

FIG. 2138. BLENHEIM APPLE.

# THE CANADIAN HORTICULTURIST



\* \* SEPTEMBER \* \*

## BLENHEIM.

(BLENHEIM ORANGE, BLENHEIM PIPPIN, WOODSTOCK.)

An apple that is constantly gaining in favor with both grower and consumers, because of its size, its beauty, its evenness of form and general excellence for cooking purposes and dessert purposes. It is grown in the Counties of Prince Edward, Victoria, Lincoln, and elsewhere, and is highly valued as a commercial apple. It certainly deserves to be more generally planted.

**ORIGIN:** a garden in Woodstock, England, near the residence of the Duke of Marlborough, shown at a meeting of the London Horticultural Society in 1819 and introduced into France about 1840.

**TREE:** very vigorous in habit, and consequently a scant bearer young, but a regular and abundant bearer as it grows older; dwarfed on the Paradise stock the tree becomes an early bearer.

**FRUIT:** large to very large on favorable soil, averaging three inches high by three and a half broad; form roundish oblate, slightly smaller at the apex than at the base, very regular; color, yellowish, splashed with dull red on sunny side, and streaked with deep red dots small and distinct; stock short,  $\frac{3}{4}$  of an inch long, stout in a large russetted cavity; calyx, large and very open, with short segments placed in a large, green cavity.

**FLESH:** creamy white, fine, crisp, moderately juicy. Flavor, sweet, spicy, slightly acid.

**SEASON:** November to February.

**QUALITY:** dessert, good; cooking very good.

**VALUE:** home and foreign markets first class.

**ADAPTATION:** Ontario, south of latitude 44 $\frac{1}{2}$ .

One of the mysteries about apple growing in Ontario is the immense number of unprofitable varieties grown in what are supposed to be the best orchards, not to speak of the nameless seedling trees we have in the

older orchards: such varieties, for example, as Golden Sweet, Rambo, Fall Pippin, Blue Pearmain, Keswick Codlin, Hawley, Maiden's Blush, St. Lawrence, Colvert, Vandevere, Tallman Sweet, English Russet and many other varieties, many of which have ranked high in past days, but now owing to scab or blight, unproductiveness or early decay, are inferior to other varieties that are available. As we have often said in these columns, we must make a radical change and that right soon, if we would have such apples as will do Ontario credit in the British markets.

The Blenheim Orange is one of the few apples of its season that is worthy of a place in our commercial orchards for foreign shipments. Ever since its origin in England, about a century ago, it has steadily advanced in favor, and is now highly valued in England, France, and America, supplanting in Canada the once famous Ribston, of the same season.

This excellent apple was grown from the seed by a baker named Kempster at Woodstock, near Blenheim, the seat of the Duke of Marlborough. At first it was called Wood-

stock, then the Apple of Blenheim, and this latter name prevails to-day. It was first exhibited before the London Horticultural society on the 15th of January, 1819, by Mr. John Turner, after which it began to be cultivated in the English nurseries. The following interesting account of this favorite variety appeared some years ago in the Gardener's Chronicle.—

“In a somewhat dilapidated corner of the decaying borough of ancient Woodstock, within ten yards of the wall of Blenheim Park, stands all that remains of the original stump of that beautiful and justly celebrated apple, the Blenheim Orange. It is now entirely dead, and rapidly falling to decay, being a mere shell about ten feet high, loose in the ground, and having a large hole in the centre; till within the last three years, it occasionally sent up long, thin, wiry twigs, but this last sign of vitality has ceased, and what remains will soon be the portion of the woodlouse and the worm. Old Grimmitt, the basket-maker, against the corner of whose garden wall the venerable relict is supported, has sat looking on it from his workshop window, and while he wove the pliant osier, has meditated, for more than

fifty successive summers, on the mutability of all sublunary substances, on juice, and core, and vegetable, as well as animal, and flesh, and blood. He can remember the time when, fifty years ago, he was a boy, and the tree a fine-full-bearing stem, full of bud, and blossom and fruit, and thousands thronged from all parts to gaze on its ruddy, ripening, orange burden; then gardeners came in the spring-tide to select the much coveted scions and to hear the tale of his horticultural child and sapling, from the lips of the son of the white-haired Kempster. But nearly a century has elapsed since Kempster fell, like a ripened fruit, and was gathered to his fathers. He lived in a narrow cottage garden in Old Woodstock, a plain, practical, laboring man; and in the midst of his bees and flowers around him, and in his ‘glorious pride’, in the midst of his little garden, he realized Virgil's dream of the old Corycian, ‘Et regum equabat opes animis.’

“The provincial name for this apple is still ‘Kempster's Pippin’, a lasting monumental tribute and inscription to him who first planted the kernel from whence it sprang.”

THE STRINGFELLOW METHOD of tree planting, about which so much has been said of late, has proved a failure, just as common sense would lead any one to expect. The American Agriculturist says:—“The experiment of H. M. Stringfellow of Texas of cutting off the roots and setting the stub in a hole driven by a bar, has proved a failure. Most of the trees have died from one cause or another, and less than 300 are left from 1000 set in February, 1900. Owing to the

lack of side roots there was nothing to anchor the trees and the wind soon loosened them. The ground not being plowed or put in good tillage condition, soon dried out, and with the extreme dry weather following the trees soon began to die. Hereafter Mr. Stringfellow will leave more top root and some side roots in setting, but will still continue a closer system of pruning than most practical horticulturists believe wise.”

### PAN-AMERICAN HORTICULTURE—III.

**G**ENERAL REMARKS. — Ontario visitors have been slow in making their first visit to this great exposition, which is strange considering how near their very doors lies this marvellous production of science and art. Now that the fruit exhibit is at its height, there is no reason why the five or six thousand readers of this journal should delay any longer, and one visit will only create an appetite for several more.

Our excursion trains usually land us near the northern side of the grounds, and we enter at once through the beautiful Propylæa, upon a wonderful architectural display. To the left as we enter upon the Plaza is the grand corridor filled with most excellent models of Grecian statuary, and directly before you the Electric Tower, designed as the grand centre piece of the magnificent group of buildings.

Passing this you are in the Esplanade where a hundred thousand people can be comfortably seated to watch the electrical illuminations at night.

Here you are in the midst of the grandest architectural display ever grouped together in the history of the world, simply passing all description. We show simply one of these structures, the Temple of Music, a place for thousands to rest and refresh themselves with sweet music of the first order.

But properly you should enter through the Park gates at the south, and approach the elegant park, with its spacious avenues, its stately towers, its beautiful lake with Casino and boat house, whence you may take a most delightful tour in electric launch about the grounds, a special treat when you are tired.

To the horticulturist this end of the grounds is especially attractive on account

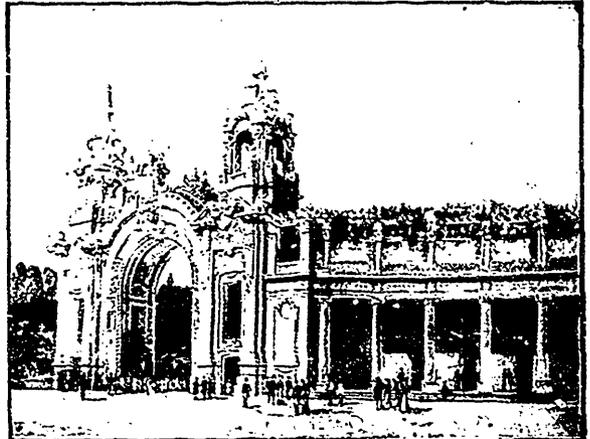


FIG. 2139. PROPYLÆA.

The illustration herewith shows the western end of the Propylæa. This is an architectural ornament of very beautiful and imposing design. It marks the northern boundary of the Plaza, and is designed as a screen, separating the Exposition from the noise and smoke incident to the traffic of steam railways which pass the Exposition grounds upon the northern side. The Propylæa is 500 feet long with a massive towered entrance at each end.



FIG. 2140. THE PLAZA.

The Plaza is an open space immediately north of the Electric Tower, and is 350 feet by 500 feet. On the east side is the large entrance building of the Stadium, and on the north the Propylæa, a section of which is shown in the illustration. On the west is the building for restaurant purposes forming also the eastern entrance to the Midway. The Midway is three-fifths of a mile long, giving more than a mile frontage and presenting the most interesting and wonderful collection of entertainment novelties ever brought together. There will be about thirty-five separate and distinct features, some of them very large, occupying several acres. The aggregate cost of the Midway attractions is estimated at \$3,000,000, which alone is more than the cost of some of the large expositions.

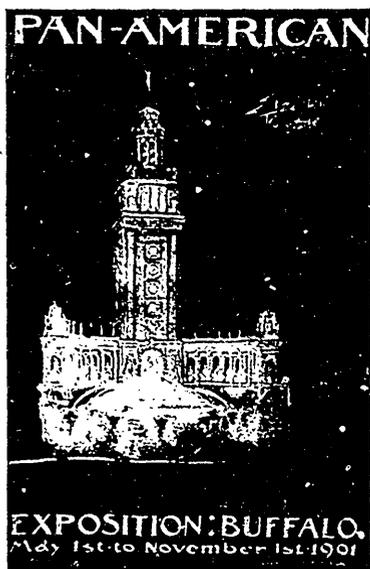


FIG. 2141. ELECTRIC TOWER.

Rising to a height of 391 feet, the Electric Tower is the first object on the Pan-American Exposition grounds to command attention. It is designed to be the centre-piece of the Exposition. Its entire exterior is richly moulded work and numerous costly groups of sculpture will adorn it. From a niche in its southern face will gush a cascade 30 feet wide and 70 feet high. From an observation point far up in the Tower the spray of Niagara Falls may be seen.

of the landscape effects, and the beautiful gardening carried out by Mr. Wm. Scott, superintendent of horticulture, whose success in the planting of trees, shrubs and plants, as designed by the landscape architect, is most creditable. When addressing the Convention of the

NATIONAL LEAGUE OF CIVIC IMPROVEMENT, which was held in Buffalo on the 12th, Mr. Scott said: "These grounds, now so beautiful, were formerly the flattest in western New York, and heavy clay loam at that; but, as the old saying runs,

'An oak, a rose, and a shrubbery,  
Should be planted in clay.'

And this rule applies to many other things."

OTHER GRAND COLLECTIONS.—The rose garden is grand; one bed alone consists

of 500 plants of Ulrich Brunner, with a fine display of bloom. Mr. Scott cut these down to within two inches of the ground, and when at their best he could have cut 4,000 blooms a day. The collection of aquatics near the Manufactures Building, and of hardy perennials near the United States Building, are also magnificent. One bed of the new Giant Purple Coneflower (*Rudbeckia purpurea*), especially attracted our attention, and we thought it would be a good plant to distribute in 1902, since we have given the Golden Glow (*Rudbeckia aurea*, flore pleno) in a previous season.

OUR ONTARIO FRUIT DISPLAY keeps good pace with other exhibitors. On the 15th of August seven varieties of peaches and ten of plums were on exhibition, and Mr. Bunting reported that fruit had been sent in quite freely from the counties of Essex, Kent,

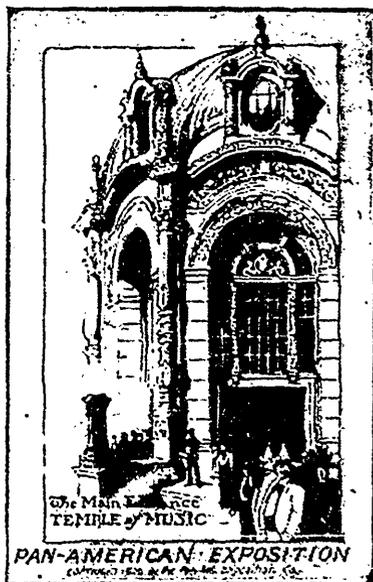


FIG. 2142. TEMPLE OF MUSIC—MAIN ENTRANCE.

The main entrance to the magnificent Temple of Music in the Pan-American Exposition grounds is through the pavilion at the corner of the Esplanade and the Court of Fountains. The building occupies a site 150 feet square. It is a place of entertainment rather than for exhibition purposes, the exhibition of musical instruments in general being in the Manufactures Building.

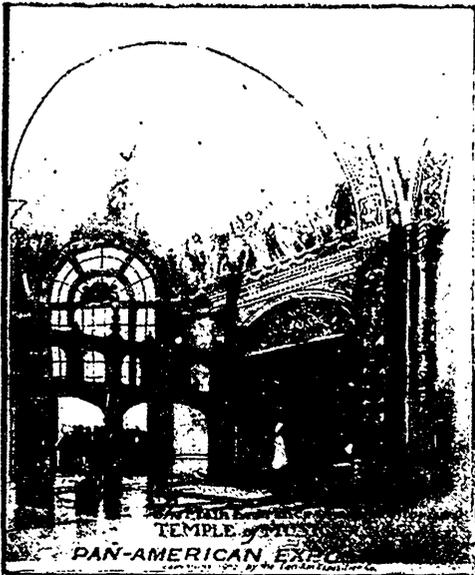


FIG. 2143. TEMPLE OF MUSIC—MAIN ENTRANCE FROM AUDITORIUM.

One of the most fascinating sights imaginable is the main entrance to the Temple of Music from the auditorium. The architects and decorators have made the best of a very happy subject here, and the picture will linger long in the minds of those who view it.

Prince Edward, and the districts about Burlington, Fruitland, Grimsby, St. Catharines, Queenston and St. Davids.

Prof. Hutt, of the Ontario Agricultural College, had sent in what we consider the best exhibit of bottled strawberries ever put up. They were all select berries, mounted on sticks, so as to fill the bottles, and kept in formalin, the best antiseptic for dark colored fruits. There were forty-four varieties. He also showed twenty-five varieties of raspberries and a collection of currants in glass.

Mr. Morris, of Fonthill, has continued an excellent display of roses, gloxinias, and other cut flowers, and Mr. H. H. Groff, of Simcoe, a fine collection of his hybrid gladioli.

Mr. J. DeW. Randall, of Niagara-on-the-Lake, showed two plates of ripe figs, grown out of doors.

Of the cold storage apples stored in Buffalo for the exhibit, there are still about fifty cases in reserve. On the 31st August ten cases of ten varieties were opened and eighty-three per cent. were still sound, a good record for so late in summer. The varieties were King, Blenheim, Spy and Spitzenberg.

Of the special fruits shown Aug. 15th we noticed Climax plum from Jas. Titterington, St. Catharines, so far the earliest good, large, Japan variety; fine Lawson pears from Mr. Lowry and Mr. Collinson, St. Catharines; Ogon from A. W. Peart, Burlington; magnificent Alexander peaches from J. W. Brennan, Grimsby, and perfect Early Harvest apples, large in size and clean of scab and worm, from W. H. Dempsey, Trenton.

On the same day a fine exhibit of pears and other fruits came in from the Burlington Horticultural Society, but not in time for us to get full notes of their excellence.

Japan plums seem to be the most promin-



FIG. 2144. LAKE IN THE PAN-AMERICAN GROUNDS.

Within the Exposition grounds are 133 acres of Delaware Park, including the Park Lake. This lake is a very beautiful body of water, and upon its shores the United States Government will erect a life-saving station, where a crew of ten men will give daily exhibitions during the Exposition season showing the uses of life-saving apparatus.

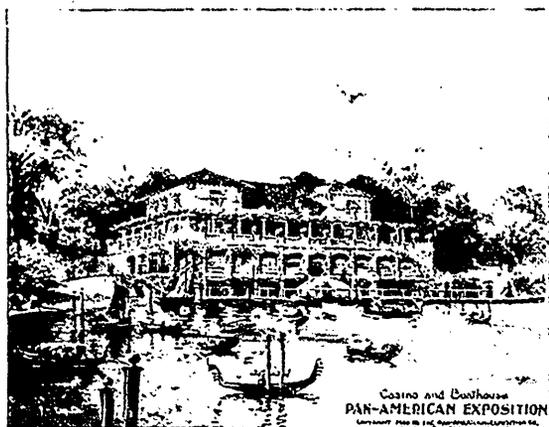


FIG. 2145. CASINO AND BOATHOUSE.

The new Casino and Boathouse on the south bank of Delaware Park Lake is a very picturesque structure. It is three stories high, the first being built of limestone and the other of white brick. Over the first story is a loggia. This building contains a restaurant, a lounging room, amusement halls, and a place for the storage of boats. It was built by the City of Buffalo at a cost of \$30,000.

ent new fruit in several of the state collections. In the New York State exhibit we noticed, (August 15th), Clyman, Marianna, Wild Goose, Kerr, Ogon, Paul's Early (very dark purple) and Red June, the two latter shown by Mr. S. D. Willard. Climax and Shiro were shown by Cornell University, the former measured about  $2 \times 1\frac{3}{4}$  inches, color a deep red, and Shiro about  $1\frac{1}{4} \times 1\frac{1}{2}$ , color yellow. In the measurements the first is the length, the second the breadth.

The most interesting exhibit of these plums was made by Mr. Theodore Williams of Benson, Nebraska, in the exhibit of that state. This gentlemen has produced over 200 varieties of plums (mostly Americana hybrids) during the past twelve years, all at his own expense. His aim is to produce hardy and productive varieties for northern sections. Only recently has the importance of his work been recognized by the state, and his productions are only now being brought into public notice. Forty varieties were shown, of which we noticed and tested.

Zee, (Cheney  $\times$  Botan) which bore a full crop after the severe winter of 1899, proving it to be both hardy and production. It is sweet and agreeable. Early Americana (Wild Goose  $\times$  Sand Cherry), Goosfine, (Wild Goose Seedling) sweet and good; Summertint, (Botan  $\times$  Cheney) healthy and hardy; colors and cooks well before it is ripe.

Two apricots were also shown which were claimed to be very profitable, viz., Sweletta and Nectarine, varieties which ripen between the 16th and 30th of July and have endured a temperature of  $30^{\circ}$  below zero.

The Rathbun blackberry was shown August 15th along with Wilson's Early in the New York State exhibit, and certainly it appears to be a marvellous berry. The samples measured fully one and a half inches long by one broad, and would be very captivating in a market.

The New Chautauqua blackberry was also shown in this exhibit, a small berry, not very attractive, but said to produce the immense yield of 18,000 quarts per acre.

Simon's plum, quite ripe; Red June, small,

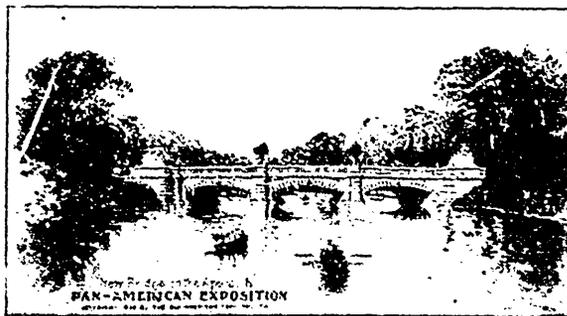


FIG. 2146. THE BRIDGE OF THE THREE AMERICAS.

The new granite bridge over the neck separating the Park Lake from the North Bay in Delaware Park was built by the City of Buffalo at a cost of \$50,000. It is 138 feet long, with a roadway 53 feet in width, and two footpaths, each 11 feet wide. It is in the form of three arches. For the purpose of the Exposition each of the Americas is represented by an arch, and it has been given the name of the Bridge of the Three Americas.

ripe; and Burbank, small and immature, a few of them colored, were also shown.

The Chenango strawberry apple was one of the chief varieties shown by Illinois. Though a little early, a good many of them were well colored. This Sop<sup>s</sup> of Wine (ripe, small, striped with red), and Benoni (yellow, striped with red), and Transparent were the

other kinds of this season shown by this state. They say they have 500,000 acres of apple orchard in Illinois, and the principal market apples are Ben Davis and Willow Twig.

The Greensboro peach was shown by Connecticut and a very fine sample; Triumph was shown also but was immature.

## OUR APPLES AT GLASGOW.

**S**IR,—You will probably like to know how the fruit sent to Glasgow for the exhibition turned out, and in answer to your supposed question I may say that the fruit is the most warmly admired of the exhibits in the Canadian pavilion, and had I been in a position to do it, I might easily have sold 10,000 cases at a high price, 16 to 18 shillings. The splendid keeping of some of the varieties surprise me. If I tell you that the Mann, Ben Davis, Spy, King, Baldwin, Red Russet, Fallawater, Cranberry Pippin, Canada Red, Swazie, Coopers Market, Rox Russett, Golden Russett, Spitzenberg, Seek, American Pippin, etc., kept well, you will not be surprised, but you probably will be surprised that Fameuse, Wealthy, Blenheim Orange, Pomme Grise, Ribston, Cox's Orange and even Gravenstein are sound and good, and all, except the last one, are eatable. By eatable I mean that they are still good in texture and flavor, and the Spy, Baldwin, King, Cranberry Pippin, Red Russett, Spitzenberg, Seek, Swazie, are superb, they could not—at least hardly—be better. This show has given Canadian apples a fillip, and you may expect Scotch and English people, after this to look for Canadian apples in July and to be willing to pay a good price for them. One of the large dealers here told me the other day that he early discovered the value of the

Mann as a keeper, and took every lot that he could lay his hands upon, and kept them till other apples had disappeared when he easily sold them at 35 shillings per barrel. This was quite a large profit on fruit bought at from 10 to 14 shillings per barrel.

Let me tell you (a dead secret) that there's all the difference in the world in the different methods of packing, to set fruit forward for exhibition or for sale. The well packed fruit is a picture. I have taken pains to let visitors see it being unpacked, and have let them handle it too, aye and smell it, and even taste it, and as they see it turn out without a bruise, and smelling so fresh, and tasting so nice, so crisp, and juicy, they have asked in wonderment, "How is it that we never get such good American apples? And are told, that, these are *Canadian apples!*

The public is delighted with the box system of packing apples, especially with the Dymont case. There is no fault found with the Grimsby case, but the fruit turns out more beautiful from the other. Many a time has a visitor said "Man I'd gie a saxpense for ane o thae aiples," on seeing the cases opened.

The advantage of the case is that any fruit that is put into it in good condition, turns out equally good. There is absolutely nothing lost; crispness, juiciness and flavor, all are there, with an added mellowness. I

am particularly impressed with the superior quality of the Spy; it has always seemed to me that they were liable to take on some extraneous flavor, sometimes like a mouldy flavor, sometimes earthy or woody. These are simply perfect. The Scotch rave about the Newton pippin, the English declare the Blenheim Orange perfect, but in almost every case, when they have sampled them without knowing the variety, their choice fell on the Spy.

Now that the cold storage is so nearly perfect and that last season and this have demonstrated that fruit may be kept for several months without losing their good qualities, growers and shippers might well pack and place in cold storage, a considerable quantity of their best fruit to hold over for sale in June and July, when prices are very high.

In order to take advantage of the high

prices at that date, the following data would need to be remembered, viz. : (1) That every handling injures apples, and that consequently the fruit should be packed as soon as gathered; one handling should suffice. (2) That every bruise on the fruit, however slight, hastens its decay. Cold storage delays the decay, but does not completely arrest it. (3) That time, labor and valuable space, are wasted in the effort to make anything of bruised apples that may go into a cold storage package. (4) That only one size of fruit should be put into a case, either No. 1 or extra. A slightly smaller size would not be an objection if they were very uniform in size. (5) That there are good men into whose hands alone this fine fruit should be placed, who will endeavor to maintain the reputation of the grower or shipper for their own advantage.

R. HAMILTON.

**MEN AND WOMEN GARDENERS.**—There are about three sections of labor at which I can never fancy a woman to be employed, and these are as engine-drivers, gardeners, or jolly jack tars. The middle section of these divisions of employment, has, however, become blessed with the sunshine of her presence. There can be no dull days now in our gardens with "Woman in her loveliness, presentiment of Paradise" as its caretaker and director of works. From stories which are going the rounds, it would seem that women as gardeners are highly successful. A woman has been appointed head gardener to a demesne of the Marquis of Bute. No doubt after this the Marquis will discover men gardeners an anomaly, and may invent a substitution to conscription in the enrollment of the "anomaly" into the army.

Capital! bless the lady gardeners. No more shall we be under the dominancy of fouzled old cabbagers, who can grow nothing better than greenflies or toadstools, when by the bounty of Providence a few Doyenné du Comice Pears, or a truss of Crimson Rambler roses do appear, they nobly guard the heritage from high Heaven sent, vowing execrations upon the head of master or mistress who dares do more than admire them without his kind permission. According to a cutting sent us by a reader, the above story has an actual foundation and real enactment. A lady had an old Scotch gardener who could grow nothing for her, or when a bloom or fruit was to hand he so grudged her having it, that in his place she substituted an "Eve" and now she sings "Corn in Egypt" all day long!



FIG. 2147. RESIDENCE OF MR. W. W. HILLBORN.

## FARMERS' RALLY AT LEAMINGTON.



**SUCCESSFUL** Farmer's meeting was held at Inglewood the home of Mr. W.W. Hillborn, Leamington, on Friday the 12th instant, when that gentleman gave a list of desirable varieties of peaches which he had fruited and which ripened their fruit at such times as would make a succession throughout the season. Among the newer varieties tested Bronson is a good yellow peach ripening about with the late Crawford. Banner is a variety ripening latter part of the season about the same time as the Smock but a better quality, and a better peach apparently in every respect. Crane's Yellow is a seedling of Yellow St. John and supposed to be an improvement on that old standard variety. It ripens a week earlier than Early Crawford. Crosby is a good market variety very productive; the tree is hardy and when young it bears fruit large and of a very fine quality,

but when old it is liable to overbear and the fruit deteriorates in size unless it is well thinned and the tree given good cultivation. Engols' Mammoth ripens about mid season, is of the Crawford type, thoroughly hardy and productive and one of the most promising thus far tested for either home use or market. Elberta, a fine large fruit with good market qualities but the tree is not so vigorous as desirable. It is more subject than other varieties to leaf curl. It ripens about mid season. Fitzgerald is a peach of the Crawford type, of better color and quality and hardier both as to tree and fruit buds. Garfield is a little earlier than Fitzgerald or Early Crawford and one of the finest market peaches on the list of the Early Crawford type and apparently an improvement on that old standard sort. Golden Drop is a medium sized fruit, bright yellow, and fine canning qualities. The tree is very hardy and

productive, one of the best in these respects of any of the market varieties. Ripens latter part of September. Kalamazoo is a peach that ripens late in the season. The tree is hardy and productive and a good market sort. Namaper, the fruit of this variety is almost identical with Elberta. The tree is more hardy and productive and ripens its fruit a few days later than Elberta. It is not subject to leaf curl and is one of the most valuable market sorts. Triumph is the first yellow flesh peach to ripen. It is a good sized variety of fair quality. Tree hardy and productive, an improvement on the early varieties hitherto grown. Yellow Rare Ripe ripens just after Early Crawford. Is a little darker in color and larger in size. A good market sort. This completes the list of good varieties.

It is well to notice a few failures. Bokhara is a variety sent out from Iowa. It was described as a good yellow fleshed market sort and highly recommended. I have obtained it from three different sources. In every case it is a small white fleshed late ripening peach of no value. Greensboro is being boomed. I find it a variety of poor quality and not equal to Alexander and ripens later. I have three trees of it and that is three too many. Oscar's Black Prince has been sent out with a great flourish of trumpets. It has no special market qualities. Wheatland is an older variety. It has done well in some places but in this part of the country it is of no value.

Mr. Hillborn also discussed grapes and plums. Grapes and Japan plums had lat-

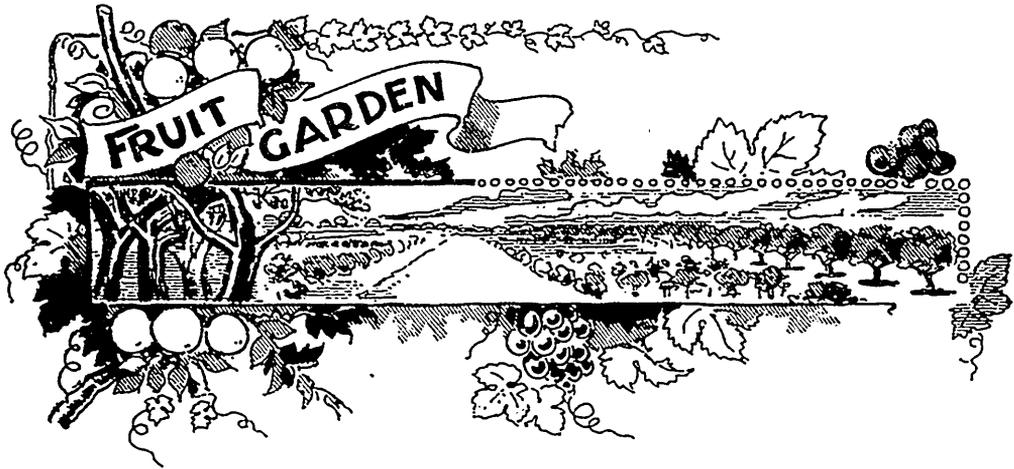
terly been added to peaches as the specialty to be studied at this station. Of Japan plums he has 20 varieties of which he has fruited quite a number. He feels doubtful of the Japan plums ever being equal to the European varieties in quality. As fruit becomes plentiful a better quality is in demand and Japan plums will never meet this demand. Some varieties will no doubt have a place in commercial orchard but he cautioned people against planting them too freely until they have been more fully tested. The Willard is a good seller but the buyer will hardly ever buy the second time. Among the varieties thus far tested the Burbank is most profitable. Satsuma is the best coming variety but its color is against it for canning purposes. Among European varieties of recent introduction the Monarch is one of the promising market varieties, of dark purple color, large size, and finest canning qualities. The tree begins to bear young and is very productive. In grapes he mentioned Campbell's Early as a promising recent introduction. The fruit is dark purple, of large size, and parts from the seed without leaving the acidity or taste which most varieties do. It has the very best shipping qualities and gives evidence of being just the grape wanted for the old country market. Moore's Diamond is the best early white grape thus far tested for family use.

The Windsor is the best of the dark colored sweet cherries thus far tested. Of the light colored cherries he had found none better than the Yellow Spanish and Napoleon.

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THE MERCERON GRAPE was grown in 1893 from a cross between Wilder and Concord by Mr. F. E. Merceron, of Catawissa, Pennsylvania. The R. N. Y. describes the bunches as very large, with double shoulder.

The berries were large in proportion, deep black in color, with light blue bloom. The flavor was sweet and sprightly, the pulp separating well from the few seeds with no unpleasant astringency.



## GOOD FRUITS FOR SIMCOE FRUIT GROWERS—I.

**T**HIS year would seem to emphasize the fact that it is not advisable for Fruit Growers to put all their eggs in one basket. While some kinds of fruit have done fairly well, others are nearly a failure, and my experience is, that we scarcely ever get a full crop of every variety of fruit in any one year. The past winter was a favorable one in this locality, the lowest temperature recorded being 20 below zero, and everything came through in good condition. Even the apricots came out with some live fruit buds and bore a little fruit this year. These form plenty of fruit buds, but when the temperature goes down lower than 20 below they usually perish. I believe this fruit will not succeed well far outside the peach belt.

The Cuthbert raspberries suffered most by winter killing, far more than usual. However that is easily understood. The fine autumn of last year kept them growing too late. They were still green when the snow came, and they were in no condition to withstand the cold of winter. Apples promised a great crop at one time; there was an abundant bloom, but a cold east rain set in just when the bloom was at its best, and continued for some time, and

although the apples set, yet they seem to lack vitality and kept dropping all through the hot dry weather of June and July. The Spys and Ben Davis however have done better and are the only varieties that promise more than half a crop. These varieties bloom late and so escape the cold rain and bad weather that played havoc with the other varieties. Plums and cherries have done well. They bloomed in fine bright warm weather, the blossoms were not injured at all, and there was a fine crop of cherries of the very best quality and plum trees are heavily loaded.

Strawberries had an enormous bloom and set a big crop, but it was shortened very much by the dry hot weather toward the close of the season.

Raspberries were the nearest to a total failure in all my experience of growing them. The intense heat and drouth simply dried them up. But the rain came and the drouth was broken in time to save the blackberries, and they are doing well. My favorites are the Agawam and Eldorado; I have a fine crop on both of these varieties of the very best quality, and they are selling like hot cakes at 10 cents per box, which is a satisfactory price. And now for a few notes on

varieties that have fruited this year, and as one of my specialties is cherries, I will take them first. I believe the soil here is peculiarly adapted for cherries. Wild cherries grow in abundance wherever they get a chance, and the improved varieties seem to have found a congenial soil and locality. Most of the varieties are Russian with the exception of Vladimir, all that have fruited are good canning varieties. The following varieties have given good satisfaction, Ostheim, Orel 24, Bessarabian, Griotte Du Nord, Brusseler Braun, Dyehouse, English Morello, Wragg and Russian 207, Ostheim and Orel 24 are black when ripe and are the best in point of quality. Two varieties of sweet cherries bore a few specimens. One that came here under the name of Love Apple (rather a queer name for a cherry) is a large meaty red cherry of very choice quality. The other is Oranian Kirsch, a large yellow variety, very fine flavor. I have always considered sweet cherries as very uncertain outside the Peach belt. I tried several of them many years ago and they were a failure, but these two are, so far, healthy and vigorous, and it is just possible we have in these two varieties something hardy that will succeed, where others have failed, and the quality can hardly be excelled. However the demand is chiefly for a good canning cherry, and of these I have tested in all 12 varieties this year, and they have given the very best satisfaction. The only trouble was that I could not supply the demand. The trees are healthy and vigorous. They have had of course good care and culture, and have

given good results, and I may say as a result of my experience so far, that I am highly pleased with the cherries. I have had little or no trouble with black knot although there is enough of it in the neighborhood, in old orchards and gardens, to seed a whole township. I believe that if the surface of the bark is well covered with Bordeaux in the spring when the trees are bare there will be little trouble with Black Knot. It is very effective as a preventive. I have twelve varieties put up in glass for the Industrial which will give a very fair idea of the size and appearance of those fruited this year.

This is a great year for plums. The Japan Plums are well loaded, Early Botan ripened with the late cherries in July. It is a small plum, but of good quality. We are now picking Willard and Red June, August 12th, and they are very fine. The Ogan, a large yellow plum is also ripe at this date. Abundance will be ripe in few days, and Burbank will be close after it. Willard is somewhat dry in the flesh but is a fairly good canner. Plum rot is in evidence this year, but it does not seem to affect the Japan varieties. Guin and Monarch are the most affected. The latter is a new variety, very late and of good quality, but so susceptible is it to rot, that although bearing well it will not mature more than half its fruit. Bordeaux mixture does not seem to control this disease, only to a small extent, and there is need for a good deal of experimental work in treating it.

G. C. CASTON,

Craighurst, Ont. Simcoe Fruit Station.

CALIFORNIA APPLES.—Last year's shipments of apples from the famous Pajaro Valley, where the matchless Newton Pippins are grown, amounted to 1,000 cars of which 650 cars came east of the Rocky Mountains, the rest going to

nearby points. Two hundred and fifty carloads of Newton Pippins were shipped, of which 220 cars were sent to Europe, and thirty cars to the middle-west. The foreign shipments were some 40,000 boxes less than in the year before. Pajaro Valley apples are

packed in boxes for shipment. Newton Pippins average about 665 boxes to the car, and Bellfleurs about 700 boxes.

It is too early to give full estimates for the present season, but the crop, it is believed, will be largely in excess of last year's crop, and as the orchards fared very well, the average of quality should run very high.

While Pajaro Valley is the best known apple district of California apples of the

highest quality are grown in almost every county in the State. Altitude is what determines largely the requisite conditions. In Southern California, Lompoc, Julian and Yucaipa are well known apple districts. Stanislaus, Solano, Sonoma, Humbolt, Mendocino, Santa Cruz and Monterey are northern counties in which apples are grown of excellent quality.—*Fruit Trade Journal*.

## STOCK IN THE ORCHARD.

### A GAIN IN THE FRUIT CROP AND NO EXPENSE FOR CULTIVATION.

I AM very sure that I am right in advising the pasturing of apple orchards with hogs and sheep, writes J. S. Woodward, in the Rural New Yorker. If people will only read carefully what I write and follow my advice they can raise high-colored, fine-grained, and well flavored fruit, freest from insects, that will keep longest and in best condition, and raise it at least expense. But they must not misunderstand me. I do not advise seeding an orchard, nor keeping it in sod. Simply stop cultivating, put in the sheep, and let the grass come in naturally if it comes at all. Don't think that ten sheep are enough for a ten-acre orchard, but put in ten or fifteen sheep to the acre, overstock so heavily as to compel you to feed and then feed enough to keep the sheep thriving, and feed with a view of feeding the orchard through the sheep.

To convince himself that I am right let any man fence off an acre of orchard, and put fifteen sheep into it, providing plenty of fresh, clean water for them at all times, and feed them fifteen pounds of wheat bran a day. Keep the sheep there until the apples are fit for market, no matter if they do eat a few fallen ones, and all they can reach from lower part of the trees; there will be just as many when it comes to

picking time. Just watch and see how soon the trees will take on a cloak of green color, thick and vigorous, and how hard and stocky the wood will become; how firm and highly-colored the fruit will be, far beyond the part kept in constant cultivation. While this amount of bran will make the sheep thrive better in any pasture, however good it may be, they will eat the grass to the very roots, eat all sprouts from about the roots, and take every fallen apple long before the codling maggot can escape, and their constant trampling under the trees will break up the surface, and in a great measure conserve the moisture for the use of the trees.

If fifteen sheep be kept on an acre and they be fed fifteen pounds of wheat bran a day for seven months—the length of time they may be kept in the orchard before and after the crop is picked—they will feed 3,150 pounds of bran, which will contain:

	Pounds.
Potash.....	51
Phosphoric Acid.....	102
Nitrogen.....	33

If the sheep are mature very nearly all this will be scattered under the trees, which will be far more than will be taken in the largest crop of apples.

## PRUNING FRUIT TREES.

**A**FTER studying European methods I am convinced that the pruning at present practiced in most American orchards is quite inadequate and accomplishes but a fraction of the results that may be gained from pruning.

The pruning problem is simplified somewhat, by comparing the fruit tree with a grapevine pruned by the old-fashioned "spur and arm" system, in which the grapes are borne on shoots that grow from spurs located on permanent arms. The main branches of the fruit tree correspond to a degree with the arms of the vine, with this difference, that the branches of the tree are strong enough to support themselves, and they grow from the trunk in all directions instead of only in two directions, as in the vine. These main branches should be nearly equidistant upon the trunk; they should be arranged about the trunk in a more or less spiral form, and should grow out at such an angle as to admit the sunlight during some part of the day to their whole length—an angle of about 45 degrees in our climate. In young trees they should bear fruit upon their whole length, and not at their outer extremes only, as is commonly the case with orchard trees. At some distance from the trunk they should branch horizontally, but not upward or downward. The branches should be so pruned during the growth season as to maintain their direction and position, and to secure the proper amount of new wood upon all their parts.

This will have to be accomplished largely by pinching the shoots that are permitted to grow, and by the suppression of superfluous ones. As the trees attain age the basal portion of the main branch will generally cease to support fruiting wood, but the side branches should be removed, as they lose their vigor or become overgrown, by training out new

ones to take their places. The fruit spurs, in species in which the fruit is borne on spurs, will also be frequently renewed to maintain their vigor and to enable them to produce fruit of the largest size. The trees will be headed low and will generally be kept in the pyramidal form. The formation of flower buds will be controlled by judicious pinching of the new growth; and except when damaged by winter-killing the crop of flower buds will be comparatively constant from year to year; and since these have received the required nourishment and sunlight, they will be robust and hardy and will rarely fail to develop fruit of choice quality. Overbearing will be unknown, and as the fruit will average of superior grade it will always sell for a first-class price. European methods have repeatedly shown the practicability of growing the choicest fruit by a method of pruning similar to this. By this method the pruning will be almost all performed during the growing season.

As the growth is maintained at all times under a wholesome check, the trees will grow slowly, and never attain the large size that they reach under present methods. They may therefore be more closely planted and the dwarfed stocks for fruit trees will come into more general use. Pruning will come to be recognized as a "trade" for which special training is required.

I am aware that this teaching is "out of due time" in a country where the average orchard is uncultivated, unsprayed, and unpruned except spasmodically, and then pruned with the ax or carpenter's saw. But with our rapidly increasing population, wealth and business competition, a change in fruit-growing methods is inevitable. America is destined to head the world in fruit production and in fruit-producing methods, and these methods must be largely developed at home.

Since present methods are far from satisfactory, we are justified in seeking better ones.

Granting that the plan proposed in this article is practicable, will it pay to grow fruit by it? Yes, so long as there is "room at the top." Choice apples are now selling in the Madison market at from \$4 to \$6 per

barrel, and are scarce at these prices. They are quoted at \$3 to \$5 per barrel in New York.

A method that tends to insure a crop of fruit of superior quality every year will certainly prove profitable, even if it does require increased labor.

E. S. GOFF, *American Garden.*

## A GOOD FRUIT GRADER.

**S**OME of our enterprising fruit growers at Grimsby have imported a grader for peach, plums and apples, which has given excellent satisfaction. It is called "Jones" adjustable peach, apricot and plum assorter, and was patented in 1890.

We give a cut of this grader, because of its merit, and we think that it is built on the right plan for doing excellent and speedy work. The introducer says of it:—

The object of the assorter is to save labor and to prepare the fruit properly for market

may be stopped off if it is desired to make fewer than the number the machine represents.

They are provided with canvas pockets or exits which receive the fruit from the rollers and deliver it into boxes or baskets without the slightest bruising.

It is hardly necessary, in this circular, to describe in fuller detail the mechanism of the Jones' graders. The cut gives a clear idea of their construction, and, being so universally used in fruit growing districts, their usefulness is well known.

Eastern growers will usually find that my No. 2 and No. 3 assorters have ample capacity for their wants. No. 2 has as great capacity as three-fourths of Eastern peach growers will require, and I am safe in saying that few will ever need a larger size machine than No. 3. With the assistance of two boys, I have operated No. 3 behind 25 pickers (when the trees were loaded) and they could not keep the machine running over half the time. In fact, if the peaches run fair, no one person can set back the baskets from No. 3 as fast as it will grade them, and a man will *earn* every cent he gets attending the spouts of No. 2. I have seen this demonstrated even when women were operating the machine. When the fruit runs bad, the one who pours in should always assist the operator to throw out the *soft* and *specked*. The *defective* is easily detected as the fruit spreads out and turns over on the

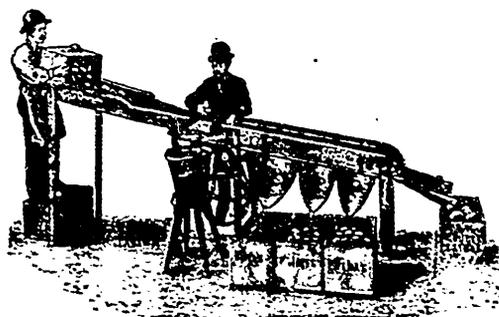


FIG. 2148. A FRUIT GRADER.

by separating it into sizes. This they do to perfection and much more accurately and with greater rapidity than can possibly be done by hand. All my machines are models of simplicity, accuracy and durability. The rollers are made of solid rolled steel and cannot spring out of shape. They are thoroughly adjustable and are set by a numbered gauge. Any given size or sizes

assorting table in front of the operator—the *good* passing on to the rollers to be graded. This accounts for the great rapidity of the machine's work.

With the number of peach districts, and trees that have come into bearing, the day has passed for imperfectly culled peaches to

command remunerative prices in our city markets.

To assort them by hand is slow, unsatisfactory and expensive. A machine will more than pay for itself in a single season, and will, with proper care, last twice the life of any peach orchard.

## COLD STORAGE FOR THE FRUIT GROWER.

**I**N a recent press bulletin of the New Hampshire College Agricultural Experiment Station Prof. F. Wm. Rane writes: "The growing of good fruit is a worthy problem, but another equally as important is in being able to obtain sufficient inducement for enthusiastic future efforts.

"In seasons like the present, with its abundant crop of apples, what is best to do with one's fruit—sell at the present low market price or arrange to hold it for future advance? This question appeals to everyone who has apples for sale. To sell the fruit at picking time necessitates little competition; hence low prices and little responsibility. To keep the fruit for higher prices is problematical in that it costs for storage buildings and there is liability of loss from shrinkage and decay; also extra expense in handling, danger from freezing in transportation, etc.

"From the nature of the case everyone's conditions vary more or less and the problem is for the individual to settle. That cold storage of some form is a blessing is readily recognized. We have had in recent years fruits of all kinds out of season and at prices within the reach of most people. The economic problem is not to secure a high price for a small quantity but an average price for a large quantity.

"Not many years since we depended almost entirely upon the house cellar for tiding over a glutted market, and when there was a slump on the market much of the produce

rotted in the hands of the producer. A certain few, however, even solved the problem by proper handling, packing, ventilating their cellars, etc.; and they invariably received fair returns for so doing. New methods of storage have developed rapidly within a short time. At present every city of note has its commercial cold storage plant and producers as well as commission men are offered equal opportunities for rental. Apples, for example, are stored usually for about the following rates: Ten cents per barrel per month, or for the season, ending May 1, 35 to 50 cents. The season's rate includes from September until the following May 1. The rate after that time is ten cents per barrel per month or fractional part thereof.

"The cold temperature in these commercial houses is obtained through compression, absorption and air machines, and the freezing mixtures from the combination of ice and salt. The advantages of storage near markets are in being able to sell at short notice and in having one's fruit well cared for. This is worth consideration by all growers. Not all cold storage houses are successful in giving good results. This may be the fault of the company in not keeping a regular temperature, etc., due to poorly constructed buildings or unskilled labor; but it may be due to lack of proper attention in picking, packing, etc., before the fruit reaches the plant. One must understand that cold storage will simply retard and not prevent entirely the spread of decay. Therefore, if the

fruit is in prime condition on entering, it is likely to come out in proportionately as good condition. Cold storage never makes an ill-shaped apple uniform, an unsound fruit sound, a wormy apple perfect, or a pale, sickly, immature fruit bright colored. The apple cannot be expected to increase in size, or overcome the rough, careless treatment it perchance may have received before going in. It is for the interest of both parties concerned to get good results; therefore familiarize yourselves with each other's conditions before venturing. The Experiment Station has been experimenting along various lines of cold storage and hopes ultimately to give more complete details of results.

"Within the frost belt ice is the common means of cold storage, especially for domestic and general trade purposes. This is true of New England, where it is shown that ice can be cut and hauled a mile for twenty-five cents a ton. A small ice and cold storage building can be cheaply constructed and cannot be too highly recommended. Temporary structures can be made very cheaply, but it is far better to build permanently, as it will be far more satisfactory. Stone walls will make ideal houses and New England need not want for these.

"Another kind of storage which for convenience we may call 'climate cold storage,' consists in studying and husbanding the lowest daily temperature of one's climate to do one's bidding. There are few days from now on until late in spring in New England, for instance, but that the temperature falls at some time sufficiently to utilize it for cold storage. Being prepared to retain this temperature in cellars or buildings constructed for the purpose, until a similar or lower temperature is realized, is the key to success. This system is not offered to take the place of the other systems mentioned but to meet an apparent need in rural districts. The ordinary house cellar or portion of a barn cellar will answer for storage room, if the simple principles of construction for the retention of cold air as well as a proper system of ventilation are considered.

With few exceptions the city cold storage is probably better for large quantities of fruit for the open market; but when fruit is grown for home use or for the local market, home cold storage is advisable. That cold storage, if properly handled, is practicable and profitable for the fruit grower, there can be no question.—*American Garden.*

APPLE REPORT.

UMMER apples have been selling in our home markets during the month of August at from twenty-five to fifty cents a basket, according to quality.

The prospect is that prices for good winter apples will be very high, as the crop is a light one, not only on the American continent, but also throughout Europe.

The following report by Messrs. Woodall & Co., Liverpool, dated August, 1901, is of interest to apple growers :

We beg to hand you the Annual Report of the Apple Crop of the United Kingdom for 1901. The

figures show that the crop is a small one, but of very good quality, viz.:

	Over Average.	Average.	Under Average.	
This year.....	15	90	163	Reports.
Last year... ..	148	138	16	"
Year 1899.....	20	137	137	"
Year 1898. ....	42	150	159	"

The imports from the United States and Canada during the past season, 1900-1901, although a slight increase, are only moderate, making the fourth consecutive season in which the crop has proved a partial failure, the total imports being 1,300,000 barrels, as compared with 1,192,000 barrels in the previous year. The quality, generally, was satisfactory, and the result of the season's must compare very favorably with that of the preceding one. There was a considerably increased quantity from Boston and Maine, the latter especially maintaining their position for excellence

of quality. Canadian fruit also showed a great improvement on last year's poor crop, and it is pleasing to note that there has been a greatly reduced quantity of false packed barrels. A feature of the business has been the increased quantity of Californian apples, amounting to 61,600 boxes, which for purposes of statistics are reckoned at three to the barrel. The cause has doubtless been the moderate supplies of Pippins from the usual sources, but whether they could stand the heavy cost of carriage in a season of plenty remains to be seen.

As shown above, the English crop is the reverse of last year, and promises to be small, and as reports from Canada and the United States are to the same effect, the prospects are for a high range of prices. This, of course, is for fruit of good sound quality and condition, as no amount of scarcity will produce high prices for inferior stock, and it will be well for shippers to bear this in mind, as the shrinkage of a crop is generally caused by atmospheric conditions unfavorable to the development and keeping quality of the fruit.

Reports from the chief Continental growing districts point to a very light yield.

The total imports into Great Britain during the

past season from United States, Canada, and Nova Scotia were as follows:

Liverpool.....	813,338	barrels
Other Ports.....	486,662	"

Total.....	1,300,000	
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Against same period 1899/1900...	1,192,000	barrels
" " " 1898/9 .....	1,160,000	"
" " " 1897/8 .....	822,000	"

In their chart of sales of Baldwins, in Liverpool, during the last five years, we notice that Canadian stock has each season brought the highest prices, alongside of stock from the States of New York, Maine, and from the port of Boston. Usually the best prices all round are obtained in the Months of March and April.

In April, 1898, they reached 25/ in April, 1899, 24/ in March, 1900, 23/ 6d, and in April, 1901, 22/.

## FALL TREATMENT OF PEAR BLIGHT.

**I**N those orchards where the blight has been carefully and persistently removed and destroyed most of the trees have been saved. In some instances the cutting was not severe enough to remove all the blight-producing organisms, that is, the diseased branches were not cut far enough below the lowest discolored point on the bark to remove the organisms and as a result the disease remains in the tree and continued its destructive work so long as soil and weather conditions are favorable.

At this season it will be observed that the blight is not spreading and the disease is not advancing even in the partially dead branches. It has been found however that the disease producing organisms although inactive during the fall and winter are not dead, that they are capable of living over the winter if the diseased branches have not been removed from the trees. As soon as the sap begins to flow in the spring these organisms again become active and it is from these so-called hold-over cases that the blight is spread. When the organisms become active

in the spring they find their way to the surface of the infested branches either through exuding of the sap or otherwise and are carried by the bees or wind to neighboring trees where they lodge and produce disease.

It is clear from these facts that have been determined by careful investigation that there is only one way in which to prevent an outbreak of this disease next season and that is by destroying all the organisms before the sap begins to flow in the spring. The only method by which this can be accomplished, so far as known at present, consists of cutting out and burning the affected branches. In many orchards where the blight was so destructive the past season it was found that little or no effort had been made to destroy this pest during the preceding season. While the blight was not so destructive generally in 1899, as in 1900, it was present in most orchards and in many isolated trees; hence where it was not cut out it accumulated and became more destructive during the past season.—*Small Fruit Grower.*

## THE APPLE BUSINESS—I.



THE International Apple Shippers' Association met in convention in Toronto early last month. The Association represents seven-eighths of the commercial side of the apple industry of North America. The men composing the convention represent not only the apple export trade—the trade with Great Britain and Europe generally—but the local trade as well.

There was discussed at this convention not only matters relative to the transportation and marketing of fruit, but in regard to the care and cultivation of the orchards in which the fruit is grown. A more important gathering from the standpoint of the progressive farmers of Ontario has never been held in that city.

### TRANSPORT AND MARKET.

Two of the principal subjects discussed were transportation and marketing—twin topics of vital interest. The first was first brought up by President Richardson in his opening address.

"The matter of transportation is," said that gentlemen, "of great importance to those engaged in this industry. The apple is no longer a luxury, but a necessity, and should be treated as such in fixing charges of transportation. Apples are given no better service in the way of accommodation during transportation than commodities which are carried at much lower rates. There should be a re-adjustment under which apples will be placed on the same basis in regard to freight charges as other merchantable articles."

Harry Dawson, of the Dawson Commission Company, mentioned a case that illustrated and emphasized the point made by the president. "There is no more trouble," said Mr. Dawson, "in carrying a barrel of

apples than there is in carrying a barrel of flour. The apples will weigh 160 to 180 lbs. and the flour 196 lbs. And yet I have known flour to be carried to Liverpool at 2s. 6d. when the rate on apples was 4s. 6d."

### ACCOMMODATION ON SHIPBOARD.

In connection with this general subject, there came up, too, the special matter of providing proper accommodation for apples on shipboard. Some time ago U. S. steamship companies were urged to provide cold storage for shipment of apples, but the companies—as shown by the responses received—were inclined to look rather coldly on the proposal. They objected to provide such accommodation unless the shippers would contract to use it by the year. This assurance could hardly be given, as the apples season does not run through the whole year.

"And," said Mr. Shuttleworth of Brantford, "after a storage room has been used for apples for some time the place is so impregnated with the flavor of fruit that it is scarcely fit for the carriage of other commodities, such as butter, etc." Mr. Shuttleworth added that the Allan and Donaldson Lines were providing for the introduction of cold air into the parts of the ship in which apples were stored, and this would be a great improvement.

Mr. Foster added that lines sailing from New York were showing a disposition to provide better facilities. Three of them were putting in fans. "This improvement," said Mr. Foster, "is the result of action taken by our association, and shows the benefit of co-operation."

### DR. MILLS ON APPLE PACKING AND APPLE BUYING.

The discussion in regard to marketing was really introduced by President Mills of

the Ontario Agricultural College, and a real live discussion it was—reminded one of the days when the late John Hallam, Garrett Frankland, and John Baxton, crossed swords in the City Council of Toronto during the eighties.

“The buying of apples,” said President Mills, “is too much like the buying of butter in old-fashioned country stores—an all-round price, regardless of quality. Buyers should discriminate. This is due to the man who produces the good fruit, and by discrimination there will be removed from buyers the temptation to make up in fraudulent packing for the losses incurred in the purchase of poor fruit. The packers employed should be capable and reliable—those who are not so should not be allowed to put up apples, either for home or foreign sale. We have suffered so much in reputation in England because of bad packing that it has been found necessary to appeal to the Dominion Parliament for an Act to prevent frauds in future. This appeal was not made because we wanted to crowd the honest men out of the business. The Parliament of the Dominion, in response to our appeal, has given us a measure that contains many admirable provisions. With one exception, it is an excellent Act. But the exception is a most important one—it is in the penal clause. The penalty provided for wrongdoing is so utterly paltry as to excite the surprise and incur the contempt of all honest men who have looked into the matter. Under the law as it stands a man may put good apples in, the bottom, beauties at the top, and turnips or pumpkins in the middle, and label the whole treble X, and, on detection, and conviction, what do you think the penalty is? Is it \$100? Or \$50? Or \$25? No; it is just \$1. It is hardly that; the fine is not to exceed \$1 nor to be less than 25c. I have heard of the mountain laboring and bringing forth a mouse, but I never heard of anything that would beat that.”

“But” put in William Dixon of Hamilton, “the fine is per package.”

“True,” responded the speaker, “but an offender is not likely to be caught on more than one package. It is too ridiculous to talk of. I wish I had been on the floor of Parliament when that measure was going through. Any scorn that was in me would have been poured out on those responsible for such legislation. The men who passed that Act did well to add \$300 or \$400 to their sessional indemnity after doing it!”

“I agree with you,” heartily responded T. E. Dennis, representing W. Dennis & Son of London.

#### AN EFFECTIVE COMPARISON OF PENALTIES.

“Yes,” the speaker went on, “we send a boy to the penitentiary for stealing a pair of boots, and we inflict a fine of not more than \$1 and not less than 25c on one guilty of a fraud like this. What malign influence was behind Parliament when it took up a whole page in saying what things shall not be done, and then wound up by saying that those who do commit the frauds—frauds that are discrediting all our products in the English markets—shall be fined not more than ONE DOLLAR. One dollar; it should be fifty dollars and two or three months’ imprisonment.”

#### WERE FRUIT GROWERS RESPONSIBLE?

“Why was the penalty fixed so low?” asked Mr. Dixon again. In answer to his own question, he said it was the growers rather than the buyers who wanted a loose and open measure. If the matter had been left to the dealers the law would have been made much more stringent. But most of the members of Parliament represented rural constituencies; it was in rural constituencies the frauds in packing occurred, and this was why the penal clause was made so mild.

“I would be sorry,” said Mr. Hart of Montreal, “to have the impression go abroad

that any of our people have put pumpkins or straw in with their apples. I have had twenty-four years experience in this business and have never known anything of that kind to be done. I have seen some apples in barrels that should not have been there, but I defy anyone in England to say that any of our apple barrels have ever gone to the Old Country stuffed with hay or pumpkins."

"I did not say that had been done," replied President Mills, "although I have been told that a wad of hay was found in the middle of a barrel that reached England. What I did say was that these things might be done and still the penalty would not exceed one dollar."

#### SOME VERY QUEER CASES.

Eben James admitted that practically all the possibilities referred to by President Mills had occurred, but he blamed it on the farm boys. "Some of the latter," said Mr. James, "after the packers had gone for the night have put old boots or hay in a barrel, accompanied by a note, asking the English purchaser to write a reply saying how they liked their purchase. This was boys' idea of a practical joke."

Chas. Foster of New York gave another illustration showing the peculiar idea some people have of humor. "I once found a stone in one of my apple barrels," said that gentleman, "but as the barrel was labelled 'Rock Pippins' this did not seem so inappropriate."

M. Snetsinger of Thornbury also witnessed some rather strange things. "I remember," said he, "seeing a barrel, accidentally broken open at Portland, stuffed with hay to prevent injury to the fruit."

"Don't you think," asked Mr. Dennis, "it would have been better for the reputation of Canada if the whole of that particular barrel had been dumped into the sea?"

#### A LITTLE KANSAS SCHEME.

Secretary Barnes of the Kansas Horticult-

ural Society, mentioned another little fraud in the way of packing. This is what is called "stovepipe packing." Under this system a stovepipe is placed in the middle of a barrel when packing is going on. Good apples are put all around, the package thus showing a good face, no matter where the barrel is opened, while the center is filled with rubbish. The same sort of thing is done, he said, even in the shipping of potatoes in sacks.

"I would not," said President Mills again, "assert that all packers are dishonest; I would not even say pumpkins and turnips have been put up where good apples should have been. But there is a long range between a turnip and a good apple, and most certainly some of the contents of barrels sent from this country have been a discredit to Canada."

#### WHERE PACKERS HAVE COMMITTED FRAUDS.

Then Mayor Graham of Belleville, speaking from personal knowledge, showed that all the evils in connection with apple packing are not due either to the greed of fruit growers or a mistaken sense of humor. Some are attributed to deliberate fraud on the part of packers. "I have," said he, "seen packers who had what they called facers, followers, and fillers. You can judge for yourselves what part of the barrel the fillers went into. After the barrel was headed up these packers did not put their own name on the package. They put on the name of Jones or Smith—any old name, in fact—and then added the three X's. I think every shipper will bear me out that these practices have been resorted to, and it is because of such practices that the Act to which Dr. Mills has referred was passed."

"I believe," said F. Pritchard of Liverpool, "there has been a good deal of exaggeration in this matter. My experience teaches me that when we have a good crop we have good packing, and in seasons of poor crop the packing is indifferent."—*The Weekly Sun.*

## MAKING HARDWOOD CUTTINGS.

**W**E have been making cuttings of currant, Carolina poplar, weigela, blackberry roots, etc. The next cuttings to go at will be grape, to be followed by Mariana plum.

Growing plants from cuttings of hardwood is easy or not easy, depending somewhat on the experience the propagator has had. I remember in the past that I have thrown away thousands of cuttings that I failed to make grow because I did not understand all the steps and conditions necessary to success. That was what I call hard work to grow cuttings. But now, after many years at the work it becomes easier each season to meet those conditions and to meet them easily without worrying.

One of the greatest mistakes I made in first growing hardwood cuttings was not sufficiently firming the soil close up to the lower part of the cutting. I thought if I got the surface of the soil firmed that was all that was necessary. But now I pay the first attention to firming the lower half of the cutting. For instance, if I am setting currant or grape cuttings on light soil I prefer to fill in around the cutting about one-half the distance from the bottom of the furrow to the surface of the ground; then with the feet press and crowd the soil tightly

around them, finishing filling up to within about an inch of the surface of the soil. Then firm again.

After the first cultivation in early spring level off the soil next to the cutting and firm again. This last firming helps to keep the air from getting down between the cutting and the soil and injuring the rootlets just starting out from the side of the cutting.

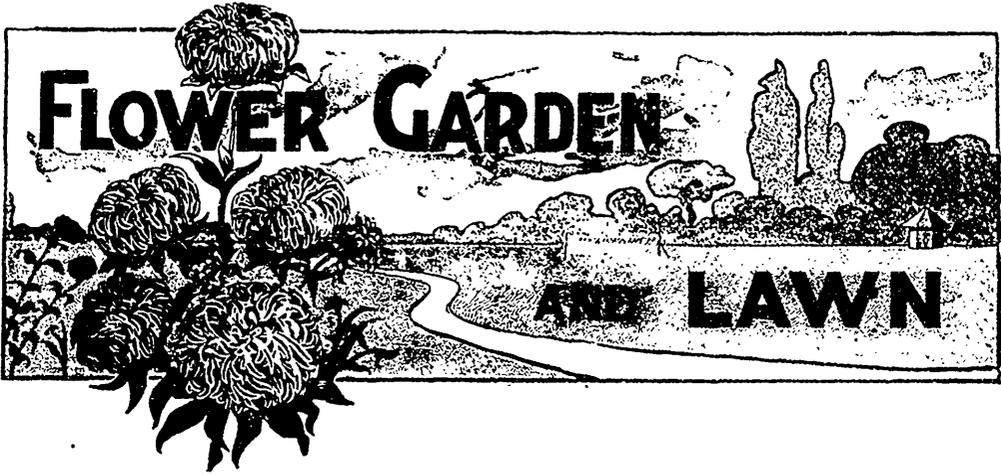
After currant cuttings are cut, which should be done when the leaves begin to fall, I place them in bundles of fifty to one hundred, depending on the size, with lower ends all one way. These I bury upside down, deeply enough below the surface to cause them to callus, until just before freezing-up time. Then set them out with the spade as in setting strawberries or along in a furrow turned by a small one-horse garden plow. When prepared as above the little roots will often stick so firmly to the bunch that they have to be torn apart, but before taking apart I gently loosen and shake up the bunch, which helps to get the roots out of a tangle.

Proper shoots to select for cuttings are good strong and plump shoots from good healthy parent plants.

Michigan.

CHARLES C. NASH  
*in American Gardening.*





## TIMELY TOPICS FOR THE AMATEUR—XIX.

**T**HE conservatory and greenhouse should both be in readiness early in September to receive the tenderest varieties of plants that have been placed out of doors for the summer.

Close watch must be kept on the thermometer late in the evening, as the weather is uncertain after the first week in September, and probably earlier than this in the northern parts of the province.

Have material ready for the temporary protection of tender plants out of doors, as oftentimes one night's exposure will mar the beauty of plants that might perhaps lend their brightness to lawn and garden for several weeks if protected for a night or two from the first early frosts.

The selection of Holland and other winter and spring flowering bulbs, both for planting in the garden or for growing in the greenhouse or window, should now be under consideration. If left later than this, the selection and quality of the bulbs are not as good oftentimes as when the selection is made earlier.

The most profitable varieties for the inexperienced bulb grower, or for those who only require a limited supply of these useful

additions to the window or flower border, are Roman and Dutch hyacinths, some narcissus Von Sion, poeticus, ornata, and some tulips and crocus. All of these, except perhaps the Roman hyacinths, will give good results if planted in the flower beds or borders in October. The Roman and Dutch hyacinths and the two varieties of narcissus will also give good results either as window plants or in the greenhouse. Tulips and crocus are not as useful for indoor culture, and do not force as readily as the varieties of hyacinths and narcissus before mentioned. There are many other varieties of the narcissus besides those mentioned that are very pretty and succeed splendidly indoors in winter, amongst them being the different varieties of the *Polyanthus narcissus*. Most of the latter have very sweetly perfumed flowers, the Double Roman and the Grand Monarque being probably the best two varieties for indoor culture. The Paper White (*Lotus alba*), so much used for forcing by florists, is a good variety, but the perfume of its flowers is objectionable to many persons, and too powerful to make it acceptable as a window plant. The young beginner would do well to commence by growing the



FIG. 2149. NARCISSUS.

two varieties of hyacinths and narcissus that I have first mentioned, especially for pot culture.

*Scilla siberica* with its pretty bright blue flowers, that appear with the snow-drops very early in the spring, are very pretty little bulbs for the border. The *chionodoxas* and *sparaxis* are also very attractive in springtime in the border before the crocus and tulips are in their full beauty.

A few hints on the planting and potting of these bulbs for indoor flowering, as well as for early spring flowering in the flower bed or border, are given later on in this article.

**THE GREENHOUSE.**—Tender plants in pots or tubs will soon have to be brought into the conservatory or greenhouse or placed so that they can have temporary protection when early frosts threaten. If the plants are brought into the greenhouse, it may be advisable to shade them slightly for a week or so.

Toward the end of the month, or before sharp frost arrives, freesias in pots or boxes should be brought indoors and placed in a sunny position, until the flower stems begin to show, when they should be placed in a less sunny position to flower in.

Pelargoniums, cinerarias and herbaceous calceolarias are better kept out in a frame and covered with a sash when there is danger of frost. Cyclamen can also stay out in the frame until cold nights set in unless early flowers are wanted. Care must be taken to keep them safe from frost, more especially the pelargoniums and cinerarias, the foliage of the latter being very easily damaged, and although they grow and succeed best in a cool temperature of from 45 to 60, much better than they do in a higher temperature, they will stand no frost.

Cuttings of all kinds of bedding plants required should be taken before frosts appear. Insert the cuttings in sand in pots or in boxes about two inches deep, or on the greenhouse bench if a large quantity is required.

The buds on chrysanthemums should be thinned, so as to leave only one or two terminal buds on each branch or stem. One or two good flowers on a stem is far better than a large bunch of inferior individual flowers.

Roman and Dutch hyacinths and all bulbs required for early flowering should be potted. Roman hyacinths and narcissus should be planted three or four bulbs in a four or five inch pot in fairly good soil. The tops of the bulbs should be just under the surface of the soil after the bulbs have been well watered. The Dutch hyacinths should be planted singly in a four or five inch pot. Place the pots in a cool, dark place after they have been well watered, and cover the pots with about an inch of light soil or coal ashes. The pots should not be taken into the house until the bulbs have become well rooted, which will usually be in four or five weeks,



FIG. 2150. HYACINTH.

when they can be taken in for successive flowering as required.

All watering should be done in the morning if possible.

Close the ventilators early in the day, especially if tender roses are growing either in pots or on the benches.

A little fire heat may be necessary toward the end of the month to prevent damping off.

**THE WINDOW.**—It will be necessary to have all tender plants ready for transferring to their winter quarters, unless a cold frame and sash are available for temporary use for the plants.

Many of the hardiest of the plants usually grown in windows such as geraniums, fuchsias, freesias, etc., will be better out in a frame or under temporary protection on cold nights, rather than being brought into the house too soon. By keeping them out

of doors as long as possible, they are far less liable to be injured by attacks of insects, such as green fly, red spider, etc. Care must be taken, however, not to risk them outside just one night too long.

Begonias, cactus, coleus, palms and ferns and similar tender plants will be better transferred to the window, if the weather is at all chilly and cold.

Verbenas, petunias, heliotropes, etc., out in the border, that were cut back as recommended in last month's journal, will be ready to pot up for the window. Water the soil well around the roots of these plants before taking them up, so as to ensure a good ball of earth being attached to the roots. Use a sharp, clean garden trowel for this purpose. A clean, bright trowel is of more necessity than is sometimes thought for removing plants from the border for potting up. Heliotrope is very easily touched by frost, petunias and verbenas are much hardier, and will not be injured very much by slight frosts, although a check from frost will induce and cause mildew on verbenas oftentimes.

Water all plants thoroughly once that are taken up from the border, and do not water them again until the top of the soil in the pot shows signs of being somewhat dry. Use about an inch of drainage at the bottom of all pots for growing plants in during winter, and use a little more sand in the soil than is used in spring or summer. Avoid using pots too large for the plant. Over-potting and over-watering are the cause of many failures with window plants, especially in winter. It is better to put the plants into pots that the roots of the plant will comfortably fill, than to pot into large pots with the idea that the more pot room, the more growth. This latter idea is a mistake, except in the case of a few strong growing, fast rooting plants such as stevias, eupatoriums, etc., as an excess of soil induces stagnation, and decay of the roots, especially



FIG. 2151. GERANIUM CUT BACK.

if the plants are given too much water. It is better to pot plants—especially those taken from the border—into small pots for a time first, and when established re-pot them into larger ones if required.

Cut back all geranium plants severely before taking them up from the border. (See Fig. 2151). Place the plants singly in small pots, or four or five in a six-inch pot, in soil composed of three parts sand to one part of loam. Or if a number of old plants are required put them in sand only, in a box about three inches deep and of the required size. No drainage is necessary, except some small holes in the bottom of the box. Keep the plants in the box until growth has well commenced when they can be potted up singly into 3 or 4 inch pots, in soil in which about a fourth part sand has been mixed. This plan is far preferable and gives better results than endeavoring to take the geraniums up from the bed and transfer them, foliage and flower complete, direct from the border into pots. The latter method is often fatal to the plant, or at best it results in producing before spring time some long lanky

plants with a foot or two of bare stems, tipped with a few sickly looking leaves, fit subjects only for the rubbish pile. If old geraniums are treated as first mentioned better plants can be obtained by spring than those grown from cuttings started early in the autumn.

Cuttings of bedding plants—or in fact of any plants required—should be taken before they are touched at all by frost. This is more particularly the case with cuttings of coleus, achyranthes and similar tender plants. Reluctance to despoil a plant by taking a few cuttings from it while it is still bright and beautiful in color and form, often results in the loss of some pet plant entirely. Some cuttings can generally be secured early from around the sides of the plants,



FIG. 2152. GERANIUM SLIP.

without marring their beauty sufficiently to be noticeable. Very few cuttings, especially those mentioned, will strike root and grow if touched with frost, or even if not taken before decay and decomposition of the foliage has set in, the latter condition often occurring when chilly wet weather prevails long before the first frosts of autumn have nipped the foliage. Cuttings of alternantheras, ageratum, double alyssum, and geraniums are hardier, but it is best to be early enough in securing a stock even of these, in good time.

It is a good plan as well to take up a few old plants of the varieties mentioned. All of these (except the geraniums) should be taken up without being cut back, except perhaps to take off a few loose side shoots, or any decayed flowers or foliage. These plants may be placed in pots or boxes in rather sandy soil and taken into the greenhouse, or placed in a frame and shaded for a few days. Keep them here until there is danger from frost and give them sufficient water to prevent their wilting, and plenty of air on fine days, when the plants are established.

FLOWER GARDEN.—Petunias, asters, cosmos, zinnias, nasturtiums, antirrhinums, etc., will still keep the garden gay and bright. No flower garden should be without petunias and antirrhinums. The last named is especially useful as a cut flower, its spikes of peculiar shaped flowers that can be had in such a variety of colors, and its profuse flowering habit in spite of repeated cutting, as well as its easy culture make the antirrhinum one of our most valuable drought and sun resisting flowers. I planted a row of about thirty plants most of which were self sown plants dug up in the border in May, and which have yielded an abundance of bloom since early in July and will continue to do so until severe frost sets in. Objection is sometimes taken to the undeveloped buds at the top of the spikes, but when the latter are used as points for relieving the flat surface that many summer flowers present when arranged in bouquets or vases. they are invaluable. A vase or bouquet of trusses of bloom of phlox paniculata or even of asters, is much improved by the addition of a few spikes of the old fashioned snap-dragon, or antirrhinum.

Many of the new Californian petunias are very beautiful. Their large, showy and gorgeously marked flowers make them a decided acquisition. They have not proved,

however in many cases, as robust in habit as the older varieties, and are not quite as enduring in character, requiring liberal treatment to have the best success possible with them.

Dahlias must continue to have plenty of water and a little liquid manure occasionally, if well developed, perfect blooms are looked for.

Spring flowering bulbs should be planted in October. The smaller varieties such as snowdrops, scilla siberica, chionodoxa and crocus require to be planted nearly an inch below the surface, whilst tulips, hyacinths and narcissus can be covered with about two inches of soil.

German iris, herbaceous paeonies and dielytras may be divided and transplanted in October if required. These and most all early flowering perennials having thick fleshy roots are best planted in the fall, as oftentimes these plants are in flower almost before they can be attended to in spring.

Later flowering, fibrous rooted perennials, such as phlox paniculata, delphiniums, aquilegias, gaillardias, heliopsis, etc., are best left until spring before transplanting. Seedling plants of the latter however, are best planted in a cold frame and protected with a few leaves thrown on them in severe weather. A sash placed over them in very severe weather is also advisable.

A good mulching of long strawy manure or some similar material should be given perennials transplanted in the border in autumn. This mulch should not be applied until early in December, or when severe frosts set in.

VEGETABLE GARDEN.—Late planted celery should have a little earth drawn up around the roots, sufficient only to keep the stems compact and upright. Late celery requires very little earthing up whilst growing, as it can be blanched in the cellar or pits later on. It may be necessary to mould it up to protect

it from severe frost later on, before it is taken in for the winter, but it is not otherwise really necessary or beneficial.

If you have a small frame and sash lying idle, it can be utilised for sowing a packet of early cabbage and cauliflower seed in. A packet of some early variety of lettuce sown in a part of the frame will also give a few early lettuce plants in spring. Put the sash on in very severe weather. A covering of leaves or straw may be necessary in extra severe weather, but only for a few days at a time. If taken a little care of during the winter, you will have a nice lot of sturdy, hardy plants to put out in the garden that will give returns much earlier than spring sown seed.

Onions should be stored in a dry, cool shed and not left out on the ground too long.

The seed from top onions should be gathered and dried when ready.

Spinach for use in early spring should be sown early in September, in drills about

twelve inches apart and about an inch deep. Sow the seed rather thickly to allow for some plants being winter killed.

The strawberry bed should be cleaned entirely of weeds. Mulch the plants with long strawy manure or some similar material early in December.

Manure and fork up all vacant plots of ground ready for an early start in the spring. If the ground is stiff and clayey, throw it into good sized ridges after manuring it. This ridging exposes the soil to frosts that pulverize the soil, and leaves it ready for sowing or planting much earlier than it otherwise would be, as only a forking down of the ridges is necessary, before planting or seeding commences. Ground thrown into ridges can often be worked fully a week earlier than if it is dug and left flat and level. Ridging light sandy soils is not necessary or as productive of good as it is on stiff heavy land.

Hamilton.

W. HUNT.

## ARTISTIC ARRANGEMENT OF FLOWERS.

**T**HE use of several kinds of flowers in one arrangement is often as disappointing as the use of too many. There may be harmony of color, but not of habit. A pink rose, a white dahlia are harmonious, so far as color goes, but such a combination is not pleasing because there is a lack of harmony in the habit of the two flowers. As a general thing, it is advisable to use each kind of flower by itself. If two are used, one of them must be content to play a subordinate part. It must serve as a foil to the other, heightening and emphasizing its beauty by the contrast with itself. If a spray of wild clematis is used with roses, the effect is very pleasing, because the white of the clematis brings out the color of the rose vividly, but it, in itself, is unobtrusive. It is a back-ground

accessory in the composition of the picture. But if you were to substitute a lily for the clematis, you would find the effect much less pleasing, because there would be a rivalry for supremacy between it and the rose. Neither would consent to occupy a subordinate position. Therefore do not combine flowers of equal importance and expect them to afford as much pleasure as if used separately. Sweet Peas are delightful for bouquets—by themselves. But I know of no flower that can be arranged with them without seriously detracting from their beauty. It is the same with nasturtiums and pansies.

If I were going to arrange a vase of sweet peas for table, or parlor, I would go into the garden and cut my flowers with the longest possible stems, bunching them lightly in my hand as I cut them, but without

trying to arrange them. I would not cut more than a dozen or fifteen stems unless the vase in which they were to be put was a large one. I would drop them into it, give a little shake and lo! the blossoms have arranged themselves far more satisfactorily than I could have done it by putting them deliberately together, because they would have disposed themselves simply and naturally.

Formality and artificiality are fatal to artistic work in bouquet-making, because they are the opposites of simplicity and naturalness. Prove the truth of this by experimenting.

The vessels in which you put your flowers have much to do with the effect. Long-stemmed flowers like the lily, upright and stately in habit, will be spoiled if used in low vases. Flowers with short stems are always unsatisfactory in anything but low bowls or other shallow vessels. Color must be also

taken into consideration. A blue china bowl may be pleasing when filled with yellow roses, but put pink ones into it and you get a discord. As a general thing, a crystal vase, or a cut-glass bowl or tray, will be found more satisfactory than any colored vessel, because, when these are used, there can be no clash of color—no striving for predominance in hue or tone between the flowers and their receptacle. When colored are used, great care must be taken to secure proper contrast and entire harmony, otherwise the general effect will be disastrous. In using decorated bowls or vases you run the risk of introducing a rivalry between them and the flowers they contain. This should always be avoided, because the flowers are the important feature, and nothing should be used with them which has a tendency to divide the attention of which they should have the monopoly.

E. B. REXFORD in *the Brown Book*.

### DEUTZIA, "PRIDE OF ROCHESTER."



FIG. 2153. DEUTZIA, PRIDE OF ROCHESTER.

This variety of the deutzia is undoubtedly one of the prettiest of this attractive class of flowering shrubs. Unfortunately it is not as hardy as some of the older varieties that have been introduced.

The specimen as shown in the photograph has been partially killed back several times during very severe winters, being rather less hardy than a *Forsythia fortuneii* and *Halesia teraptera* planted one on either side of it. In spite of the check it has received on several occasions by being winter killed, it invariably makes sufficient new growth to produce a profuse supply of its pretty pink and white blossoms the following season. In favorable situations in Southern Ontario this shrub succeeds very well, and makes a pretty and conspicuous object on a lawn when laden with flowers early in July. It grows to a height of four or five feet but can be easily kept in a more dwarf compact form by a little judicious pruning during the fall or early winter.

Hamilton.

W. HUNT.

## HARDY PERENNIAL PLANTS OF THE BEST AND MOST USEFUL VARIETIES FOR ALL PURPOSES.

**M**Y intention for making up this list is that any person may choose varieties suitable in height, color of bloom, etc., to suit any situation, large or small. All of the journals and catalogues of perennials are very confusing to the inexperienced lovers of these beautiful flowers. It has been well said that the earth wears a crown of floral beauty, and among the brightest, richest, and sweetest are the hardy perennials; they fill a place in our gardens and in our hearts, which nothing else can supply; like flowering shrubs when once planted they are a thing of beauty for a life time. What is more cheerful or more beautiful than the clumps of Phlox, Lilies, Iris or Pæonies that our fathers, mothers or perhaps our grandmothers planted. If people owning their own homes would only buy of the following assorted varieties of perennials, in place of wasting their money year after year in annuals, the same money that is spent in these flowers that only last a season and are gone, would, if put to the buying of the following perennials, secure this full collection in a few years, and, if properly planted, would be an everlasting beauty to any home and the community in which they were planted. A list of this sort by some person familiar with the best of our hardy perennials, hardiest and best shrubs, and most decorative trees, and I may add our fruiting trees, has been a long felt want. What do we find? In all our journals there are hundreds of varieties of perennials, shrubs and fruiting trees that are of no value, some have never been of any value. Our fruit catalogues seem to be vying with each other as to which can supply the greatest number of names, such lists particularly in fruits has been to a great extent very detrimental to

the well being of the most of our orchardists, and we can see the bad effects of these lists in our orchards all over the Province. The beauty of a good collection of perennials is unexcelled by any other flowers; they have cheered many persons through dark hours of life; they were loved and planted by dear ones whose voices and presence are no more; their blooming calls to our minds happy days and faces that are gone not to return. There are many cheerless looking homes in our rural districts, that could be made ideal abodes, with very little money, by judicious planting of the commonest of herbaceous plants and shrubs from the woods, if the few dollars could not be spared to buy of the list named below. Let us plant of these old friends of our forefathers, that I am glad to say are fast becoming great favorites with the flower loving people of the world. There cannot be mistakes made in selecting from the following list, as every one of those mentioned is first class, chosen from among hundreds of varieties.

*Achillea ptarmica flore plena*—Double sneezewort (northern hemisphere), height, one foot; in bloom all summer; flowers small, white and double.

*Anthemis tinctoria*—Kelway's hardy golden Marguerite (Europe), height, eighteen inches; blooms in end of June; flowers large yellow.

*Aquilegia* or Columbines—There are many of these in cultivation in every shade of color, and in doubles and singles, short and long spurred; there is also the well known native variety *Canadensis*. They range from eighteen inches to three feet in height, and are indispensable for the hardy border, ranging in bloom from June to September.

*Aster amellus*—From (Russia,) height, eighteen inches; blooms from July to fall;

flowers large and purple ; very good for cut flowers.

*Chrysanthemum uliginosum* (Pyrethrum)—Showy white flowers two inches across four feet high, in bloom August to September, fine to cut.

*Coreopsis lanceolata* and *Grandiflora*—Leaved tick seed (United States), height, two feet, flowers large yellow ; in bloom all summer if the seed pods are kept off.

*Delphinium* or Larkspurs—There are many shades of color and varieties of this most beautiful and useful plant. No garden should be without some of them, they vary in height from two feet to six feet.

*Doronicum Caucasicum*—Caucasian Leopard's bane (Europe), height, one foot ; in bloom in May and June ; a grand early perennial ; flowers large yellow.

*Gaillardia grandiflora*, or Blanket Flower—(North America), height, eighteen inches ; flowers large violet blue and yellow, they can be had in several varieties, flowers good to cut ; very desirable plants.

*Gypsophilea paniculata*—Infants Breath, (Europe), height, eighteen inches ; in bloom July and August ; it bears myriads of small white single flowers, if cut and dried will last for a long time, good for bouquets.

*Helenium grandicephalum striatum*—Flowers striped, yellow and white variety. *Autumnalis* is a native of Canada, the same height as above variety, two feet. Variety *grandiflora* grows to the height of six feet ; the last two named varieties have yellow single flowers in the greatest abundance ; the three are good border plants and good to cut for large bouquets.

*Helianthus multiflorus flore plena*—(Dahlia Sunflower), native of United States, height, four feet ; blooms in August ; flowers large yellow and double, a very useful perennial.

*Heuchera sanguinea*—Alum root (native of Mexico), height, eighteen inches ; blooms in June ; flowers scarlet, very showy and use-

ful to cut. This is one of the brightest perennials in cultivation. There is also a white variety.

*Hemerocallis Dumortieri*—Japan day lily, height, two feet ; a gem for the border or for cutting ; soft rich yellow, exterior bronzy yellow or orange.

*Hemerocallis flava*—Golden yellow, fragrant day lily, (Europe), good for cutting, about three feet high, one of the best.

*Hemerocallis Thunbergii*—Bright yellow, three feet high ; very fragrant ; as this one blooms long after all the other day lilies have finished, it adds much to its value as a cut flower. There are two double varieties, and one variegated foliage ; all are worthy of trial in the herbaceous border, (Europe).

*Hibiscus Moscheutos*—(Ontario Rose Mal-low) height, three feet ; blooms in August. The hybrids called Crimson-eye are magnificent plants ; flowers 9 inches in diameter, white with crimson large eye, and all pink in others ; from two to five feet high ; August and September, very fine.

*Iberis sempervirens*—Evergreen candytuft, (Candia), height, one foot ; in bloom in June, white, a little fragrant in large clusters and flat, good to cut.

*Iris germanica*—German Iris, (Europe), height, two to three feet ; there are many shades of color in the Iris, they are large, showy, very desirable plants.

*Iris Kaempferi*—Japanese iris (Japan) height, two to three feet ; the flowers of this iris are equal to the most beautiful orchids in many colors and varieties.

*Lilium auratum*—(Japan), height, four feet ; blooms in July, is better of some protection in the winter, this is a very large and the most beautiful of all the colored lilies.

*Lilium speciosum*—Var rubrum and var album, are hardier than the above and are very fine lilies, bloom in August. (Japan).

*Lilium longiflorum*—A grand long white bell flowered lily, increases fast, one of the best; height two feet.

*Lilium candidum*—(Japan), pure white; height three feet; very hardy and free blooming variety, grand to cut, all perfumed.

*Lychnis splendens*—Double red, London pride, (Europe).

*Lychnis semperflores*—Pink, small flowers in abundance.

*Lychnis vespertina*—Double white: about two feet high; the above three varieties are the pink of perfection of what a perennial should be, grand to cut.

*Paeonia officinalis*—(Europe), height, three feet; I have about sixty varieties of the paeonia growing in all shades of color, in bloom June and July; one of the best border plants, grand to cut, very showy, requires deep rich loam soil.

*Papaver nudicaule*—Iceland poppy, (northern hemisphere), eighteen inches; color orange yellow and white; double and single, bloom in June. The Oriental variety is very beautiful, nine inches in diameter, scarlet with black eye, grand if planted in deep rich damp soil (Asia), three feet high.

*Phlox decussata*—Hybrid perpetual phlox (United States), height, three to four feet; in many colors, grand perennials, in bloom July and August.

*Platycodon grandiflorum*—(Chinese Campanula), China and Japan, height, two feet; in bloom July and August; there is a white variety, alba, also double; both are first class perennials.

*Pyrethrum uliginosum*—Sometimes called chrysanthemum uliginosum. Great ox eye, (Russia), height, four feet; in bloom August and September, makes a grand display, white.

*Rudbeckia laciniata*—Golden Glow, (United States), height, six to eight feet; blooms in August and September; flowers yellow, double and in great abundance, a

grand plant for the back of the border and for cutting.

*Spiraea*—There is a number of varieties of the herbaceous spireas, and there is no plants more beautiful when in bloom, grand to cut for any purpose; there should be more of these plants used when they become better known; the following are probably the best:

*Spiraea aruncus*—Three to four feet long, feathery panicles of white flowers, a grand variety. *Spiraea astilboides*—This one is

also a grand perennial, a good bloomer; height, three feet; feathery white flowers, useful for forcing. *Spiraea astilboides floribunda*—A superb variety, dwarfed and blooms

white. *Spiraea chinensis*—"Astilbe" (China) a grand acquisition for the border, a robust

grower; three feet high; white triangular plumes, tinted with pink, excellent. *Spiraea Japonica*—Good for the border or for pots

to force; two feet; white. *Spiraea Japonica aurea reticulata*—A variegated form of the

ordinary variety, green leaved, veined with yellow, very pretty; two feet; white flowers.

*Spiraea compacta multiflora*—A splendid variety for pots and the border; immense

white plumes, robust grower; three feet. *Spiraea filipendula plena*—A beautiful double

flowering variety, very neat fern like foliage, one of the best and neatest of this class;

eighteen inches. There is also a single flowering variety of the last. *Spiraea palmata*—(The Crimson Meadow Sweet) Flowers

crimson, very showy large panicles; three to four feet; one of the best. *Spiraea palmata alba*—A snow white variety, very fine;

three feet. *Spiraea palmata elegans*—This variety has pale rose colored flowers, very fine; three to four feet; one of the best.

NOTE.—All the above are deserving of cultivation; they are very easy grown and grand to cut for bouquets; most of them were raised in Europe.

*Statice latifolia*—Sea lavender, (Bulgaria) fifteen inches; good to cut, will last a long

time if dried; blue; very fine herbaceous plant.

*Yucca filamentosa*—Adams Needle, this variety is hardy, and flowers beautifully in the counties of Welland and Lincoln. They are imposing objects, they grow from six to seven feet high when in bloom; flowers white lily like.

*Lythrum Salicaria*—(Spiked Loosestrife), Niagara Falls native plant, very good perennial; three feet high; blooms all summer, flowers reddish purple.

*Anemone Japonica*—or wind flower, height three feet, (Japan). There is a number of varieties of this beautiful late flowering plant, but this one which is white and its sister variety *rubra*, red, is the best for common cultivation; flowers in September and until cut down by frost: the red one is only two feet high.

*Chelone coccinea*—is a charming plant; two feet; red flower; very showy good to cut. RODERICK CAMERON.

*Before Niagara Falls Horticultural Society.*

PREPARATION FOR PLANTING FALL BULBS.

WHAT more desirable ornament can be suggested for the border of a well-dressed lawn, than a few beds of spring flowering bulbs? They are so delightful to the eye in early spring, after gazing so long at the monotonous white snow and defoliated trees. The month of October is the time for planting hardy bulbs, and, if they have not been already ordered, no time should be lost in securing them.

different varieties of the same kind. The following cut, which has already appeared in this journal, well shows the proper depth for planting the various bulbs. Crocuses and snowdrops should be planted two or three inches apart, tulips five inches, and hyacinths seven.

Mr. E. E. Rexford, a well-known American florist, writing about tulips in the *American Agriculturist*, says: "Among the tulips

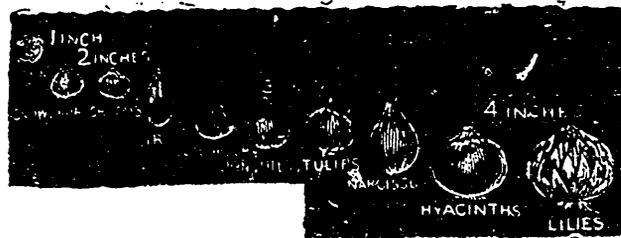


FIG. 2154.—SCALE OF DEPTH FOR BULB PLANTING.

The mere mention of tulips, hyacinths, crocuses, narcissi and snowdrops is surely enough to enthuse the flower lover with ardor in the preparation of the ground and the selection of varieties for planting.

The soil should be well drained, and before planting, spaded deeply and well enriched with old cow manure. Then plant each kind of bulb by itself, and, if contrast of color is needed, it can be secured by using

can be had scarlets and yellows, and other light colors in sufficient variety to afford charming and strong contrast. In the hyacinths; reds, whites and blues afford ample chance for contrast. But do not plant double and single varieties promiscuously, because they happen to be of the color desired. Better keep each kind by itself. The same will apply to tulips, which show better in masses."

## HOW TO GROW THE TUBEROUS BEGONIA.

A PAPER READ BEFORE THE LINDSAY HORTICULTURAL SOCIETY

BY W. H. STEVENS, B. A.

IT may be of interest to know that the whole order of plants called Begonia was named after a French botanist Begon, and their introduction to European floriculture took place about a century ago, there being at that time only a few discovered.

The tuberous begonia was introduced into England early in the present century (1810) from South America. Peru, Brazil and Mexico are the native places of the plant. A few originated in Africa, the West Indies, and other warm countries.

The plant may be secured from most Canadian and American florists and seedsmen. The special features that recommend them are the foliage and the various colors of the flowers, shading from pure white to pink and deep crimson; from pale yellow to orange, and from almost brown to bronze.

There are two varieties of tuberous begonias, the erect and the drooping. The latter are especially adapted for window boxes and hanging baskets placed in partially-shaded places, protected from strong winds.

The easiest way to secure a plant is by join-

ing the Lindsay Horticultural society, the next easiest way is to buy the tubers from some reliable florist.

The plants should be secured early in March, and if you can command a temperature from 60 to 70 degrees, start the growth at once. Secure a flat box, say 2½ to 3 inches in depth, with holes bored in the bottom for drainage. Put about half an inch of sand in the box first, so as to cover the bottom evenly. Then place in the bulbs, and sift in dry sand to almost cover the bulbs, water well, and even up any holes

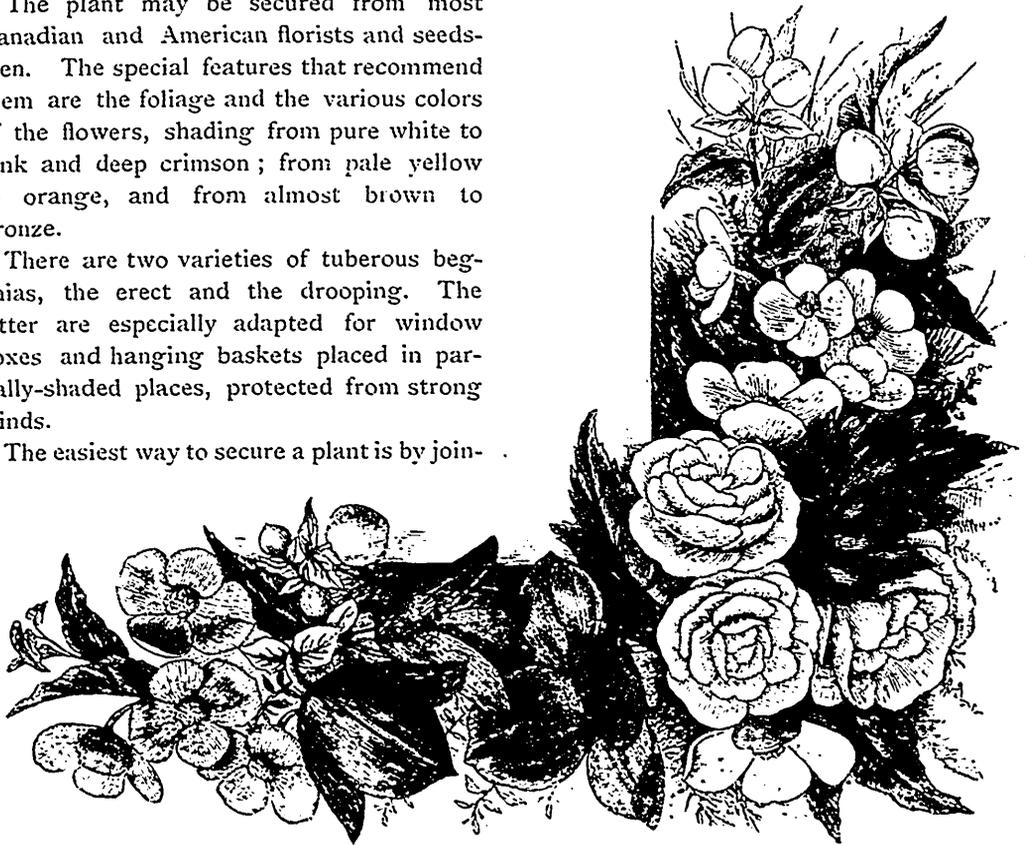


FIG. 2155.

with dry sand, and water again. The bulbs should be barely showing through the sand. Place the box in a warm position near the glass where the sun at midday does not strike directly on it, and in about ten days, a tuber or two may be carefully raised from the sand: if small fibrous roots about an inch long are showing, the tuber is ready for potting. In potting use well-drained pots not too small. A tuber one inch in diameter requires a six inch pot. Very large tubers may require a nine or ten-inch pot, as it is best to have the pot large enough so that transplanting may not be necessary. Repotting is a dangerous process on account of the great number of fibrous roots formed. Care must taken in potting the tubers, not to injure the young fibrous roots, by pressing the soil too closely around them.

In growing, the plants do not require a high temperature, not more than 50 or 60 degrees, to produce stocky plants with good foliage.

Give the plants plenty of fresh air, and do not water the leaves, as the rough spinky surface retains the water and may spot or even rot the leaves.

The tuberous begonias may be propagated from cuttings with fairly good success, in pots or in pans well drained and about half

filled with loamy potting soil, mixed with a small proportion of sand. Then fill the pot up with nearly level with sand. The surplus growth of a large tuber may be utilized for cuttings.

The plan of getting the cutting, is to pull or break the growth away from the tuber, for the base of the branch near it takes root more easily as it is always partly callosed when taken off.

If there are any flower buds on the cutting, pinch them off, and be careful not to bruise the cutting in putting it into the soil. The cuttings when first started require a warm situation not fully exposed to the sun.

The begonia may also be propagated from the seed. The seed is small and requires some care in planting. Like other small seeds they must not be planted deep in the soil.

In the fall, about October, after tops have been slightly touched by the frost, but before the tubers are touched, take the plants up foliage and all, place them in boxes so deep that the tubers can be covered an inch deep with moist sand. Put the boxes in a dry cool place, 40 or 50 degrees, and withhold water gradually until the foliage drops away of itself from the tubers, then stop watering till the next spring.





## The Canadian Horticulturist

COPY for journal should reach the editor as early in the month as possible, never later than the 15th.  
**SUBSCRIPTION PRICE**, \$1.00 per year, entitling the subscriber to membership of the Fruit Growers' Association of Ontario and all its privileges, including a copy of its valuable Annual Report, and a share in its annual distribution of plants and trees.

**REMITTANCES** by Registered Letter or Post-Office Order are at our risk. Receipts will be acknowledged upon the Address Label.

**ADVERTISING RATES** quoted on application. Circulation, 5,500 copies per month. Copy received up to 20th.

**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.

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

**DISCONTINUANCES**.—Remember that the publisher must be notified by letter or post-card when a subscriber wishes his paper stopped. All arrearages must be paid. Returning your paper will not enable us to discontinue it, as we cannot find your name on our books unless your Post-Office address is given. Societies should send in their revised lists in January, if possible, otherwise we take it for granted that all will continue members.

### NOTES AND COMMENTS.

**ANNUAL MEETING**.—It is proposed to hold our Annual Meeting at Cobourg, the 18th, 19th and 20th of December.

**A FINE STRAWBERRY YIELD**.—Mr. Sollitt, of Orillia, picked three thousand six hundred and fifty boxes of strawberries off an acre of land, and netted \$200 for them.

**GRAPES AT LISTOWEL** are better than represented in our report of Perth County. Mr. A. J. Collins says: "The grape crop there is unusually good in this section. I expect to have grapes to sell besides supplying myself and making wine. I am very doubtful if the crop of plums will reach expectations as although the prospect was good a short time ago they are dropping fast now and rotting. The Green Mountain grape sent out by the society some years ago is fruiting with me this year for the first time and

shows some very nice bunches; the fruit is already showing signs of early ripening being quite soft to the touch."

**NEW FRUITS**.—We have just received (August 13th) from Wm. Fleming, Owen Sound, a package of fruit with the following note:

SIR,—I send you first a box of **STRAWBERRY RASPBERRY**. This fruit sells readily here to the trade at 10 cents a box. The Seldon House, Owen Sound, order ten boxes at that price for use to-day. I cannot supply the demand for them. Second, I send you some branches of **JOCelyn GOOSEBERRY**. I sold forty baskets of these to the trade this season at 75 cents each. I have had them five years, and they are free of mildew, and the plant is very productive.

The strawberry raspberry is a large, fine attractive berry. We have grown it two or three years at Maplehurst, but we do not think it would prove of great commercial value, because the quality is inferior.

The samples of Jocelyn gooseberry are

very fine, and the branches are laden with the fruit. They are red like Industry, about the same size, but apparently more free from mildew and much more productive.

Possibly this would be worthy of general distribution by our Association.

MISS ORMEROD.—With great regret we chronicle the passing away of one of the most prominent women scientists of the age, Miss Eleanor Ormerod, who died at St. Albans, England, on the 19th July. The Gardener's Chronicle says: "Her death removes from among us one who rendered great service by making the knowledge of the men of science available for practical purposes. Indeed, her life was for many years devoted to the interests of agriculturists. She was the youngest daughter of George Ormerod, D. C. L., F. R. S., of Sedbury, Gloucestershire, the well-known author of the *History of Cheshire*. Three and thirty years ago she gained the Silver Flora Medal of the Royal Horticultural Society for specimens, drawings and models, illustrative of insect depredations. In conjunction with the late Andrew Murray, she formed the collections of economic entomology now in the Bethnal Green Museum. She was the first lady Fellow of the Meteorological Society and edited a mass of important documents relating to weather and plants. Her *Manual of Injurious Insects and Methods of Prevention and Remedy for their Attack on Food Crops* enhanced her reputation; but she will be, perhaps, best known by her *Annual Reports and Observations on Injurious Farm Insects*, which she first began to issue a quarter of a century ago. She acted for many years as Consulting Entomologist to the Royal Agricultural Society, and was lately Additional Examiner in Agricultural Entomology at Edinburgh University; and rather more than two years ago the Société Nationale d'Acclimation de France awarded her the large silver medal

bearing the portrait of Geoffrey Saint Hilaire. The University of Edinburgh conferred on her the degree of L. L. D.; and the Royal Horticultural Society comparatively recently awarded her a Victoria Medal of Honour. For some years past Miss Ormerod had been an invalid, and for upwards of a month had been seriously ill."

THE WORLD'S FAIR AT ST. LOUIS IN 1903.—One would think that these immense expositions would weary their patrons, and that promoters would shrink from such deep undertakings, but instead we find World's Fairs are becoming more popular. An organization has already been completed, and a Committee on Agriculture has been appointed, consisting of seven members, who have the immediate supervision of all matters pertaining to agriculture, in connection with the Exposition. This committee has issued the following plan for this grand exposition:

The foundation plan of St. Louis World's Fair will be that of an exposition both national and international in its character, so that not only the people of the Louisiana Purchase Territory, but of our Union, and all the nations as well, can participate. It will be so projected and developed as to ensure the active interest of all the peoples of the world and induce their participation upon a scale without parallel in any previous exposition.

It will present in a special degree, and in the most comprehensive manner, the history, the resources, and the development of the States and Territories lying within the boundaries of the Louisiana purchase, showing what it was and what it is; what it contained and produced in 1803; what it contains and produces in 1903.

It will make it plain that the prophecy of 1803 has been more than fulfilled, and show that a veritable empire now lies between the Gulf of Mexico and Puget Sound, within the limits of the territory, Jefferson obtained by the Louisiana Purchase.

It will show the history, resources and development of the colonies and possessions of the United States, including Porto Rico, Alaska, Hawaii, Samoa, Guam and the Philippines. It will embrace in a similar portrayal Cuba and any other country which may enjoy the special and exceptional protection and guardianship of the United States.

It will depart from the plan of all past expositions and make life and movement its distinguishing and marked characteristics. To this end it will aim definitely at an exhibition of man as well as the works of man, at the presentation of manufacturing industries in actual conduct as well as

the machines out of action; at the exhibition of processes as well as of completed products.

It will carefully plan in the location, the construction and arrangement of all buildings and works so as to assure the highest degree of convenience, ease and comfort for visitors who come to inspect the wonders contained within its enclosure. It will make it both easy and comfortable to get to the Exposition Grounds from every quarter of the city and from every railway terminating in St. Louis. It will in like manner make it easy and comfortable to move about the Exposition Grounds, and to pass from building to building and from point to point within every building of large area. In short it will make the transportation of visitors the subject of special study and spare no expense in the solving of this vital problem, so that the St. Louis World's Fair may go down in history as the first great international exhibition which a visitor could inspect without enduring fatigue and hardship.

Finally, it will embody and illustrate the latest and most advanced progress in the employment of the energies of nature. It will be up-to-date in the use of all new motive forces, and be fully abreast with science in the utilization of every novel invention or discovery that has practical value.

**GOOD STRAWBERRIES.**—Mr. S. F. Powell, of Briar Cliff, N. Y., addressed the New York Horticultural Society at its last meeting on this subject, and among some of the important factors in strawberry growing he gave the following factors in strawberry culture:

First, deep rich soil; second, clean culture; third, selection of suitable varieties; fourth, frequent renewing of the plants.

After touching on the preparation of the soil, the necessity for securing fertilization of the pistillate sorts and a general description of hills versus matted rows, the lecturer proceeded to enumerate varieties.

For early he recommended Johnson's Early, Excelsior, Crescent and Carrie; for mid-season, William Belt, Gibson, Cumberland, Marshall and Brandywine; for late, Parker Earle and Parker Earle Improved, Gandy and Kentucky Seedling.

Johnson's Early was very highly spoken of, and a favorable future predicted. For those who liked an acid flavor, Crescent was certain to be remembered. Marshall was a profitable berry for home use. It was profitable only under a very high culture and would not give anything like adequate return if suffering from the slightest neglect; it preferred a heavy soil. Brandywine was commended for its fine flavor. Parker Earle Improved must be grown in hills; it was such a prolific bearer that it was utterly unsuited for a matted row or half-matted row culture.

But although giving the foregoing list of varieties, it was insisted that no grower could determine what was best suited to his own conditions without trial. Therefore, the strawberry raiser must test varieties until he found what answers his requirements; and it was the opinion of the speaker

that in the future quality would count more and more. Bubach to-day, the most largely grown of all varieties, he placed at the very bottom of the list in point of merit.

For fertilizer—and the strawberry requires an abundance of food—use a mixture comprising 10 per cent. potash, 8 per cent. phosphoric acid and 3 to 5 per cent. ammonia.

The best possible preparation that can be made is that of clover culture. First secure a growth of red clover. The second year cut the first growth, and about August 1 plow the second in. After very thorough tillage, sow twelve pounds of crimson clover seed per acre, which will add another great mass of roots to the soil, the decomposition of which enables it to hold a much greater amount of water.

To obtain the finest berries, the soil must be fully supplied with vegetable matter, and clover not only supplies this, but furnishes the necessary nitrogen at the smallest possible cost.

Samples of medium red and crimson clover were shown and upon their roots the sacs or modules producing nitrogen were pointed out, and the manner in which the soil was improved by them.

The control of the energies of the plant is of vital importance. If allowed to form large quantities of new plants, the yield of fruit will be greatly reduced; hence runners must be frequently cut.



FIG. 2156. PITCHER PLANT.

**PITCHER PLANTS.**—The above photo is a group of trumpets or pitcher plants and fly traps growing by Mr. Walter T. Ross, Secretary of the Picton Horticultural Society. The Venus' Fly Traps are decidedly carnivorous plants, it is very interesting to see them catch flies, and the traps open again in a couple of days ready to catch more. They

are difficult to grow, and are said to be found only in one place in the world."

**POINTS IN PEACH CULTURE.**—Mr. J. H. Hale in Rural New Yorker, gives points for the soil and tree in peach culture. He advises thirteen feet apart as the distance with which he has had the best results, when attended with close pruning; but for general planting and ordinary pruning from 18 to 22 feet is the best distance. Catch crops should not be planted in the young orchard, but instead 12 to 15 good cultivations given.

During the first 2 years, after a month or 6 weeks of thorough cultivation, cowpeas may be seeded over two-thirds the space between the rows, leaving space each side of the trees for single-horse cultivation for 2 months more. The pea vines should be left in the ground over winter as a mulch. After the first 2 years, the whole space between the rows should be cultivated up to the last of July or first of August, and then seeded completely with 15 or 20 lbs. of

clover for winter protection of the peach roots. The clover should be plowed under in the early spring before much growth takes place.

In pruning a light open head is desired. The first season's growth should not be shortened too much, but the second season all the strongest branches may be literally shortened, leaving the side branches to spread so as to make a broad low head. In case it seems best not to cut a leader entirely away, never cut back to a dormant bud, but always to some side branches; these will slowly take on growth and fruiting strength and check the upward tendency of growth that is sure to follow the cutting back of a strong peach limb to a dormant bud. Not much attention need be paid the side branches; they will never make leaders, and in the author's opinion it is a mistake to do so. A tree pruned as here suggested should give three-fourths of its fruit near enough to the ground so that it can be gathered without a ladder.

## QUESTION DRAWER.

### Blackberries.

1237 SIR,—How and when should blackberries be pruned for best results, and when should the old wood be taken out?

Nicolston.

W. V. MILLER.

We usually pinch the terminal shoots towards the end of August to check the growth and cause the canes to more fully ripen than if allowed to grow undisturbed. Another object is to encourage the growth of laterals. Four or five feet is high enough for the canes to be allowed to grow, and for the laterals one foot is long enough. Thus pruned, the canes will stand up without support, and allow of horse and man to pass through between the rows in cultivation.

The old wood may be taken out as soon

as fruiting season is over or about the same time the young shoots are headed back, or the work may be done at any time most convenient in the winter or early spring.

### Shot Hole Fungus.

1238. SIR.—Please find enclosed sample leaves off my plum orchard. I sprayed three times with Bordeaux mixture this year. The leaves nearly all fell off last fall before the fruit was ripe and I am afraid they will do the same this fall. What could I do to keep them healthy—trees are six years old and bearing nicely.

Kingscourt.

O. F. BIRCHARD.

The leaves enclosed by our correspondent are riddled with small, round holes, as if made with small shot, for which reason this disease has been called the shot hole fungus.

It is known to scientists as *Septoria Cerasina*. It attacks the foliage of both the plum and the cherry, and, though not usually so serious as in the case before us, inflicts considerable injury by interfering with the proper function of the leaves, or by causing them to drop prematurely. The leaves attacked first show dark purple spots, visible on both sides, from one twenty-fourth to one-eighth of an inch in diameter. The tissue covering these spots soon become dead brown in color and finally drops off from the leaf entirely, leaving numerous clear-cut, round holes, such as are well shown in Fig. 2157.

Under the microscope we may detect, upon the under surface, very minute black spots. These spots are the fruit of the fungus-like capsules in which the spores of

be a preventive one; for which we would advise thorough spraying with Bordeaux mixture several times; the early part of the season, beginning about the time the leaf buds begin to open.

#### New Strawberries.

1239. *STR.*—Of strawberries I have Williams, Wilson, Marshall, and a few Clyde. This spring I set  $\frac{1}{2}$  acre of strawberries. I want a good berry, an out and out red. Those pinkish ones I do not fancy. Please name the best early prolific variety that is a good shipper. If I had early strawberries I could get good prices, as it was I was first on the list, and got 10 to 12 cents for the first couple of pickings; but that finished the good prices and then I got 7 to 8 cents. Last year I had over 6000 baskets, which ran from 7 to 9 cents a basket. What is the Bubach like, and where can plants be got.

Nicolston.

D. V. MILLER.

The past season has brought before the public several new and very promising varieties of strawberries, the progressive

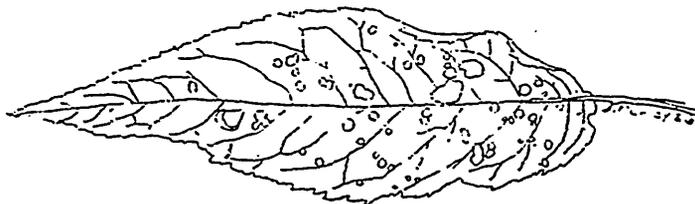


FIG. 2157. SHOT HOLE FUNGUS.

the fungus are produced in great abundance. These very slender, many times longer than broad, and quite transparent. Each spore is divided by cross walls into two or more cells, each of which is capable of producing a new parasite. The spores live through the winter on the old leaves, and thus serve to propagate the fungus in early spring.

In Vol. XIII, p. 316, may be seen an illustration of a highly magnified section through the leaf, including one of the spore capsules above described, and at *a* above are shown some spores still more highly magnified.

Nothing can be done at this season beyond destroying in some way, if possible, the old leaves. The best treatment, however, will

grower is always on the look out for something better than he has.

One of the best new ones is August Luther, judging from one year's fruiting. It was claimed for it that it was earlier than Michels Early; I planted it side by side with the same number of Michels, gave it the same care and attention on the same soil, and this Spring when blossom time came, the Michels was in bloom three days before the August Luther; I then thought that the claim made for it was not going to be carried out, at least not with me and my soil, but when fruiting time came I find by my notes, that the first ripe was August Luther, ripe on June 10th, and that Michel was not ripe before June the 12th, so that it would appear

that it takes the August Luther several days less time to mature and ripen its fruit from the blossom time than it does the Michel; that is a distinct advantage, for being in bloom two days behind the Michel, it may miss an early frost that so often hurts the Michel, and then ripen its fruit much earlier than the Michel under those conditions. This season there was a frost but it did no injury to speak of to the Michel; it cut a flower or two in some places.

The August Luther has perfect flower, is healthy, as vigorous a grower as the Michel.

The plant is more productive than Michel, good size and shape, somewhat like Michel but larger and with a slight neck, ripens all over at once. I am pleased with it after one years fruiting.

The Senator Dunlop is a staminate or perfect flowering variety; the first ripe were picked on June 15th, five days after the August Luther, and three days after the Michel. It grows very much like the old Crescent, makes a good wide row of healthy plants. If I am able to judge after one years fruiting, I am convinced that it is the coming market berry. It resembles in shape and color the old Wilson, the berry is solid and very firm and large. I feel sure it will be a good shipper, I believe market growers will find the Senator Dunlop a great acquisition.

I would like just to mention another fine new variety that I was very much pleased with the past season. The Miller, a perfect bloomer; the plant is very large, as large as any variety I know, is very productive, the berry was very large and first ripe June 21st or 6 days after Senator Dunlop; the berry is bright red, and borne on very strong fruit stems. It comes when large berries are needed, it is medium in firmness, it was ripe one day before the Williams, is much larger, and is one well worthy of a trial. The past season was in many respects a very favorable one, notwith-

standing the very wet and cold time during the blooming season.

Jordan.

E. B. STEVENSON.

#### Best Raspberries and Gooseberries.

1240. SIR,—Please name the best raspberries and gooseberries. We have Cuthbert and Golden Queen, which have not paid us yet. In blacks we have Ohio, Palmer and Mills. W. V. M.

This is a difficult question owing to difference of conditions. In the Niagara district we still find Marlboro and Cuthbert, the two leading varieties of red raspberries for profit, the former for early market and the latter for late. The Golden Queen is unprofitable. At the Geneva station in 1896, Cline, Pomona and Marlboro produced the most early fruit, the respective yields per acre being 2,540 lbs., 2,480 lbs. and 2,050 lbs.; and among the best midseason varieties are London, Cuthbert, Royal Church and Kenyon, ranking productiveness in the order mentioned, the first giving a yield of 8,280 lbs. per acre and the latter 6,620.

The only late berry considered worthy of mention is the Talbot, which gave a total yield of only 1,540 lbs. per acre, about one-third of which was really late in season.

Of black cap raspberries we have great hopes of the Cumberland sent out this year by our association.

Palmer and Pioneer lead at Geneva in the amount of early yield with 3,760 lbs. and 2,570 lbs. per acre before midseason began, and a total of the whole season of Pioneer, 7,550 lbs.; Palmer, 7,080 lbs.; Hillborn and Mills were later and gave total yields of 6,870 and 6,330 lbs. respectively.

Of gooseberries, the Pearl is the leading variety for quantity, but there seems to be no money in growing gooseberries unless we can succeed with such large English varieties as Whitesmith and Crown Bob. No doubt if any person were to plant on a shady moist soil, such as is afforded by the northern slope of the Niagara escarpment, he might attain some success.

**Book on Small Fruits.**

1241. SIR.—Please say what is the best book on small fruits.  
W. V. M., Nicolston, Ont.

Andrew S. Fuller has published a book entitled "Small Fruit Culturist," which covers this ground very well in a general way, price \$1.00; also one called "Strawberry Culturist," giving full information for the cultivation of this fruit, price 25c. These may be had from this office.

An interesting work in the strawberry, Terrey's A.B.C., on strawberry culture may had of A. J. Root, Medina, O., for 25 cents.

1242. SIR.—Please give name of best early berry for prolific bearing and good shipper?

Nicolston, Ont.

WM. V. MILLER.

Where the Michel's Early has suitable conditions as to soil, etc., it is one of the most profitable early berries; at Jordan it is grown largely by some and it pays well, but it must have a certain kind of soil to be successful, for where it succeeds well in one place there are nine others where it is not worth growing. The Van Deman is almost as early, is larger, better color and quality and does very well in some sections. There are some new varieties claiming attention as extra early, such as August Luther and Johnston's early, but they have fruited only once with me, and have done well. The Excelsior is another early one that does very well in some soils. The Beder Wood is another early that some growers like best as an early berry, it is a good grower., productive not as firm as some, but a good one on many soils.

1243. SIR.—What is the Bubach like?

Nicolston, Ont.

WM. V. MILLER.

The Bubach is one of the best for mid-season, is one of the largest, is quite productive, strong, healthy plant. If your market is not far off the Bubach is the very

best to grow with the Clyde as a fertilizer as both bloom about same season.

For early berries you cannot go wrong in planting any of the following: Van Deman, Michel's Early, Beder Wood, Excelsior, Splendid, Homeland, Clyde, and find out for yourself which suits your soil best then grow that variety. Any dealer in plants has all these kinds listed.

Jordan.

E. B. STEVENSON.

**Crown Grafting.**

1244. SIR.—In the August issue of the Horticulturist, (see page 347) A. B. Carman asks if it is perfectly safe to cut off trees 5 to 8 inches in diameter, 3 to 5 feet from the ground and crown graft. In answer you do not say, no, emphatically, but at least leave it an open question. Whatever may be the conditions in Ontario; in this Province an orchardist who would cut a tree five inches in diameter, three to five feet from the ground, to crown graft, would be considered a fit subject for the lunatic asylum, and to the man who cut an eight inch tree his friends would at once apply to the Court to appoint a guardian. Personally we have lost a number of trees not as large as the smaller size mentioned, through cutting too large limbs for top grafting, and have learned from dear experience to cut sparingly of leading branches, and not check growth too suddenly.

In the natural orange groves of Florida, I have seen trees five to eight inches in diameter budded three feet from the ground, when the bud is fairly staked the tree is cut two thirds off and tipped over leaving it hanging to the stump. In a few months the bud has grown six or eight feet long, then the top is entirely removed, the stump trimmed up and covered with wax. In perhaps fifty per cent. of operations, this will in a few years make a perfect union, but in many cases there is a cankerous joint remaining. Such a method is however too radical for the low growing apple. There is an object lesson along this line now in progress in this county (Kings) which may be noted with interest. On the night of the 15th of June just passed, some desperados entered the orchard of Mr. A. D. Nichols of Aylesford, and with a saw cut off some thirty or forty trees. These trees were set some ten years and the largest were barely five inches in diameter. The miscreants supposed they had accomplished complete destruction. Mr. Nichols however grafted the stumps immediately and is hoping to save some of the trees thus wantonly destroyed.

For those interested in knowing the reason of things, I might say that Mr. Nichols is County inspector, under the Canada Temperance Act, and is an energetic officer. Down here in the east where we grow apple trees as a business, we think a grafter to succeed needs sound judgment and experience. I will venture to say, that if friend Carman turns "anybody" loose, in an orchard of

apple trees five to eight inches in diameter to crown graft, armed only with "a scion, some string and paper, mud, and a sharp saw," he will spend considerable time in the near future removing apple tree stumps, and will live to curse the day he tried such an operation.

S. C. PARKER,

Berwick, Nova Scotia.

Mr. Parker's remarks are mostly in place. We have so often written up this subject that it seemed almost superfluous to go into details showing the importance of removing only a portion of the top in any one season, and of leaving a sufficient quantity for foliage to continue the vigorous circulation of the sap while the graft is uniting, that we simply answered comparing methods.

We have at Maplehurst forty apple trees that were crown grafted about ten years ago by the writer, and each year are producing fine crops of Duchess and Yellow Transparent apples, and the work was done just in the manner that Mr. Parker despises, with "scion, string, mud, paper and a sharp saw." Three of the limbs on each tree 4 or 5 inches in diameter, were cut just above the crotch, leaving of course enough limbs with foliage

to continue the vigor of the tree. We set about half a dozen scions in each stub, which soon covered the cut with young growth, and the union was perfect.

While we agree with Mr. Parker that it is best to remove only a portion of the top each season, here in Ontario, where the growth is more vigorous than in Nova Scotia, even the "lunatic" who cuts off the whole top at once, will often succeed. We have three or four examples at Maplehurst of pear trees so treated, some five, some ten feet from the ground, that are to-day in full bearing and the place of the union can hardly be traced.

#### Simons Plum.

1245. SIR,—You will find enclosed fruit for name. The tree grows much like a peach, and the fruit is on the limbs different from the way other fruits grow.

Owen Sound.

M. FORHAN.

This is the Simons plum, which was distributed by our Association some years ago. It is of little real use, and the tree is short lived.

## Open Letters.

### The Fruit Marks Act.

SIR,—The remark with which you close your note on my letter in the last Horticulturist shows that you do not fully apprehend the present state of the law regarding the grading of apples. We have not to look to the future for "definite grades which will form a basis of sale to foreign buyers." Here is the law as it now stands:

No. 1 Inspected Canadian apples shall consist of well grown specimens of one variety of nearly uniform size, of good color, sound, free from scab, wormholes and bruises and properly packed.

No. 2 Inspected Canadian apples shall consist of specimens of one variety, reasonably free from the defects mentioned in class No. 1, but which on account of inequality of size, lack of color or other defects could not be included in that class "

*See Victoria 56, Chap. 35, Section 1.*

I think you will agree with me that these are well defined grades and that they furnish a basis for foreign sales.

The principal merit of *The Fruit Marks Act*,

1901, consists in the foundation which it lays for the prosecution of those who mark fruit packages falsely, or who by facing the packages with superior fruit give a decidedly false representation of the contents. It does not lower the standard, but it furnishes a good basis for proceedings under the Criminal Code against flagrant offenders.

The weakness of the Act consists in the fact that the inspection which it authorizes is not to be made under the General Inspection Act which provides for the appointment of only qualified inspectors.

Your remark that 80 or 90 per cent of Canadian apples, as usually packed by speculators, are blemished, is in my opinion unwarranted, and is calculated to injure the fruit trade of Canada. Here is what Prof. Robertson, Commissioner of Agriculture, said in 1898 on this point in giving evidence before the House of Commons Committee of Colonization and Agriculture

"On the whole in England I did not find more than two or three per cent of the apples not honestly packed; I mean by that, barrels that are faced by fine apples and filled with poor ones. There

has been a large percentage of apples landed in Liverpool in a damaged condition by heating on the voyage or otherwise, but I do not think that more than two or three per cent were packed dishonestly."

This may be an under-estimate and it is certain that a great deal of bad packing is done for the home market. The true remedy, however, cannot be found in lowering the standard, mixing 10 or 20 per cent of culls with the best fruit and marking the packages A No. 1 or No. 1. The Parliament of Canada could legalize such a method of packing and marking, but it could not make it honest.

There is no reason why culls, as such, should not be sold at their face value

I am not, as you assume, entirely without experience in packing apples for export. I am sincerely yours,

D. FERGUSON.

Tulloch ave., Charlottetown, P.E.I.,

Aug. 19, 1901.

We have to thank the Hon. D. Ferguson for calling our attention to the wording of Section 1, Chap. 35, Victoria 56, which was originally prepared by the writer and published in this journal in Vol. 15, C.H., page 129.

In our draft of grades prepared ten years later, we thought we had made some improvement in the wording. First the name of the grades was objectionable.

The term No. 2 is now commonly applied to apples which are so blemished that they are unfit for export and only be sold for the evaporator or the cider mill. So we proposed to establish two special grades of export apples, A1 which means

'Well-grown specimens of one variety, sound, of nearly uniform size, of good color for the variety, of normal shape and not less than ninety per cent

free from scab, worm holes, bruises and other defects, properly packed and marked in a plain and indelible manner with the minimum size of the fruit in inches (or fraction thereof) across the core of the fruit,"

And No. 1 which means

"Specimens of one variety, sound, of fairly uniform size and not less than eighty per cent free from scab, worm holes, bruises and other defects, properly packed and marked in a plain and indelible manner with the minimum size of the fruit in inches (or fraction thereof) across the core of the fruit.

Now possibly our honorable friend is correct in saying that we should make no allowance for even a small percentage of imperfect samples, but, in such a case if an inspector were very exacting, we fear that even some of the barrels packed by our honorable friend might be found at least slightly lacking in perfection.

In our opinion the most important part of the whole thing is the requirement that the *minimum size* of the fruit be marked on the head and this has been entirely eliminated.

Our first thought was that all A1 apples should be 2½ inches and upwards in diameter, and this really the best plan; but perhaps A1 Snow apples and some other small kinds would not reach that size, and therefore we have contented ourselves with asking to have the minimum diameter in each case marked on the barrel, separate from the grade mark.

## Our Affiliated Societies.

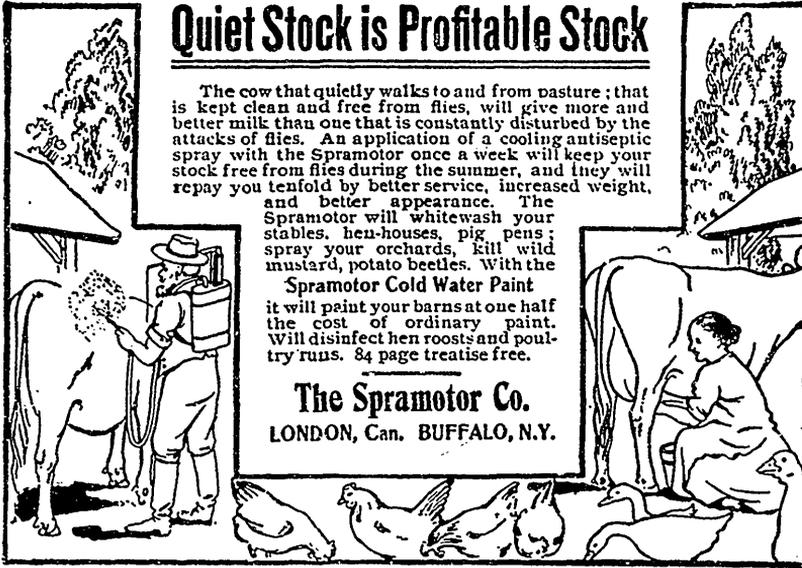
ORILLIA.—At a meeting of the joint committee of the Board of Trade, the Town Council and the Horticultural Society, held on Monday evening, the condition of the streets, boulevards, etc., was considered, and it was resolved that, whereas, a large number of the members of this committee were present at a meeting of the Town Council in the month of June, and at the said Town Council meeting the views of this committee were urged on the attention of the Council, and subsequently a promise was made by the members of the Council that certain lines should be followed in dealing with the planting and pruning of shade trees and

the care of the boulevards, and that an overseer of shade trees should be employed, and that boxes for the reception of waste paper should be placed at various points in town, this committee now regrets to find that none of the measures promised by the Council have been carried into effect, and we would again respectfully urge upon the Council the necessity of at once giving the matter of proper care of the streets and boulevards such a measure of immediate attention as will make them more attractive, in view of the numerous summer visitors who may be expected to arrive in town during the coming weeks.

## Quiet Stock is Profitable Stock

The cow that quietly walks to and from pasture; that is kept clean and free from flies, will give more and better milk than one that is constantly disturbed by the attacks of flies. An application of a cooling antiseptic spray with the Spramotor once a week will keep your stock free from flies during the summer, and they will repay you tenfold by better service, increased weight, and better appearance. The Spramotor will whitewash your stables, hen-houses, pig pens; spray your orchards. Kill wild mustard, potato beetles. With the Spramotor Cold Water Paint it will paint your barns at one half the cost of ordinary paint. Will disinfect hen roosts and poultry runs. 84 page treatise free.

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## FRUIT FARM FOR SALE

Beautifully situated in the town of **Burlington, Ontario**. Farm of 6½ acres, stock with fruit and in splendid condition. Easy access to Hamilton by Electric Railway.

Front of lot is on Water street and about 100 yards from Lake Ontario. House, barn and henery on farm, 1 acre of raspberries, 1 acre of strawberries, ½ acre of blackberries, 6,500 currant bushes, 150 large grape vines, 56 large apple trees, gooseberries, etc., 1,500 cherry, peach, pear, and plum trees. For terms apply to

**WILLIAM PECK,**  
Burlington, Ont.

### Ontario Ladies' College.

The new illustrated calendar of the Ontario Ladies' College, Whitby, is issued. It is exceptionally neat and complete. Across the outside cover is a double band of two shades of blue representing the college colors, whilst the interior contains numerous cuts illustrating the College buildings and grounds. For some years the Ontario Ladies' College has been recognized as one of our most efficient and progressive institutions, with a large and increasing patronage, and a single glance at its staff, its course of study, its up-to-date equipment, its pleasant, healthful surroundings will reveal the secret of its popularity and success. The College stands for sound scholarship, physical health and that type of social culture that grows in a Christian atmosphere. The Rev. Dr. Hare has been Principal of the College since its inauguration twenty-seven years ago, and will be pleased to give further information to those who may desire it.

The Gould Shapely & Muir Co., Limited of Brantford, report that their new line of "IDEAL" Gas and Gasoline Engines is proving very successful. Not only are the engines running perfectly and giving the utmost satisfaction, but orders are coming as fast as they can be handled. The firm is putting in still further additions of up-to-date machinery and doing everything possible to meet the large demand for their engine.

## MAZZARD CHERRY SEED

Fresh Crop. Best Quality.

Write for prices on all fruit seeds, and Raffia.

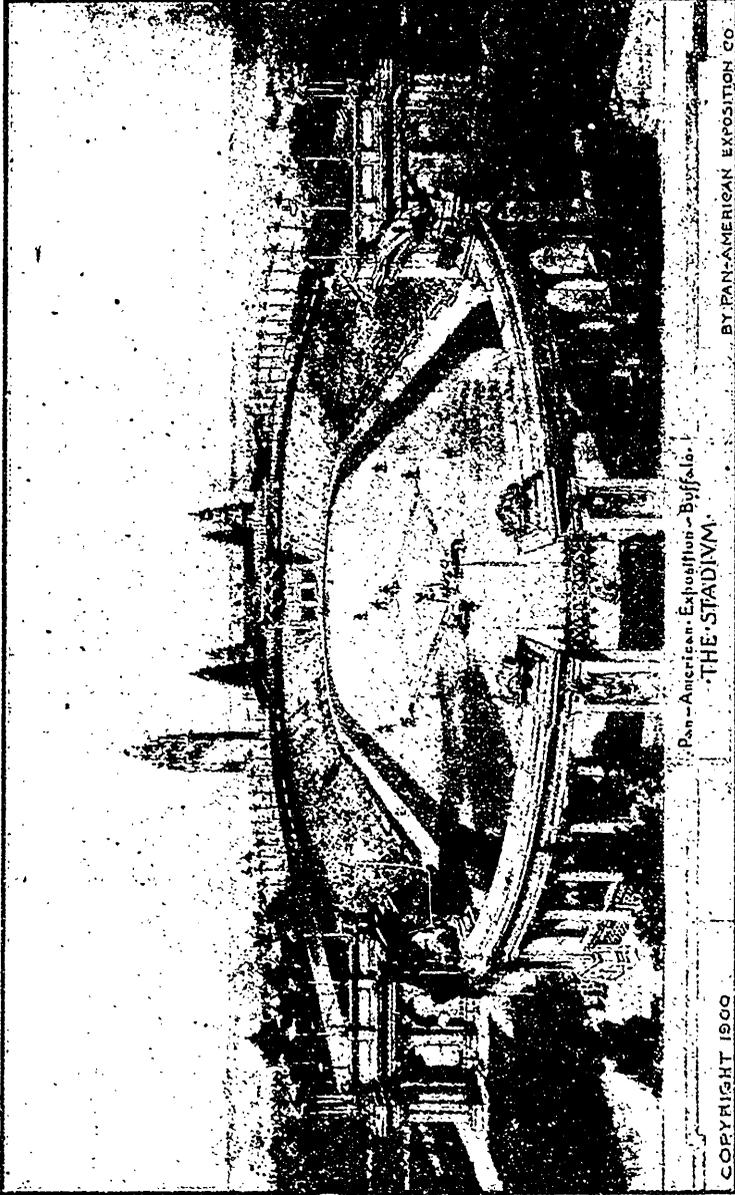
**THOMAS MEEHAN & SONS,**  
Nurserymen & Tree Seedmen,  
Germantown, Phila. Pa.

### The Strawberry Tomato.

This distinct husk tomato is unequalled for canning, preserving, or for making pies. Dried in sugar as raisins or figs, or used in fruit cakes they are unexcelled. They are of a handsome golden color and the size of large cherries, are very productive and if left in the husks will keep all winter.

They have a decidedly strawberry flavor and by many people they are considered equal to that fruit for eating fresh. This tomato is indispensable where fruit is scarce or likely to fail. They are beautiful rapid growers and yield a very large amount of fruit. It is perennial and a native of South America.

Grizzly Flats, California. S. L. WATKINS.



STADIUM. PAN-AMERICAN EXPOSITION.

In the Stadium will be seats for 12,000 people. It contains a quarter-mile racing track and ample space for all the popular athletic games. Here also will be the displays of live stock, automobiles and other road vehicles, farm and road machinery in motion. The large space beneath the seats will be used for exhibits.