOWERING SHRUBS.—Keep the clipping shears off the flowering shrubs. If the loose straggling shoots of these useful lawn decorative plants have not been thinned out when they were in flower, as I have so often recommended (so that they could be used for ornamenting the mantel or dining room table), the pruning should be left until late autumn or early spring so that the growth can be thinned out without clipping the shrubs into unnatural and oftentimes ugly shapes and forms. Clipping flowering shrubs not only leaves the shrubs unnatural and unsightly looking, but it removes about all of the growth that produces blossom the following season.

HYDRANGEAS.—Give hardy lawn Hydrangeas plenty of water at the roots during the hot weather if large showy panicles of bloom are expected in autumn.

IN AN OLD-FASHIONED FLOWER GARDEN.

HERE is always something in the old-fashioned garden that pleases us more than the annual flowers from a greenhouse do. This is largely because of memories which the permanent ones of the garden awaken. Coming to us year after year they bring to us circumstances we are pleased to remember. In early summer and late autumn such gardens are replete with flowers. At midsummer it is not easy to find a good variety to help towards a bouquet. It is therefore with pleasure that I append a list of few good ones which I have just observed flowering in an old-time border of flowers.

My first notes record several bergamots, monardas, as they are called. There are *didyma*, the scarlet; *purpurea*, the purple; *mollis*, pink, and *fistulosa*, lilac, all good for this season for their flowers and their sweet-smelling leaves.

The common perennial phloxes are now in bloom. These, to do their best, need rich ground, moisture and a shady place. With the reverse of this the flowers quickly fade. Some of the newer sorts of phlox are very handsome. Nearly all veronicas are out of flower, but one of the newer ones, *Hendersoni*, is just in its prime. This has spikes of large blue flowers, larger than those of any other one I know of.

The common milkweed, *Asclepias cornuti*, is sometimes a nuisance in old meadows, but the lovely yellow-flowered one, *tuberosa*, is one of the most attractive of plants now in flower. Another species, *incarnata*, bearing pinkish-white flowers, helps along the midsummer display. A foreign kind, *curassavica*, with yellowish-orange flowers, is another good one. *Anthemis tinctoria*, is a yellow, daisy-like flower, which blooms from June till September; and if decayed flowers are cut away as fast as they ap-

pear, the new ones continue to come in greater profusion.

Much the same can be said of the two coreopses, *grandiflora* and *lancoolata*. Both are yellow, and bear their flowers on long stems, which is a valuable characteristic where flowers are desired for ornamenting tables when placed in vases.

I saw to-day a whole lot of the lovely large blue larkspur, *Delphinium formosum*, in full bloom. The plants I found had been raised from seeds sown in late fall, in a greenhouse, and had been planted out in spring. This is worth remembering, as if sown in spring there are no flowers until the second summer. Hollyhocks are of the same character. A few will flower when sown in the fall, but it is better to give them two full seasons to get the best results.

The old purple foxglove makes a grand display in the early part of the month. This does best treated as a biennial, though it is something of a perennial. The order to which it belongs contains pentstemons, monkey flowers, snapdragons and many other beautiful and useful hardy plants. As with nearly all perennials, if it can be given a little shade, its flowers are much more satisfactory.

The large-flowered bell-flower, *Campanula grandiflora*, in both white and blue variety, is among the most attractive of all. The two are tall-growing, growing three feet in height, and they bloom profusely. Sometimes one half of a flower will be blue, the other white, making a curious spectacle.

Among day lilies, there is one, *Funkia subcordata*, a very light blue, just going out of flower. In a short time, a very late one, with deep blue flowers, *lanceifolia*, will make its display, the last one of the season.

In a quite damp, partly shaded place, double English daisies are now in fine display.

These, I believe, were from seeds sown in early winter. These and common wild English ones, as well as the primrose of that country, will survive ordinary winters here if a slight covering of forest leaves be placed over them.

Another old favorite rarely met with now-a-days is the lavender. It stands both summer and winter well, and as a reward for the space occupied, blooms profusely through the midsummer months.

A large-growing but beautiful perennial

is the *Cassia marilandica*, a species of the native sensitive plants. There are three natives of these plants, but this is the best. The plant grows so bush like that some nurseries catalogue it among their shrubs. It makes a height of three or four feet, bearing clusters of yellow flowers at the end of the shoots. On account of reported medicinal qualities, these plants are called Wild Senna.—*Joseph Mechan in Country Gentleman.*

FLOWERS FOR INVALIDS.

IN our endeavors to make our sick rooms as cheery and attractive as possible, we surely must not leave out the growing plants. The old erroneous idea that they were unhealthful in a sleeping room appears

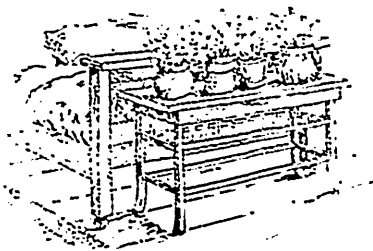


FIG. 2911.

to have faded into the background, much to the good fortune of the sick folks, whose eyes weary for the sight of something green and growing and alive. It is pleasant to

watch the new leaves coming out, and the pleasure partakes of gentle excitement when a flower bud is discovered and watched to maturity. The whole room, too, is so much cosier and more homelike for the presence of a few plants in it. They may be scattered about the room, at the windows or on brackets, but a few at least, should be close to the bed—real *neighbors* to the sick one. The illustration given here suggests a simple, oblong table to hold four or five pots of them. It is very easily manufactured at the home work-bench, and when filled with plants and set at the bed's foot, it cannot fail to give great pleasure and comfort. There should be no ugly pots and jars upon it, but a few choice flowers in choice dishes. Artistic pots are as much a part of the kindly little scheme as the dainty posies themselves.—*American Gardening.*

NATURE'S CALENDAR.—June's delicate robe of green falls upon July a mantle already travel worn. The tender freshness of the leaves is gone. The trees of the roadside are dusty and dejected, dropping now and again a sickly yellow leaf which has suc-

cumbed to the heat and drought. Too hot for flowers, say you? Mark you bee and the business-like way in which he hums toward the meadow. Full well he knows how many newcomers July brings into the world of flowers.—*Country Life in America.*

SHADY NOOKS FOR SUMMER DAYS

ANYTHING which adds to one's comfort during the warm weather is welcome, and as the life in our climate during the summer months is largely an outdoor one, any bit of shade which Nature or art may provide to temper the rays of the sun is welcomed. The ideas illustrated on this page may all be carried out at slight expense.

The illustration, "A Shady Retreat," suggests places where one may retire with a favorite volume. If the climb into these retreats is too venturesome for the older members of the household, they will afford much enjoyment for the younger ones. Of course the proper trees are necessary, and as no two are alike the carpenter will have to adapt his construction to the enforced requirements of size and growth.

In the arrangement for the shady seat at

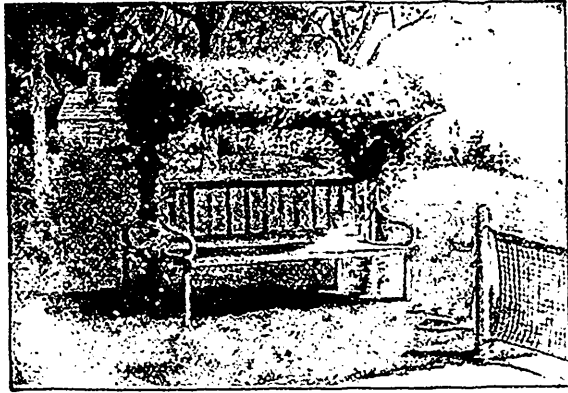


FIG. 2613. A SHADY SEAT AT THE TENNIS COURT.

the tennis court, rough cedar posts are planted firmly about eight feet apart, three feet below and seven feet above ground, and a framework of built across at the top, and a double seat with back constructed between. The framework at the top should come forward four and a half feet from the end parts on each side, making the top nine feet over all. A series of hoops is carried along one foot apart, giving a curved top. The brackets for this top and the arms and legs of the seat may be made from rough limbs with the bark left on. The same material is used for braces. If gnarled limbs can be obtained for these all the better, but the framework is of secondary importance, as it will be covered with vines by the middle of the summer.

A more simple mode of construction would be to make the top flat. For this use straight pieces instead of hoops. The effect will be less picturesque, but when covered with vines it will make but little difference. If possible face the seats north and south, as more shade will be obtained from the ends when the sun is low in the afternoon.



FIG. 2612. A SHADY RETREAT.

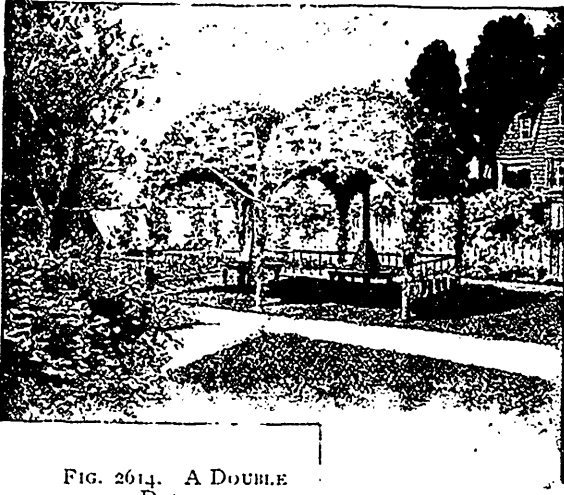


FIG. 2614. A DOUBLE DOME.

Often shade is needed at some special point on the lawn, and the illustration given of a summer house with a double-domed roof and two circular seats offers suggestions for that purpose.

In the arrangement for this summer house six posts are planted. Of course, the size of these bowers must vary according to individual needs, but they must not rise too high above the ground. They will be useless for shade if carried up more than eight feet.

Centre posts rise to a height of eleven feet, and long hoops are carried diagonally from corner to corner. These are firmly nailed to the centre posts, on which they cross. Straight pieces are carried around horizontally from post to post; these are supported by brackets. The hoops may also be connected by light stuff. A seat is constructed around each centre post, and a light railing runs around the sides. At the base the entrance is generally left free of adornment of any sort.

USEFUL VINES.

Many vines which flower lovers would like to use are worthless for the purpose of

shade. The sweet pea would be a general favorite if it grew to a sufficient height, but it does not. The morning glory and the wild cucumber are both desirable. The former will grow to a height of twenty feet in a season. The wild cucumber also has a rapid growth, and its flowers when seen in masses are very effective; it is to summer plants what the native clematis is to our perennial vines. Some of the ornamental gourds are available for covering summer houses, their large leaves overlap and afford a dense shade, which is, of course, indispensable in a summer house. The variegated Japa hop will answer for the purpose of shade: it has a rapid growth and an attractive foliage.

A SHADED TURNSTILE.

An illustration which needs little description is the one which an old sketching umbrella frame is utilized for the canopy at the top of the centre post, or constructed of a large wooden hoop supported on a wire properly bent. A pot is set on or in the post

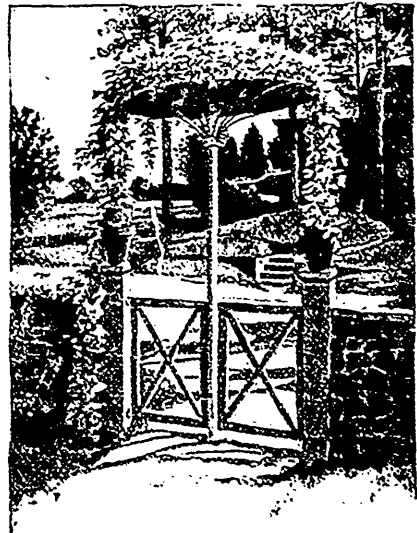


FIG. 2615. A SHADED TURNSTILE.

on each side, and a ladder-like framework of light sticks connects them with the canopy. If desired, wooden boxes may be built in place of the posts. In fact, it would doubtless be a wiser plan to use boxes, as they may be nailed securely to the posts. The centre post must be carried up to a height of seven feet so that it may be passed beneath without chance of brushing the hat of one's tallest guest. Paint in harmony with the house. Nothing will be so pretty or so attractive to plant about this gate as nasturtiums.

THE DOORWAY.

Very often the entrance to a house lacks a canopy or porch in which case the arrangement shown in illustrations shows two



FIG. 2616. A SHADED DOORWAY.



FIG. 2617.
A SHADED
DOORWAY.

light canopy frames, which, when covered with vines, will afford a grateful shade. A feature of one is the shelf for potted plants. Brilliant geraniums are especially effective for the purpose, their glaring blossoms fairly burning against the dark green of the grape vine's broad foliage. When constructing the simpler one, bring the brackets down well toward the base of the door posts. The doorway may be flanked with cacti or other plants of a decorative character. For planting a door having a canopy I would advise *Celastrus Scandens* or *Ampelopsis*. The native grape may also be used. All three of the above are attractive and nearly always prove satisfactory.—*Ladies' Home Journal*. Copyrighted by the Curtis Publishing Co., Philadelphia.

THE BACK YARD AS A SUMMER RETREAT

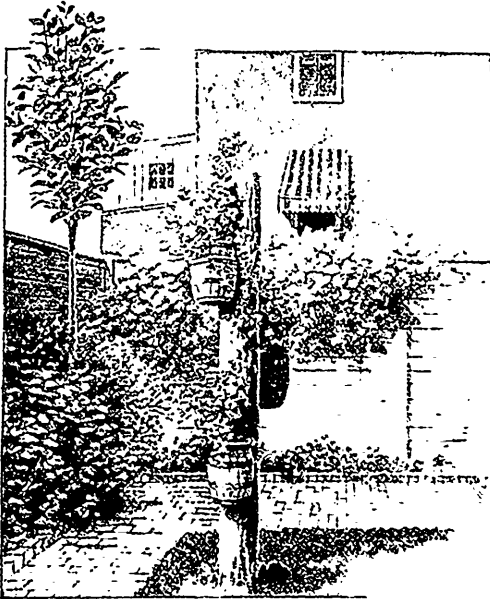


FIG. 2618.

THE Englishman realizes the value of flowers in and about his home as a refreshing element. In the city or country the stately mansion or humble cottage is never without its note of color given by potted plants showing at the window or planted in the available space about the dooryard. American city dwellings rarely have more than a few square feet of ground in the rear of the building, but by ingenuity and care much can be done to beautify this little breathing space.

Assuming that a high board fence separates our yard from that of our neighbor, let us consider it the frame for a picture. For a space of two feet from the ground paint the boards dark, quiet green. Above this use a cream, white, or very pale green. This will make a pleasant, harmonious background for the delicate tracery of leaves and flowers growing against the fence. The clothes lines should be fastened to posts set at the outside edge of the walk. If you

have much space plant the posts at the corners, as shown in Fig. 2618. The plot of turf in the centre should not be broken with flower beds. A group of aquatic plants can sometimes be introduced, however, by

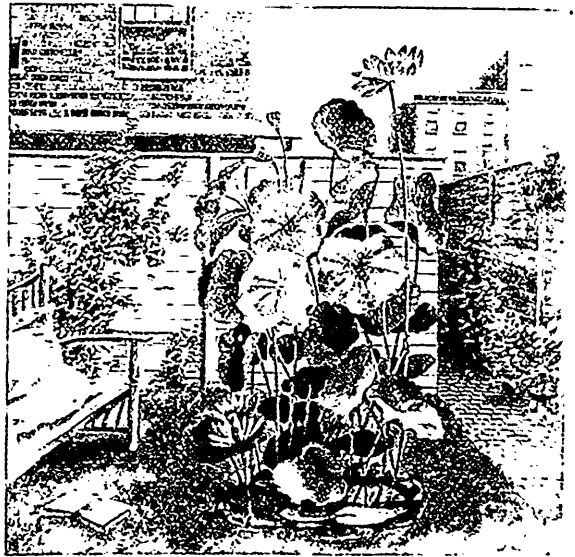


FIG. 2619.

sinking a half barrel in the ground, as shown in Fig. 2619. But do not attempt to sacrifice this valuable space to flower beds or floral effects of any sort unless you have an abundance of room.



FIG. 2620.

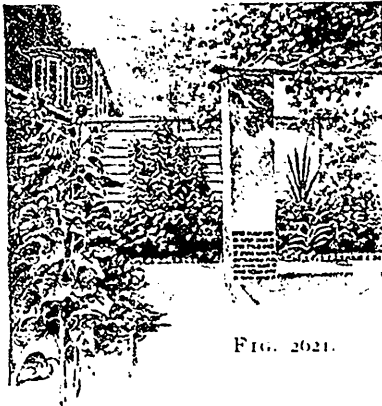


FIG. 2621.

With little expense and the expenditure of time some tree trunks can be obtained from the neighboring country, and used instead of the posts. Use your discretion in sawing off the branches. Pretty rustic effects can be obtained by leaving some of them longer than others. These trees can be located at various points to avoid a set appearance, and will thus add a picturesque feature. A tub containing trailing vines can be placed on top, as shown in Fig. 2620. Brick piers, built at the four corners of the centre plot supporting an overhead trellis (see Fig. 2621) will give a very pretty effect.

When space is very limited the idea suggested in Fig. 2622 is effective. Plant an eight-inch post firmly in the ground at the desired spot. On top affix a large cart wheel, to be bought at any carriage maker's, or make one of strips of board, each one inch thick by two inches wide and of desired length. Nail these on edge to a circular piece of plank at the centre, and tack a stout barrel hoop around the outside rim to secure the ends of the spokes. Nail the circular plank to the top of your post. Surmount the whole with a half barrel in which are planted quick-growing vines, and you will have, in a few weeks, an artificial tree.

Vines can be also trained up the post from the ground.

Another effect is shown in Fig. 2623. A number of short rustic posts are sunk in the ground in a circle, leaving out one in the



FIG. 2622.

series for a gateway. A taller centre post is placed in the middle. Kegs containing vines and plants are placed on the tops

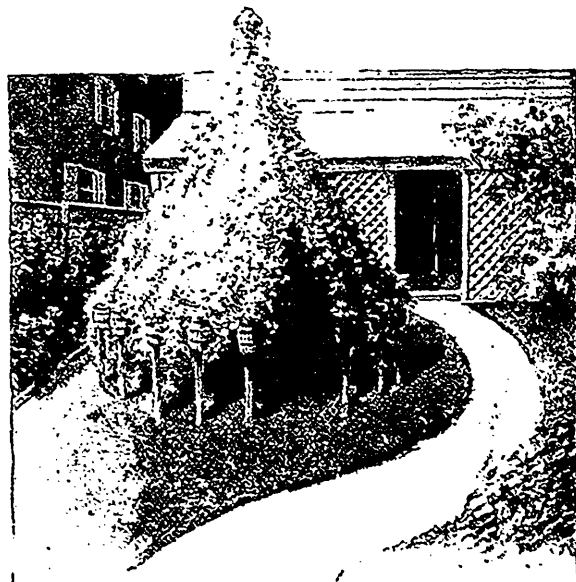


FIG. 2623.

of the posts. Wires are stretched from each to the other and to the centre post, and a very pretty artistic arbor is the result.

A good way to treat the top of a fence is shown in Fig. 2627. Ordinary barrel hoops are bent and nailed to the back of the fence and supported by laths. Boxes of plants are arranged on brackets, or upon the ledge at the back, if permission can be obtained.

Fig. 2624 shows another arbor effect at the rear end of the yard, containing a seat, with pillows which may be covered with water-proof cloth. The assistance of a carpenter may possibly be required to construct this feature, but it is not complicated or expensive, and will furnish a pleasant nook for a siesta.

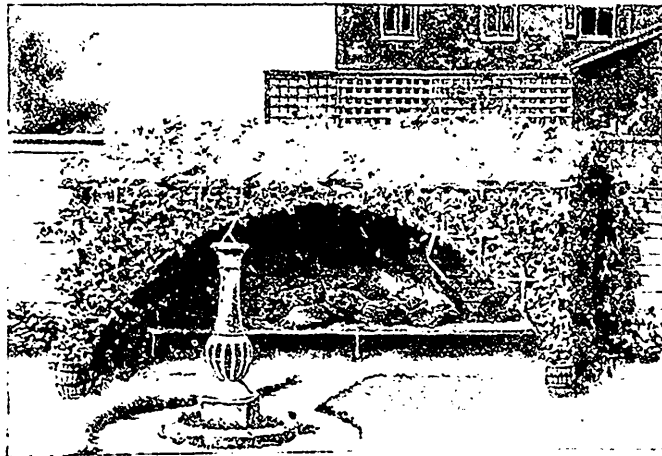


FIG. 2624.

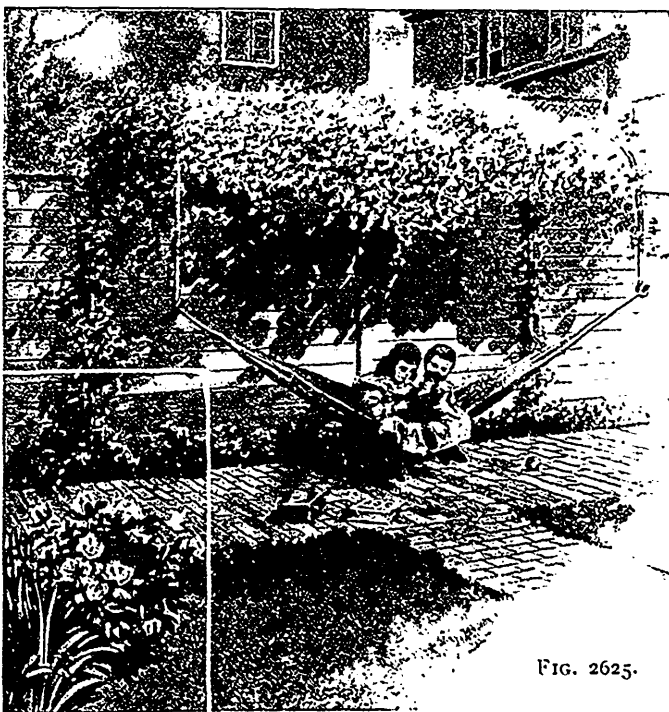


FIG. 2625.

Oftentimes want of space prevents the swinging of a hammock in the yard. A plan is shown in Fig. 2625. Have two brackets or davits made of two-inch gas pipe and bent at the blacksmith's. At the

hanging ends hooks are welded, to which hang the hammock. The pipes are fastened securely by bands of iron screwed fast to the fence. Wires may be strung overhead upon which vines can be trained.

The back portion of the yard, being the least used and the most seen from above, is the place for whatever large beds or shrubbery you wish to use.

By grading from large plants to small even a bed 10 feet in width against the fence may be made to present a large surface of plants and flowers, while here and there, climbing plants, running up on string trellises, may be carried to the top, and along it :



FIG. 2626
VINE WREATHED LAMP POST

its velvety gray-green leaves and spikes of yellow flowers contrasting charmingly with more showy plants. These plants make a fine background.

In such a tiny garden it is scarcely practicable to have clipped borders, or any large growing trees: but a clump of shrubbery could be made a feature in place of a flower bed. An unsightly pile of stones may be

(see Fig. 2627) and if you select the plants so that you have early and late flowers, you may by trimming out dead foliage, keep your garden always in bloom: and don't forget the tall, spear-like plants, such as hollyhocks and sunflowers, and even the despised mullen of our fields, which in England

is grown in great beauty in gardens.



FIG. 2627.

transformed into a pretty feature by filling the interstices with earth and planting therein the mullen and thistle. Ordinary corn will give the effect of palms, and will grow fairly well if it receives plenty of sunshine. It needs very little water. Even a brick wall may be made to blossom and fruit as well. It is quite a common sight in England to find small fruit trees trained flat up against the sunny side of a house, and all bearing well.

SOME FLOWER LEGENDS

BY

EDWARD TYRRELL, TORONTO.

RUSKIN writes in one of his books, "The greatest thing a human soul ever does in this world is to see something and tell what it saw in a plain way." I suppose if a person reads something and writes of that which he has read in a plain way, he will also be doing some good.

"There's beauty all around our paths, if but our watchful eyes
Can trace it midst familiar things, and through their lowly guise:
We may find it where a hedgerow showers its blossoms o'er our way,
Or a cottage window sparkles forth in the last red light of day."

But we do not stop to look. "Hurry

along" seems to be the ruling motto. Alas! what beauty and opportunities we miss.

Mr. Norman Lockyer tells while on a scientific trip to the Rockies, he met with an aged Abbe and could not help showing his surprise. The Abbe saw that he was surprised to find him there—told him that he had been ill, and that the doctors had given him up. One morning he seemed to faint and had a dream that he was already in the arms of Bon Dieu. "And," said the Abbe, "I fancied one of the angels came and asked me, 'Well, Mons. L' Abbe, how do you like the beautiful world you have just left?' And then it occurred to me that I, who had all my life been preaching about heaven, had seen scarcely anything of the world in which I had been living, and I determined, if Providence spared me, to see something of the world, and here I am."

The subjects I give this month do not need the pictorial illustrations, as every one is familiar with their faces and can call up before the mind's eye the image of them.

Iris.—The ancients named this plant the attendant of Juno, because its colors are the same as those which the poets and mythological writers have bestowed on the messenger of this goddess. Every quarter of the world possesses the Iris, and excepting the rose, no flower has been more celebrated by the historian and the poet than this genus of plant. The ancients used the Iris, or flag flower, as the symbol of elegance, and on this account it was, we presume, placed by the Egyptians on the brow of the Sphinx, as is to be seen in the collection of antique statuary at the Louvres in Paris, where there are three Sphinxes, all of which have the Iris sculptured on the brow. About the middle of the 12th century, Louis VII

of France, having been excommunicated by the Pope, and his kingdom laid under an interdict, was persuaded to take up the cross and join in the war of the Crusades, on which occasion he distinguished himself by a particular blazon, for which he chose the Iris flower. From that time it was called "Fleur de Louis," Louis' flower, which was soon contracted into "Fleur de Luce," afterwards into "Fleur de Lis," lily flower, although it has no affinity to the lily. This flower soon became celebrated in France, being employed in the decorative embellishments of the crown itself. The Fleur de Lis for a time had a place in the British coat of arms, but on the 1st of January, 1800, it gave place to the Shamrock, which is now united with the rose and thistle.

FUCHSIA, named after Leonard Fuchs, 1501-1565. The fuchsia was known in France early in 1700, but not in England until 1800. It is a native of Mexico, Brazil, Chili, Peru and New Zealand. In some parts of England it is known as "Lady's Ear Drops." A story is told of Mr. Lee, a well known London florist, when he saw for the first time a fuchsia plant in bloom in a window of a small house in Wapping, he was struck with the beauty of the flower, and asked the woman of the house if it were hers, and if she would sell it. She at first refused, as her husband, who was a sailor, had sent it to her from Brazil. He offered her eight guineas, and promised her two of the first plants reared. She agreed, and he kept his promise, and realized three hundred pounds for his other cuttings. This is the advantage of using one's eyes and brains.

HOW TO BUILD A SMALL CONSERVATORY

[We have frequent enquiries regarding the building of small conservatories attached to houses. possibly this plan, which once appeared in Gardening. may be useful to some of our readers.]

THE drawings here presented show a small conservatory suitable to be attached to a private house. The dining and drawing rooms of many houses are about 15 feet wide, have a chimney in the center with windows on either side of same. This conservatory, erected in conjunction with either of these rooms, would be an artistic and serviceable addition. The windows could be altered to doorways with or without doors as desired. A foundation built of the same material as that of the dwelling, with stone footings carried below the frost line, should be prepared for the conservatory, or if this be too expensive, locust posts could be used instead. If posts are used the tops must be squared, and the proper angle given to those which form the corner of the octagon. German siding could be nailed to posts, the board at the grade line extending below the level two or three inches.

By consulting the scale details in conjunction with the following description you will, we think, understand the method employed in the construction of this building.

A sill 2 inches by 6 caps the foundations and should be laid in a thin bed of cement. Floor beams 2 by 10 inches, secured to the sill and supported at the house on a 2 x 4 secured to dwelling, should be laid the 11-foot way of conservatory. A plate 2 x 4 inches is next fastened to the top of the floor beams, following the outlines of conservatory same as sill. To this plate the rafter feet are secured by cast iron lugs bolted to the plate and rafter feet. It will be noticed that this plate extends outside of the conservatory, forming a cap for the base, and constructed in such a way that it is impossi-

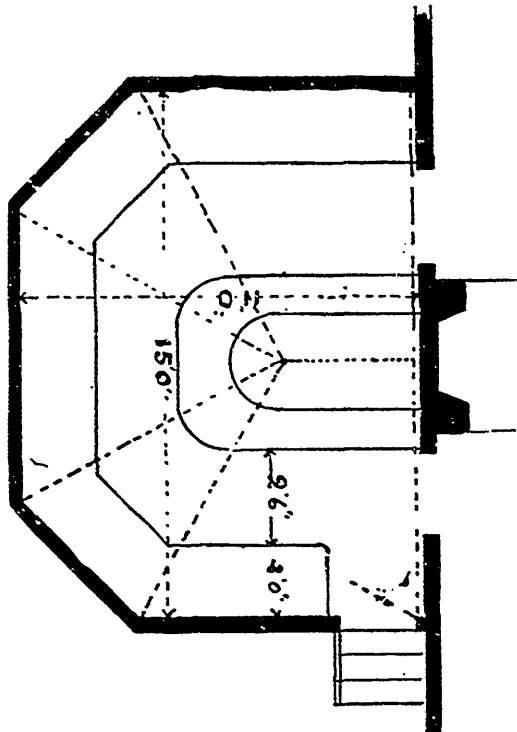


FIG. 2625. GROUND PLAN.

ble for water to find its way into the joints. The height of the sides, as well as the length of the rafters, can only be determined by the room available, position of the windows in the second story, etc. This must all be carefully noted before operations are commenced, and a large scale or full-sized drawing made to determine these points. The rafter feet and rafters are joined together with a wooden bracket, as shown, and securely bolted to each. The elevations and dotted lines on plan show the number and position of the rafters. Where the rafters join at the ridge they should be secured to the same with iron straps.

The sides of the conservatory from the top of the floor to the height of 2 feet 6 inches are panels running between rafters and secured to the same. A sash sill caps the panels, and above this are the side sash $1\frac{3}{4}$ inches thick, hinged at the top to fascia and provided with iron straps to open them. The fascia, $1\frac{7}{8}$ inches thick, runs from rafter to rafter in one continuous piece. The rafter feet should be cut away where the fascia strikes them so that the face of the rafter foot and fascia are on the same plane. The gutter is constructed in two pieces lined with tin and supported by brackets as shown. Care must be taken that the tin laps over the outside face of the gutter and extends close to the fascia cap, as otherwise water will surely find its way into the conservatory. The roof is formed by rafters and sash bars, the bars being gained into the fascia cap and mitred against the rafters. The position of these can be readily seen on elevations.

Either side of the short ridge are small sash for ventilation hung to the ridge, and are intended to open by means of ventilat-

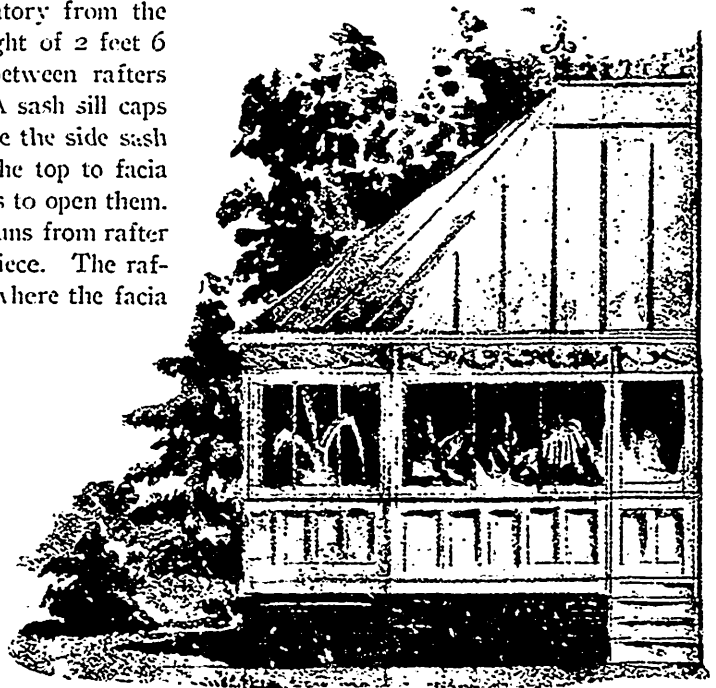


FIG. 2629. SIDE ELEVATION.

ing machinery, which can be procured for a small sum, of dealers in the same.

The tables can be built of wood. They should be strong and substantial, with a band on the front projecting about two inches above the table.

A FERN THAT WALKS.—Most ferns are confirmed travelers. New fern leaves grow out from the underground roots some distance away from the old plant. The average observer scarcely notices this, but there is a native fern that steps off at so lively a pace that its odd habit has long furnished one of the unceasing entertainments of the woods. The walking fern often carpets ledges and tops of shaded rocks. The slender, tufted leaf fronds are singularly unfernlike in appearance. They squirm about and "walk" by declining their taper tips to the soil and

taking root there and growing. In time, clusters of new leaf fronds spring from such rooted tips. By-and-by some of these, to bite the earth and, taking root, start still other colonies, which in turn will continue the progress again and again. Naturally, with the lapse of time, the connection between the older tufts and the younger becomes broken, yet one sometimes finds series of three or four linked together, representing as many steps in the pretty ramble.—*Country Life in America.*



The Canadian Horticulturist

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LOCAL NEWS.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events or doings of Horticultural Societies likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of Horticulturists.

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

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OUR HORTICULTURAL SOCIETIES

BY

T. H. RACE, MITCHELL.

I INTIMATED in the May number of the Horticulturist that I would refer again to this subject during the summer months. I merely intimated then that the object of the horticultural societies was not to distribute seed potatoes, nor to do any work properly belonging to the agricultural societies. On the contrary, the horticultural societies are to do for the home and its surroundings what the agricultural societies have done for the farm and the dairy. They are intended to do more. Their purpose is to beautify the home and make it more attractive; to purify and cultivate the

aesthetic in home life by the aid and influence of nature's gifts, and thereby promote a greater love of home, a deeper love of country, and a higher conception of life.

We have as an inheritance a rich and a beautiful land, the basis of its prosperity being the agricultural interests. For the development of these interests the agricultural societies have done much. But the improvement of the home and the cultivation of the aesthetic art have scarcely kept pace with the higher methods of cultivation and general progress upon the farm. Having recognized this fact, the horticultural

societies have taken up the neglected work of making the home more attractive.

Horace Greeley, in his admirable essay on farm life, says that the best investment a farmer can make for his family is that which surrounds their youth with the rational delights of a beautiful and attractive home. This is as true of the town and city home as of the rural home. Whatever the conditions or larger environments, there is no spot that so deeply concerns the welfare of mankind as the home. Where the child is nurtured there the foundation of his character is laid; and upon the influences of early home life depends largely the character of the manhood and womanhood we are producing. And upon that character depends the character of the nation or country. A country is just what the people make it, with the advantages they possess. Canada is to-day just what we make it. In another generation it will be whatever our children make it. What they may be then depends largely on the influences we throw about them now in their home life.

The work of the horticultural societies is the education of the æsthetic side of life, the development and culture of the finest instincts in our being. Why do our children love flowers? Why do they delight to go to the valleys and to the mountain sides to gather wild flowers? The love of flowers in the child is an instinct as inherent and as clearly defined as the instinct of worship. It is a tenet of Eden in perpetuity, as our poet puts it, and it seeks gratification in the valleys and woodlands to-day as it found it in its Eden surroundings at the dawn of creation. The religious instinct of the child is developed by bringing him into contact with his creator and under the influence of His divine will. His love of nature is developed by bringing him into contact with nature, and under the influence of her visible forms. We cannot get too close to na-

ture ourselves, nor can our children be brought too near to nature's most refining influences in their earlier years. They go to the woods to gather flowers with as true an instinct as they go to the cupboard to gratify their hunger. The purpose of the horticultural societies is to bring that gratification to them. Every flower about the home has its influence upon child life. Wordsworth says in every flower, Tennyson says in every shapely tree, and Emerson says in every running brook there is companionship for man. We may not have the running brook, but we can all have the flowers and the shapely trees, with all their adjuncts in shrubbery and grassy lawn.

We cannot make home too attractive. Horace Greeley has again said that no expenditure pays a man better than that which makes his family fond and proud of their home. The highest order of patriotism to be found among mankind is that which felt its first impulses in the love of home. Teach a child to love his home by making it attractive, and he will grow up to love his country. This should be the aim of every horticultural society, to make a Canadian patriot of every Canadian child. Love of nature; love of home; love of country; love of God. And yet I found a few societies during my tour in the spring investing their means in seed potatoes and giving prizes for farm and garden truck, with not a thought of their homes, their village streets, their school grounds, or even their front fences. What wonder that some of our members at different points went out on strike!

THE ORILLIA HORTICULTURAL SOCIETY.

The Orillia Times says: The record of the Orillia Horticultural Society, as given by Mr. Stephens in connection with the meeting held at Mayor McCosh's last week, affords full justification for its continued existence. It has been doing, in a quiet

way, for several years, work somewhat similar to that which has of late years been so energetically taken up by the Board of Trade. Through the work of the society, the name of Orillia has been brought to the notice of all the fruit growing and Horticultural authorities in Canada and the neighboring republic, in a most favorable manner; and if there be in Orillia one organiza-

tion more than another which deserves the kindly sympathy and co-operation of our citizens, that organization is the Orillia Horticultural Society. Much of the success of the society, in the directions mentioned, is due to the unostentatious and untiring services of Mr. C. L. Stephens, who has been secretary of the society since its organization, and is this year its president.

Question Drawer

WHITE GRUBS IN MANURE, AND SOME GRAPE INSECTS.

SIR.—I would like very much to hear through the Horticulturist your opinion in reference to destroying the white grub which infests manure piles at this season of the year. My experience is that manure so infested is unsafe to use both for vegetables and young trees newly planted. I have had the young fibres entirely destroyed on newly planted trees by mulching with manure in a dry season like the present. The grub leaves the manure, burrows to the roots of the tree, and eats the fine fibres just as they start and finally the tree dies.

I send herewith two kinds of insects which I have on grape vines. Before the blossoms unfold the entire bunch is stripped, leaving nothing but the stem but I fail to find the insect which is destroying the grapes in this way. Any information through the Horticulturist will be gladly received.

Stoney Creek.

W. C. WEBSTER.

Answered by Prof. Lochhead, O. A. C., Guelph:

Without seeing the actual specimens of white grubs which Mr. Webster finds in the manure, I venture to think that they are not forms which are injurious. It is quite likely that they are the grubs of dung beetles, and not the white grubs which do injury by eating the roots of plants. Of course it is possible that if there is much unrotted matter in the manure there may be some of the root-eating grubs either hibernating in comfortable quarters or feeding on the vegetable matter. We do not know enough about many of these forms to make definite statements, for they are diffi-

cult of study. We would be glad to hear from other orchardists on this point, and have their experience.

The cream colored caterpillars found eating the leaves of the grape are those of the Yellow Woolly Bear (*Spilosoma Virginica*). The moth of this insect is known as the "white miller," and appears in early May, when eggs are deposited on the under side of the leaf in clusters. For a time the young caterpillars are gregarious, but later they feed singly. Fortunately for us, these insects are killed in large numbers by parasites. When numerous, in spite of the parasites, they may be readily killed by the combination Bordeaux and Paris green mixture, which is so well known.

The beetle, which was also found on the grape in company with the caterpillars, is one of the ground beetles, and is beneficial, as it kills caterpillars and grubs of many kinds.

TOP DRESSING FOR LAWNS.

SIR.—Will you kindly inform me what you recommend as a manure or top dressing for lawns of grass and clover mixed and if land plaster is beneficial to grass, as distinct from clover and oblige.

St. Marys.

C. FREEMAN.

Answered by Prof. H. L. Hutt, O. A. C., Guelph:

As a general fertilizer for lawns there is nothing better or cheaper than a top dressing of well rotted barnyard manure. Our practice on the lawns at the College is to apply this after the ground freezes hard in the fall, or at any time in the winter when the snow is not too deep. The soluble portion of the manure is washed into the ground with the melting of the snow and the early spring rains, and stimulates an early and luxuriant growth. When the lawn is dry enough to rake in the spring the coarsest of the manure is raked off. The finer parts are thus worked in around the grass roots.

BLACK MEDICK.

Sir,—I enclose a plant growing in our meadows which looks something like Sweet Clover but is much smaller, the bloom is yellow. Is it of any commercial value or is it a dangerous weed. We anxiously await reply through the Horticulturist.
Port Dover. J. E. ANDERSON.

Answered by Prof. H. L. Hutt, O. A. C.,
Guelph:

The plant in question is Black Medick, sometimes called yellow clover, and botanically known as *Medicago lupulina*. It grows freely in meadows, lawns and waste places, and in none of these cases may it be looked upon as a weed. A weed has aptly been defined as a plant out of place. This plant, or any other, in a strawberry patch, might justly be looked upon as a weed, but on the lawn it forms a thick green mat, and in a pasture field affords good pasture, but it is too short to yield much hay unless supported by other taller growing clovers or grasses.

A CORRECTION.

EXPERIMENTS IN THINNING FRUIT AT THE
AGRICULTURAL EXPERIMENT STATION,
GENEVA, N. Y.

The comments on the experiments in thinning fruit, which have been conducted

at the Experiment Station at Geneva, N. Y., published in the June number of the Horticulturist, do not present correctly the conclusions which one must accept after studying these experiments. It is not necessary now to inquire whether I have reported them incorrectly or whether my statements have been incorrectly reported. The important thing is to present the right conclusion to the readers of the Horticulturist.

The experiments referred to were begun in 1896 and continued for several years thereafter. The object was to include enough trees under experiment so that the work might be conducted as a commercial proposition. The same trees had the fruit thinned year after year, while corresponding trees were left unthinned during the same period. Work was done upon apples, apricots, plums and peaches.

Taking all the experiments into consideration, both with stone fruits and with apples, the effect of thinning was seldom shown to any considerable extent in the character of the yield the following year upon the same trees. In many instances there was apparent some permanent advantage as a result of the thinning, but in many other instances no such advantage was apparent. This leads us to conclude that for trees which have reached mature bearing condition, and which are well fed and in all respects well cared for, the effect which thinning the fruit may have upon the productiveness of the tree in succeeding seasons has not been sufficiently great in these experiments to permit us to look for very much profit in that direction from thinning fruit. In this work the profit from thinning fruit, when there has been any, has for the most part come from the superior size and quality of the fruit of the current season. I wish to call particular attention to the qualification made in the previous statement as to the kind of tree under consideration. There can be no

doubt that young trees may be seriously impaired in vigor as a result of maturing too heavy a load of fruit. Mature trees may be so overburdened with fruit that the weight of the crop causes large branches to split off, thereby doing permanent injury to the tree. In these ways, and in some others, thinning fruit when the tree is overburdened may result in permanent advantage to the tree, but I am firmly of the opinion that there is a widespread popular misapprehension as to the amount of increase in succeeding crops which may reasonably be expected to follow the thinning of fruit on mature trees which are in good condition. As previously stated, in our experiments in thinning fruit, in many cases there has been in succeeding years no apparent increase of the crop, and in other cases the increase has not been very marked as compared with the crops on corresponding trees where no thinning had been done.

Geneva, N. Y.

S. A. BEACH.

BRODIAEAS.

BRODIAEAS are not as well known as they deserve to be, many flower-growers who yearly plant hyacinths, tulips and other winter-blooming bulbs, being entirely ignorant of their charm and beauty. These bulbous plants are natives of Califor-

nia, and are very widely distributed. All the varieties are very pretty. *B. Laxa*, with umbels of delicate lavender flowers, contrasts charmingly with *B. coccinea* (the floral firecracker), with its beautiful fuchsia-like flower of bright cardinal tipped with green and white. Brodiaeas have all very long stems, but *B. volubilis* (or, as it is often called, Twining Hyacinth) is quite a curiosity in this respect. Even if given a support six feet tall, the blossom stock will continue twining round and round till it reaches the top. It has broad, luxuriant green leaves, and when the delicate stem starts it is tipped with a tiny bud, which at last develops into a cluster of pretty pink flowers. Plant two or three pots of these charming flowers for winter-blooming, and the results will surprise and delight you, if you are not already old acquaintances.—*Parks Floral Magazine*.

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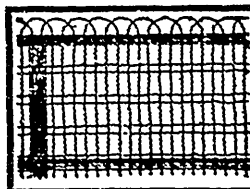
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