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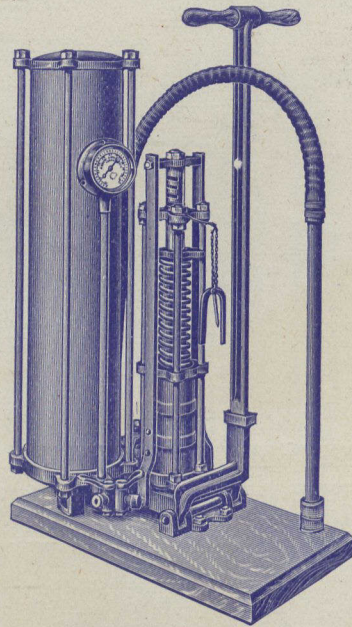
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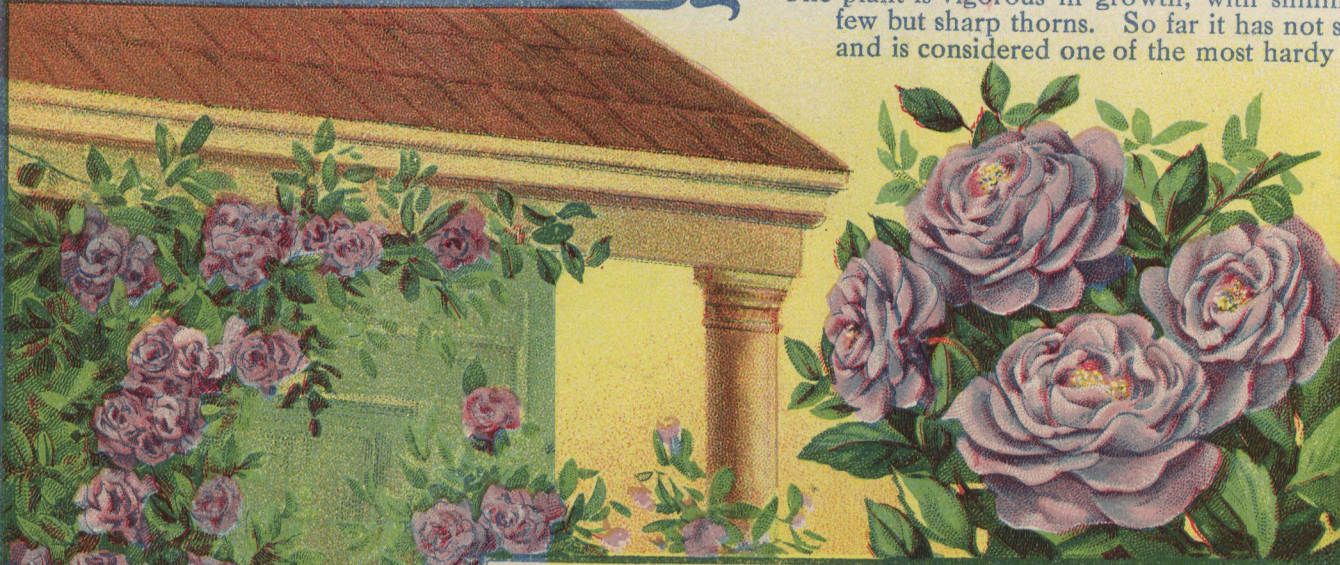
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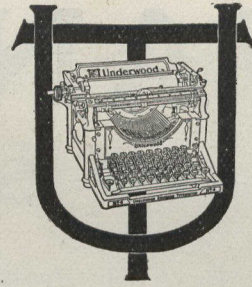
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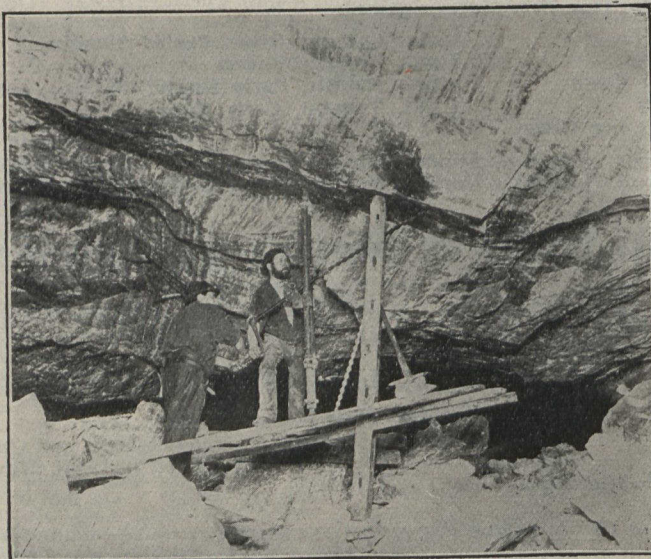
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The Canadian Horticulturist

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Scene in Niagara District Cover
 Photograph by P. W. Hodgetts, Toronto.

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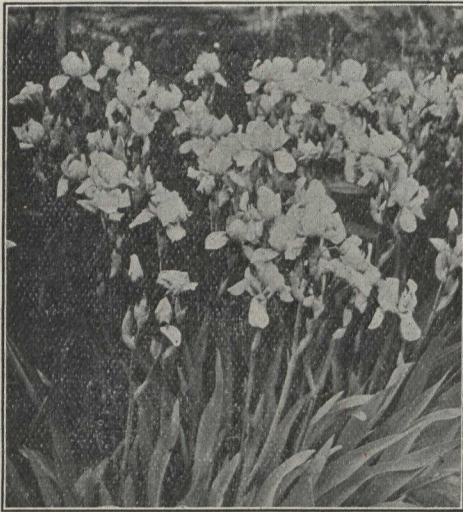
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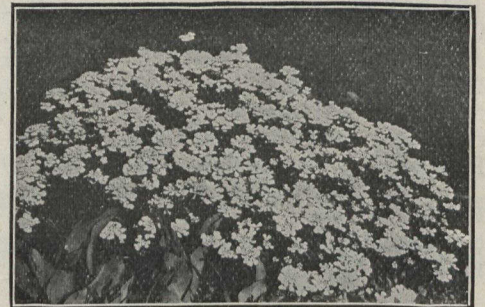
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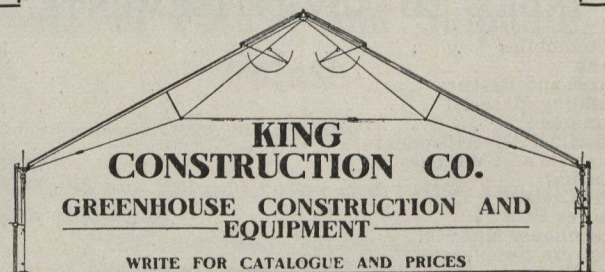
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The Canadian Horticulturist

Vol. XXXIII

APRIL, 1910

No. 4

Small Fruits in the Young Orchard*

L. A. Hamilton, Lorne Park, Ontario

WHAT would you do with four acres of land if you wanted to engage in fruit raising? It is such a question as this that one is frequently called upon to answer. Speaking to a recent enquirer my reply was: "I would plant it out in young apple trees and between the rows would grow small fruits." This answer would, of course, not be applicable in every case, as the question of climate, soil, markets and like conditions must be taken into consideration. But speaking from the experience gained during the past six years in developing an orchard in the Clarkson district, this would be my answer.

In giving this opinion I would at the same time sound a note of warning; viz., that while the growing of small fruits in my orchard has been carried on successfully and profitably, it is impossible to say yet how far the future life of the fruit trees has been impaired by this process. In other words, while the ground crop has proved a success time only will show whether the main point aimed at—the developing of an orchard—could not have been better secured by some other practice.

For the purpose of bringing this subject before you in a practical way, let us take as an illustration one of the four-acre orchards on my farm. This was planted out in standard apple trees with fillers of cherries, plums, pears and peaches in the spring of 1904; the apple trees were set out in rows forty feet apart in a field that had been in clover the previous year. In 1905, one-third of the land was laid out in strawberries and raspberries, and the remainder in a hoe crop. In 1906, an additional area was added to the strawberry and raspberry plantation. The same practice was followed in the year 1907. By that time, therefore, the entire four acres either was bearing a small crop of fruit or was planted in readiness for the subsequent years. I estimate that the hoe crop produced from the land in these years was sufficient to pay for the cultivation.

The fruit gave me a gross selling value as follows: For 1906, \$282.68; for 1907, \$393.30; for 1908, \$1018.90; for 1909, \$1336.64—a total of \$3031.52.

From this deduct for commission, express and cartage, twenty per cent., \$606; picking, \$420; packages, \$175; fertilizers, \$160; plants, \$50; trees, \$50; planting, \$20—a total expense of \$1481. This leaves a profit of \$1550.52. I have already said that I put the value of the vegetables grown as a set off against cost of cultivation.

With one exception, viz., that I spray the strawberries with Bordeaux mixture,

for the first time, giving, although few in number, perfect samples. I have been told that the growing of raspberries in an orchard is not considered good practice. I have nothing as yet to show that they have been injurious to the young trees. Seven Spy apple trees were left standing after I put the pruning axe to the old orchard. These trees yielded twelve barrels of wormy apples in the year before the raspberries were planted; whereas, this year after living in the company of raspberry bushes for five years they gave me fifty barrels of sound apples, while the raspberries backed them up by adding 6000 boxes to the crop. This convinces me that apples and raspberries will feed off the same p'ate provided the food is there.

To sum up briefly the accounts show that by the practice of growing small fruits in the young orchard I have reared an orchard to the bearing point without costing anything and have a handsome profit of over \$1500 to its credit from the ground crop of small fruits.

Pruning Raspberries

Charles F. Sprott, Burnaby Lake, B. C.

In the winter following the planting of a raspberry plantation, if the plants have grown well, one has to decide what system is to be adopted for holding up the canes that are to fruit the following year. One way is to stake each plant. If this is done by putting the stake in between the plants and bending each plant over to a stake the fruiting canes are not mixed up with the suckers.

The best and most economical way of holding the suckers and fruiting canes in place is by a wire trellis system. Every twenty-five feet drive a post in the centre of the row and stretch tightly a wire (heavy baling wire will do) on each side of the post from end to end, stapling it about four feet from the ground. Tie the canes not more than three together to the wires, bending them over slightly so that the fruiting canes are away from the new canes, and cut the tops of the raspberries off about five or six feet from the ground. Do not leave more than six of the strongest canes to a root. Some growers recommend this bending over of the tips of the raspberry in an arch—

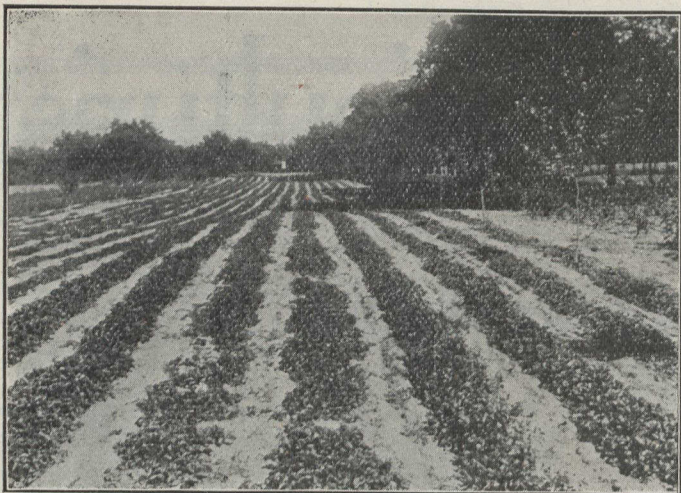
Elevates and Instructs

Editor, THE CANADIAN HORTICULTURIST.—Whilst your paper gives most valuable and practical articles on all branches of horticulture, I wish to congratulate you especially on being the pioneer Canadian paper to attempt to elevate the national character by instructing the populace on the aesthetics of garden work. I allude to your articles on ornamental and decorative gardening generally. "The boy is father of the man," and if the boy of the present generation is brought up amongst refined surroundings, and induced to take an interest in them, however far he may stray from these ideals in his youth, so surely as he gets his own home, will his early training return, and thus be perpetuated in the generations to come.—W. J. L. Hamilton, South Salt Spring, B. C.

I have followed the general practice of growers in my district. The strawberries are heavily mulched with straw manure for a winter covering, and two crops are invariably gathered before the plants are plowed up. The second crop on the strawberry bed in this orchard yielded this year over 12,000 boxes from an acre and a half. They were as fine a sample as I have ever grown. I consider the second crop more profitable than the first.

In the meantime, how have the apple trees fared? They have made a strong growth, the loss from all causes not exceeding ten per cent. This year, in addition to a crop of cherries, pears and plums on the fillers, two of the apple trees, an Ontario and a Duchess, fruited

*A paper read at the last convention of the Ontario Fruit Growers' Association. See illustration on next page.



Growing Strawberries in the Orchard

Spraying strawberries has been practised by Mr. Hamilton with much success. The illustration shows strawberries after spraying.

that is, not cutting them off—but in my judgement one gets a smaller sample and some of the berries are immature that grow at the tips of the canes.

The after culture of this fruit is principally to keep the ground well cultivated and the soil rich in plant food and the old canes cut out each season. It is well to cut the old canes off as low as possible. In the spring do not allow as large a number of suckers to grow. Keep only about seven or eight canes to each plant, later on leaving only six or less if these canes are not strong. If a further plantation is required a certain number must be left to transplant.

Top-working Peach Trees

W. O. Burgess, Queenston, Ont.

Three winters ago the tops of some of our peach trees, more especially those of the Persian type, were badly winter-killed. In that year, there was quite serious damage done, in some localities even grape wood being effected.

The trees I refer to were six years old. They had made a very strong growth, and had borne exceptional crops. When our orchards broke into foliage, and we noticed the condition of these trees, we immediately had the entire head removed, leaving mere stubs from two to three feet long; in other words, the trees were completely "dehorned." In this instance the roots, being well protected by a winter mat of hairy vetch, escaped injury. During that season the stubs feathered out nicely, making a growth of two or more feet, and the following season a growth of five to six feet. Last year (1909) was the third since stubbing, and the trees bore a full crop of choice stock; in fact, the crop was so heavy, it was necessary for us to remove the greater part by thinning.

From this and other experiences we have had, we believe that many of the older orchards in the Niagara district that are high and lanky, with little lower

foliage can be given a new lease of life by stubbing, in other words, de-horning.

We have some ten-year-old Crawfords that have run so high that the trees are difficult to prune, pick and spray. We plan to remove several of the limbs on the east and west sides this season, and look for the remaining branches to give us a crop. Another season by removing the branches on the north and south sides, we shall entirely work over our trees, and lose

but one season's crop. The life of the peach can be considerably prolonged by this method.

Most orchards cut down are not dead when condemned but have run up so high their owners find them unprofitable. If by de-horning five or six more crops can be harvested, it is surely worth while.

Planting Peach Trees

W. E. Corman, Stoney Creek, Ont.

When planting peach trees, see that the point where the bud has been inserted is below ground. In this locality, slant the trees well to the southwest. Cut off from eighteen to twenty inches above the ground. Trim to one bud on the north and east sides and on the south and west sides leave two or three buds; in that way, you will have a chance to see which are the healthiest buds to form branches as the trees grow.

Each year trim out one-third and head back one-third to one-half. Remember to trim the heaviest on the north and east sides. Do not allow the trees to get a slant to the north and east, as it will allow the sun to beam on the trunk and in a short time it will ruin the trees.

Do not allow your trees to get over twelve feet high. By keeping them low you will prevent them being split by the ice storms or being broken down by overloading.

Orchard Cultivation

Cooper Brothers, Grand Forks, B. C.

As soon as the soil can be worked in the spring we double disc, overlapping half the disc and about ten days after harrow twice with the common straight-tooth harrow. We harrow at intervals of about ten days or directly after a rain until the latter end of June, when we again double disc, traveling at right angles to the way we previously disced in the spring. We continue to harrow at intervals of about ten days until the end of August and harrow once in September and once in October, then just before the ground freezes in the fall we double disc.

During the months of July and August we watch the ground closely to see if any crust forms under the soil mulch. Should we find any crust we at once double disc the place or places where the crust is. When using the disc always set the discs at the greatest possible angle.

Close to the tree there is usually a small space that the disc and harrow do not touch. In the early part of the season this is hoed and is generally the only hoeing done in the orchard.

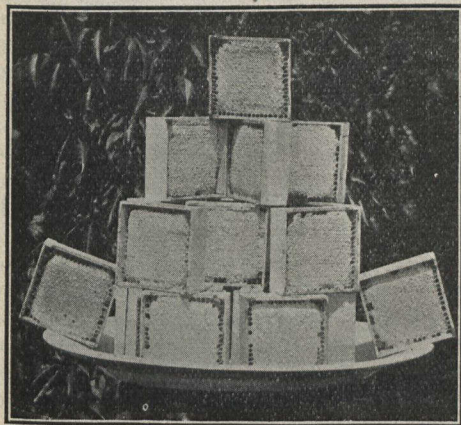


Five-year Old Apple Trees in British Columbia—Grown Without Irrigation
Orchard of Cooper Bros., Grand Forks.

Bees in the Orchard

Geo. W. Tebbs, Hespeler, Ontario

THERE is scarcely a spot anywhere that bees cannot be kept to advantage, but there are some places where they will do better and be of better service than others. The ideal location, however, is in the orchard.



Orchard Honey—Results Worth Having

Four or five hives can be placed under *old* trees, and less according to the age and size of the trees. Place them on the north side, and shelter will be afforded the hives during the hot days of summer.

In this way the fruit grower will obtain a double yield from the same amount of land—a crop of fruit and a crop of honey. But there is a much greater advantage to be derived. Four years ago I began bee-keeping and people around are telling me that *somehow* the last year or two they are getting better shaped fruit, with a smaller amount of ill-shaped specimens, or what they call “runts.” The theory that bees in visiting the flowers fully fertilize the blossoms is past the experimental stage. I believe that in the apple orchards in Gloucestershire in England bees are maintained in the orchards not for the sake of their honey alone, but in order that their labors in visiting each blossom in search of nectar may result in larger and better fruit through a thorough fertilization of the flowers. Bee-keeping and fruit growing are or should be twin sisters. It has been fully demonstrated that fruit growers, who have complained of the annoyance caused by bees and have had bee-keepers remove their bees from the neighborhood of their orchards, have been glad to have them return. Some time ago a writer in a United States fruit paper said:

“It has now become demonstrated that many kinds of fruits, if not all kinds, are greatly benefitted by the bees, and that a large proportion of our fruit, such as the apple, pear, and particularly the plum, would be barren were it not for the helpful work of the honey bee. The fruit grower must become

interested in bees, and I do not doubt that within a few years it will be a rare thing to find a fruit grower who does not keep honey bees, the prime object being to employ the bees in carrying pollen from one blossom to another.” It is not meant that bees have the exclusive prerogative of accomplishing this very desirable end to the orchardist, but if in any way it will augment and bring about a larger percentage of perfectly formed fruit, the keeping of bees should be more generally considered in Canada.

A further advantage to the fruit grower is that the bees can be given a place in the work of the year when time is not so valuable. The preparation of the hives and the filling of the supers can be done during the winter, and so save many valuable summer hours.

SPRAYING AT BLOSSOMING TIME

This short paper cannot be complete without a reference to a most important department of work, where, largely through want of knowledge, there is serious conflict between the orchardist and the apiarist. I refer to the matter of spraying. Spraying with poisonous liquids is now almost universally employed. If it is done when the petals of the blossoms are open it is certain that bees will be poisoned, much of the young brood will die, and the inexperienced bee-keeper will begin to look about for a reason for the abnormal death rate.

It has been conclusively proven that it is quite useless, and indeed decidedly harmful to spray during the time that trees are in full bloom, and that better results follow if spraying be done both *before* and *after* blooming, and when there is no danger of bees visiting the trees in quest of pollen and nectar. When spraying is done at blossoming time the pollen is often shrivelled up, and it will fail to develop. In Ontario it has been made by law a misdemeanor to spray during blooming time.



Keep Bees in the Orchard and the Fruit Crop will be More Certain

Fruit growers in all parts of Canada should keep a few hives of bees in their orchards. Get a colony or two this spring, and start now.

Some Facts About Gooseberries

S. Spillett, Nantyr, Ont.

I had to stop growing gooseberries here about ten years ago. My inability to grow this fine fruit was owing entirely to a (to me) new pest—a maggot in the berry. Just when the fruit commenced ripening it began falling until for the last two years I tried to grow it, not a berry was left on the bushes. At the suggestion of Professor Hutt of Guelph, I put a pint of the fallen fruit into a two quart jar and closed the opening. The result was that, in a few days after, the contents of jar was fairly alive with maggots. I have never heard whether any method of destroying the moth that deposits the egg in the berry that produces this maggot has been discovered or not.

When I grew this fruit I preferred the shrub form of bush rather than the tree form. I received 500 bushes, six of each variety from England at one time. These had been all trained to one stem. I had therefore some experience with this form of bush and concluded that though it might suit the slower English clime it did not suit our heavy snows and hot summers.

The slow-growing European varieties do not need much pruning. On the American varieties such as Red Jacket, the best all round berry I ever grew, and Pearl and Downing close seconds, from six to eight or even ten stems may be permitted to grow.

In the spring as soon as the suckers start, cut all away except those needed for renewal. In the fall cut away all dark colored stems upon which the fruit has been small that season and replace each by a sucker saved from the spring cutting for the purpose. It will be found necessary to spare two or three of the largest suckers every spring to replace the old dark ones cut out in the fall. Two good crops is about all the one stem will give. “If a stem is cut at all, cut it out,” was the rule I followed. If you thin a head in fall it only induces four or five spindly branches to grow for every one cut.

Do not stir the ground under or about the bushes in the spring, or you are likely to lose your whole crop. I lost three crops before I found the cause. Well-rotted manure under and about the bushes in spring or fall is always in order.

The Principles of Plant Breeding*

Prof. Wm. Lochhead, Macdonald College

SOME persons may have doubts as to the general application of Mendel's results and laws. Insufficient time has elapsed (nine years) for confirming Mendel's conclusions in the crossing of all plants and animals, but much testing has been done, and it may be said that the laws hold true in the majority of cases where hybrids have been secured. The following partial list will give some idea of the amount of confirmatory work accomplished: Correns with peas, corn, garden truck and nettle. Tschermak with peas. De Vries with corn. Locke with corn. Riffen with wheat and barley. Saunders with sweet peas. Bateson and Saunders with *Lychnis*, *Atropa*, *Datura*, and a large variety of organisms. Bateson and Gregory with primroses. Hirst with rabbits and tomatoes. Experiments carried on also with rats, guinea pigs, cats and horses among animals, and with oats and beans among plants, have shown Mendelian inheritance in certain characters in hybrids.

It must be understood that in the list just cited the Mendelian Law of Inheritance was confirmed with regard to but a few pairs of characters in each case. The task of the future investigator is to determine: (1) The plants and animals that mendelize, (2) the dominant and recessive characters of each pair of contrasting characters, and (3) the causes of the apparent exceptions to mendelization; for example, in those cases of *blended* inheritance where the character possessed by the hybrid is an average or blend of the two parental characters, and in cases of *mosaic* inheritance "where the characteristic colors of the two parents are inherited in the offspring in patches on different parts of the body."

While it is true that the majority of cases that follow Mendel's Laws of Inheritance have reference to hybrids between varieties, several cases have been observed where hybrids of elementary species and Linnæan species follow the same laws.

The plant breeder who attempts to work along Mendelian lines must bear in mind that he must breed for one character at a time, and that he cannot "obtain in combination both of a pair of contrasted characters."

Burbank secures his best work by crossing. Occasionally hybrids are produced which surpass the parents in vigor of growth or hardiness or profuseness of bloom. His hybrid walnuts,

which are exceedingly vigorous growers, fine grained and compact, were obtained as hybrids by crossing the English walnut with the California black walnut. His Wickson plum was produced by crossing his Burbank plum with the Kelsey, both being derived from the Japanese *Prunus triflora*. His Burbank and Satsuma plums are probably mutants, which he secured from plum pits sent him from Japan.

The Shasta daisy is an example of the results of crossing. It is the product of crossing three forms—the English, the American and the Japanese daisies. It has the tall, stiff stem of the English daisy, the prominent white flowers of the Japanese species, and the profuseness of bloom of the American species.

THE ASSOCIATION OF CHARACTERS.

It is probable that in man's early history, when he was becoming acquainted with the plants that grew all about him, he perceived the correlation of the qualities of certain plants with certain physical characters; i. e., he early associated qualities with characters. Wood-lore, for example, is largely the information the woodsman has gathered together with reference to the association of plant and animal qualities with their physical characters.

It is frequently observed that a particular color in a flower is associated with a particular taste or color in the fruit or seed, or a particular color with a particular form. Nilsson has discovered some very interesting correlations in his studies of barleys, while Burbank uses intuitively the principles of correlation in the large amount of selection he practices, for he makes the majority of his selections while the plants are in the seedling stage. He can "predict one quality or one function from the study of others."

This correlation of characters brings forward again the idea of unit-characters, which we have seen, formed the basis of Mendelism. The idea of correlation forces on us the assumption that the unit may express itself in many ways. It may express itself in the leaf, seed, fruit, stem and tissue; the "correlated external marks may be but the expression of the same internal character."

The scientific study of hybridism becomes, therefore, very complex. It requires a careful examination of all parts of the plants under consideration. The most trifling marks are worthy of study and comparison with valuable qualities, since selection may be guided by them.

A correct and thorough knowledge of the principles underlying plant breeding is very important. Fruit growers are sometimes carried away with the im-

pression that the origination of new varieties is a simple matter, and that definite results should be secured in a year or two. They should remember that while it is true that the methods which have been developed during the last few years are less empirical than formerly, we are just beginning to understand the *rationale* of plant breeding. We are making such rapid progress in our study of the mode of inheritance that the breeder will soon be in a position to move more rapidly, "more surely, and with greater economy of time and of material." Through a knowledge of the processes of *Selection*, *Mutation* and *Hybridism*, may we not hope to get greatly increased yields and much better products, if we can originate better and more productive varieties? The time is fast approaching when the government must grasp the importance of this subject of plant breeding and be willing to expend much more than it is now expending in the establishment and maintenance of high-class breeding stations. The future additions to the wealth of the country must come mainly from an increase in the producing capacity of our agricultural lands.

Pruning the Peach

J. L. Hilborn, Leamington, Ont.

To follow my method of pruning peaches, it is necessary to start when the trees are planted. Before taking the trees to the field, I have them all gone over, cutting the main stem back to twenty or twenty-four inches above the point where the tree was in the soil. I then cut any side branches back to one bud from the trunk. These buds will usually burst, as also such good buds as are on the main stem.

After the trees are well started, say in June, I go over them and rub off all but four or five, which I select to form a head. An ideal head in my estimation is one that has the branches fairly well distributed from the top of the trunk to within ten or twelve inches of the ground. The first year after planting and all succeeding years, I prune in proportion to the growth that the tree has made. Branches that have only grown twelve to fifteen inches, I would not disturb unless it was to remove the terminal bud to compel it to branch.

Branches that have grown eighteen inches and upwards, I cut back from one quarter to one half the growth,—the latter where the growth is three to four feet,—and always endeavor to cut back to one or more side branches. Before cutting back, I thin out surplus branches and leave only such as have room for proper development.

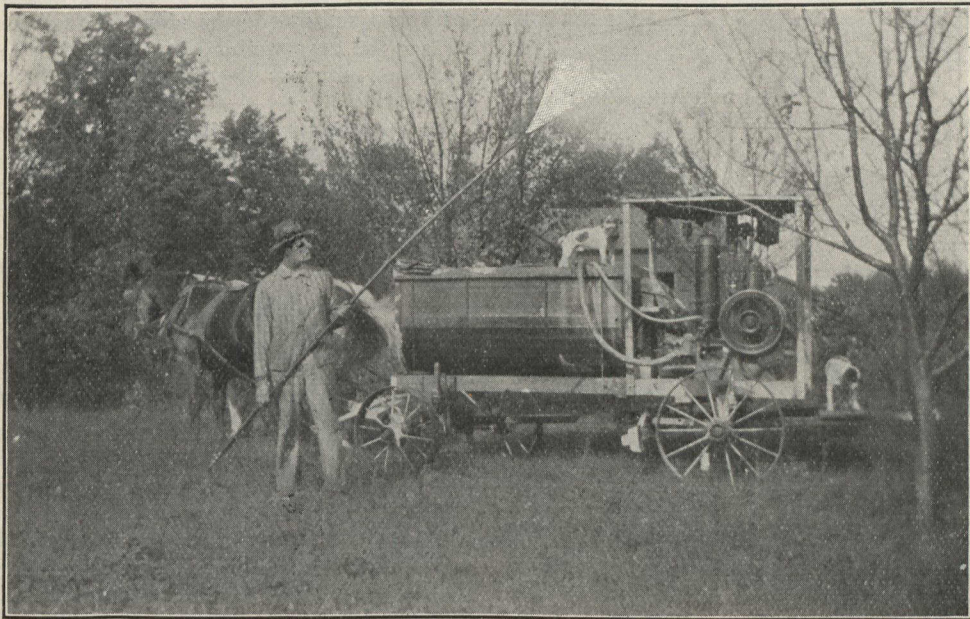
Sour cherries need more moisture and will thrive in heavier land than sweet cherries.

*The conclusion of a series of articles that has appeared at intervals in THE CANADIAN HORTICULTURIST, during the past year. Preceding instalments were published in last June, September and March issues. The entire article was originally prepared for and read at a convention of the Quebec Pomological Society.

How to Make Bordeaux Mixture

TO prepare Bordeaux mixture properly, at least two barrels besides the spray pump are necessary, and four barrels are better. The usual formula for Bordeaux mixture is four pounds of bluestone and four pounds of

mixture, mix four ounces of good Paris green to a paste with a little water, dilute with water enough to enable it to pour and add same to the mixture in the pump. If the Paris green is not good, another ounce or two may be



In Large Orchards and in Small Ones, whose Owners Co-operate, the Power Sprayer is Replacing Hand-power Machines
The illustration shows one of the machines manufactured by the Deming Company, Salem, Ohio.

lime to forty gallons of water. A little more lime may be beneficial and will do no harm.

To make a stock solution, dissolve twenty pounds of bluestone in one of the barrels with twenty gallons of water. This is best done by placing the bluestone in a sack, suspending it just beneath the surface of the water in the barrel and leaving it over night. This will give one pound of bluestone to each gallon of water. In another barrel slake twenty pounds of lime and when slaked add sufficient water to make twenty gallons. This will also give a stock solution of one pound of lime to each gallon of water.

When about to spray the trees, place sixteen gallons of water in the third barrel and four gallons of the bluestone stock solution, making in all twenty gallons, or half a barrel. In the fourth barrel place sixteen gallons of water and four gallons of the milk of lime, making also twenty gallons in all, or half a barrel. These may then be poured into the spray pump and mixed thoroughly, when it will be ready for application. If the third and fourth barrels are not obtainable, the four gallons of bluestone may be placed in the pump immediately and the pump nearly filled with water, when the four gallons of milk of lime may be added. The important point to remember is that the stock solutions of bluestone and lime must not be mixed together without being first well diluted.

To add an insecticidal property to the

used. Arsenate of lead may be used instead of Paris green. It is more adhesive, and is absolutely harmless to the foliage. Use two pounds to forty gallons of mixture. It is not necessary to use these poisons for the first spraying.

These operations may be repeated until all the stock solution is used, when more will have to be made if required. When spraying keep the mixture thoroughly agitated, as Paris green will not dissolve in water but remains in suspension. It is best to spray four times: First, when the trees are dormant in spring, for fungi; second, when the buds are opening, for bud moths and cigar

case bearer; third, immediately after the blossoms fall, for codling moth; fourth, about three weeks later, for apple scab and leaf eating insects.

Setting Out An Orchard

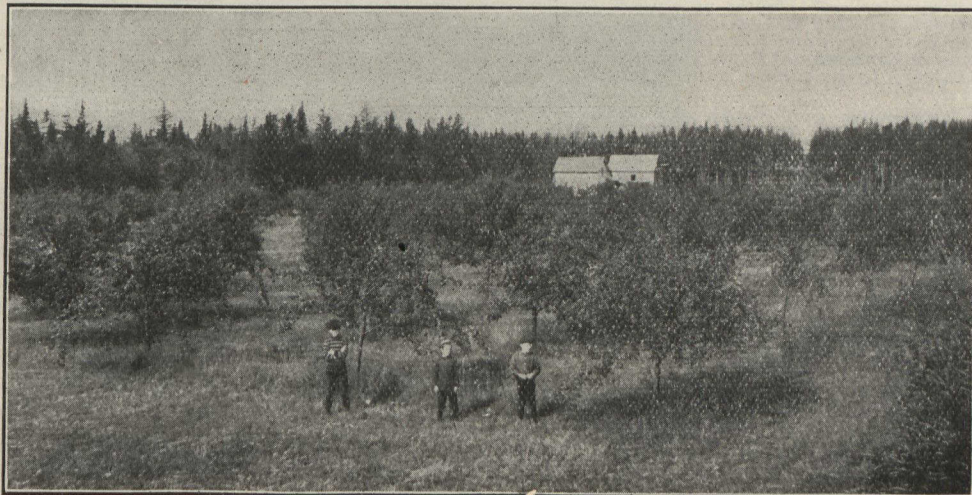
J. A. Moore, Hazelbrook, P.E.I.

In preparing to set out an orchard we would select a field affording natural drainage and, if possible, natural shelter; that is, if one has a grove or hedge on the farm to take advantage of, as a shelter for the orchard, for there is not much use of growing fruit and having it blown off by the heavy autumn winds. A row of cherry trees planted thickly around the outside of the orchard would make quite a good windbreak and prove a source of profit as well. We would also plant an evergreen hedge outside of all and, if fruit trees and evergreens were set out at the same time, the shelter would be sufficient by the time the trees had fruited.

A good preparation of the ground would be to plow and harrow, then sow with peas or buckwheat, and when it had grown up sufficiently, to plow it down. This would make the ground mellow and provide an abundant supply of the best kind of food for the roots.

After pulverizing the soil and smoothing it, lay off the orchard in rows each way, at whatever distance the trees are to be planted. Set up stakes in line and plant where the lines intersect. This will leave the trees in line every way and will facilitate working among them. When planting the trees dip the roots in a pail of water, as the clay will adhere quickly to the wet rootlets and facilitate speedy growth. For years hoed crops may be grown between the rows of trees, if plenty of manure is used; the trees can thus be cultivated with profit. Late in the fall the young trees should be wrapped about the trunk with building paper to the height of about eighteen inches to protect them from being girdled by mice.

This is about the way we set out our



Fruit Growing on Prince Edward Island Can be Made a Leading Industry of that Province

The illustration shows the orchard of Mr. J. A. Moore, Hazelbrook.

trees, and we have never yet had an apple tree fail to grow. If every farmer in Prince Edward Island could be induced to plant five acres of orchard the exodus would stop and we would double our population in fifteen years.

The Stark Apple

1. Kindly inform me regarding the suitability of the Stark apple for planting on a clay loam soil in the central part of Oxford county.

2. Is it long in coming into bearing?

3. Is the tree productive?

4. Is the fruit of good appearance and quality?

5. Are the tree and fruit specially subject to scab or any other disease?

6. Would you advise planting the Stark

ance and quality, not so highly colored as Ben Davis but somewhat better in quality, although it does not keep so long.

5. The tree and fruit are not specially subject, as far as I am aware, to scab or any other disease.

6. I should prefer planting some other variety with the Baldwin in an orchard of four acres, although I believe Baldwins are to a large extent self-fertile.

7. Other varieties which might be planted instead of Stark are Greening and Northern Spy. As a long-time proposition the Spy would probably pay as well as Stark, but the difficulty is that it is very late in coming into bearing. Stark would bear earlier but it is doubtful if it would pay any better in the long run.

8. Placing 170 trees on four acres would mean a distance of thirty-two feet from tree to tree. I should consider thirty-eight feet close enough and forty feet would be still better.—
J. W. Crow.

The Brugmansia

Daniel B. Hoover, Almira, Ont.

The Brugmansia is one of the greatest flowers I ever saw, but, like all pets, it requires nursing and training. The shrub is very sensitive to frost. Years ago I tried the plan of Mr. Jackman (in January issue) to winter my Brugmansia in the cellar, but never had any luck. In the spring its tender wood always came out dead and soft to the ground. I cannot account for the cause of my misfortune, as my cellar is very dry and frost-proof. Bulbs such as cannas, dahlias, glad-

iolis, also potatoes and vegetables, keep well in the cellar, but the Brugmansia does not. The safest winter quarters for my shrub that I have found yet is the conservatory. In this place my shrub keeps perfectly, excepting that everlasting trouble, green aphid, a formidable pest which try their best to destroy the tree. They cannot do it if kept well brushed off. After the shrub has shed all its leaves, the lice will disappear.

The tree will then be partly dormant until near spring, when a new growth of wood will start. Mr. Jackman's shrub is nine feet high. I prefer a lower one.

Mine is about five feet high and bore about forty of those mammoth flowers last year. At one time I had a shrub six feet high by eight feet across the top which bore ninety-three flowers. They all opened at the same time, and it was the grandest sight I ever looked at. The best time to look at the flowers is after dark in the evening by placing a bright lamp to one side of the tree. The flowers are the best at this time, though they are open during the day, but a little slack.

By cutting back well in the spring the best crop of flowers generally come about the first of September. In March last year I cut back all the year's growth with the exception of three buds. Of these I allow the best one to take the lead. The remaining ones will soon make a stout, thrifty branch, which will fork perhaps two or three times before flower buds will appear.

If a higher tree is required, cut off above the first fork. This will give the tree about a foot of growth. This plan should only be taken while the shrub is young, say until two or three years old, according to the thriftiness. The shrub should be turned out of the tub every few years to clean off the binding soil around the roots. Replace it in the tub with a good packing of rotten cow manure and earth well mixed. The flowers should not be sprinkled at all, but the roots require plenty of water during flowering season.

The Brugmansia is naturally an evergreen, if its leaves are not destroyed by insects. Occasionally it will bear a few flowers any time of the year. I have had a few flowers on my tree in the fall and also a few in the spring on twigs not cut back. The flowers generally will stay open for a week, if weather is not too hot. I have had Brugmansias for about twenty years, but could never find the seed capsules on any of the trees I have grown. I grow my trees from cuttings of last year's growth.

Strawberries are a safe crop to grow in young orchards.

Several methods of setting orchards may be seen in British Columbia, most of them providing for "fillers" to be removed when crowding begins. The western men seem to have faith in their ability to sacrifice beautiful, bearing trees in time to save crowding and consequent injury to the permanent trees. It requires grit to give the George Washington touch to fillers just in their prime, when "another crop or so" seems not to spell doom for the permanents. Quincunx planting is a favorite method; apples, for instance, are set thirty feet each way in squares and a "filler," an early bearing kind, is set in the centre of each square.



A Golden Crab Tree in Alberta

A Siberian crab planted nine years ago, is fifteen feet high, and yielded a full crop last season. It was planted on the east side of a close board fence and has received no special care. The tree came from the Experimental Farm at Indian Head, Sask., and was planted in Calgary by its present owner, Mr. J. C. Linton, of that city.

or any other apple with the Baldwin, or would you plant the Baldwin alone in an orchard of four acres?

7. If some other variety would be better as a winter apple, please name it.

8. Would 170 trees be too many on four acres?—W. H. C., Sweaburg, Ont.

1. As far as soil and climate is concerned I would not hesitate to plant Stark on clay loam soil in Oxford county.

2. In our experience it begins to bear profitable crops in eight or nine years.

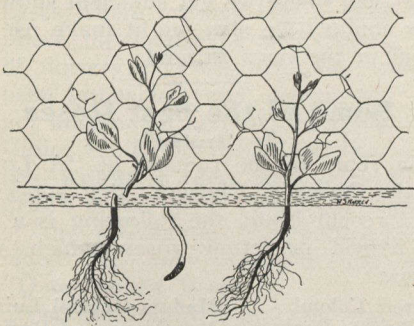
3. It is not one of the heaviest bearers but is nevertheless decidedly productive.

4. The fruit is fairly good in appear-

Culture of the Sweet Pea in Manitoba*

H. J. Edwards, Winnipeg

THE reason that we so seldom see this beautiful annual at its best in this province can be attributed chiefly to two causes, namely, late sowing and over-seeding. This paper is



Many Sweet Pea Plants are Destroyed by the Cut-Worm
Plant on left has been cut off by this pest. Digging usually will locate the cause of the trouble near the plant, as shown.

written for the purpose of advocating exactly the opposite; that is, early sowing and sparse seeding.

In planting, north to south is the best direction, and an open space away from trees and buildings the most desirable. There should be at least four feet between the rows, five feet would be better still for the purpose of attending to the plants.

For the best results, the ground should be prepared in the fall. A good plan is to dig a trench a foot deep and place in the bottom three inches of well-decayed manure. On the top of this put four inches of soil and thoroughly mix. The remainder of the soil should then be placed on top and levelled. On new ground and in places where the soil is very rich, it is advisable to eliminate the manure for a year or two; if the soil is too strong the buds will have a tendency to drop off.

In the spring, as soon as the frost is out of the ground to a depth of three or four inches, the seed should be sown, making a double row, six inches between the rows, the seed being planted four inches apart, and one and a half inches deep; on light, sandy soil, the seed should be planted another inch deeper.

Sticks should be provided early for the plants to climb. When these are not obtainable, wire netting nailed to good stout posts will do nearly as well.

During the growing season, the surface of the soil should be kept loose, and all weeds destroyed; care being taken not to disturb the roots of the sweet peas.

In late spring and early summer keep a sharp lookout for that abominable pest the cut-worm. The following remedy is to be found in a little book called "The

Beautiful Flower Garden," by F. S. Matthews, who says: "I have fought against this wretched night-working garden pest with some success by digging four inches around the plant he has destroyed, and invariably capturing him; then he is shown no mercy."

When the plants begin to bloom, it is best to cut all the fully developed flowers daily, and to see that no seed pods are allowed to form. If this is not done, the plants will cease to bloom. In dry weather give a liberal supply of water, and occasionally a little weak liquid manure. If these directions are followed, the plants should be in bloom from the first week in July until fall.

Where the situation is bleak, preference should be given to the older or grandiflora type, the newer or Spencer type being planted in a more sheltered position. The grandiflora type will withstand the wind far better than any of the Spencers. When named varieties are grown, all rogues should be carefully removed, and leaving one strong plant to every three or four sticks (about twelve inches) is a secret to success.

The seed catalogues sent out by various seedsmen contain a fairly comprehensive list of sweet peas, with a full description as regards type and color. It

nature. There is one variety which might be mentioned, however, and that is Coccinea. The seed of this variety is as a rule fine and plump, and would compare favorably with the finest samples of seed grown; some years not one seed from a packet will germinate; this is not the fault of the seedsman or grower, but is due to a peculiar trait in the variety itself.

The following "Dont's for Amateur Gardeners" are taken from a special sweet pea number of *The Gardener*, and anyone who wishes for the best results should bear them in mind:

Don't forget, the deeper (in reason) the soil is cultivated, the more vigorous will be the plants.

Don't imagine that you can grow sweet peas well on the same plot of ground indefinitely.

Don't forget that early sowing is half the battle in the successful cultivation of the sweet pea.

Don't ignore the fact that it is possible to grow sweet peas with flower stems eighteen or twenty inches long.

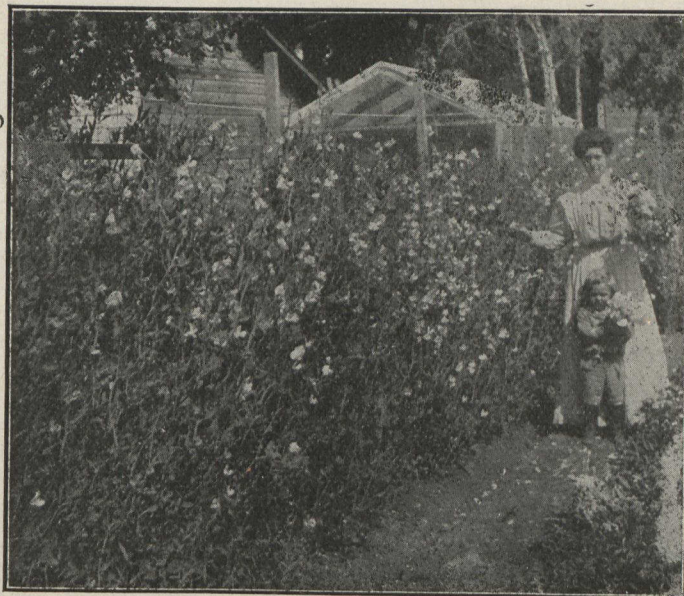
A Desirable House Plant

Charles Turner, Simcoe, Ont.

I have often been asked to suggest a desirable house plant that will thrive where others are likely to fail. There is no plant to my knowledge more suitable or more deserving of a place in a house than *Aspidistra lurida* or its variegated variety.

This plant, although not often seen or much used in this country, is a great favorite in England, being used on nearly all decorative occasions. It stands removals, variations of the temperature, draughts, neglect, etc., exceedingly well. Once it is well established, it takes a lot to kill it. It is never attacked by insects and is not subject to disease.

It is pretty and has a nice spreading habit of growth. It is a very desirable house plant, especially where plants are liable to neglect. It flourishes best in a compost of good loam, dried cow manure and grit or coarse sand. Readers of THE CANADIAN HORTICULTURIST should give this plant a trial in their homes.



Every Home-keeper in the West May Have Sweet Peas in Abundance

The sweet peas in the illustration were sown on April 18, 1908, the photograph taken on July 19, and at the end of August the plants were over eight feet high. At the Winnipeg Exhibition the grower of these and the author of the accompanying article, Mr. H. J. Edwards, has won many prizes with his sweet peas.

is generally a matter of personal choice as to which are the best colors.

The latest list available mentions over 700 different named varieties; but, as a great many are included in a list of "too much alike" varieties (some have got nearly twenty names), it would be unwise to particularize in a paper of this

*Part of a paper read at the convention of the Western Horticultural Society held at Winnipeg.

Hedges for Quebec

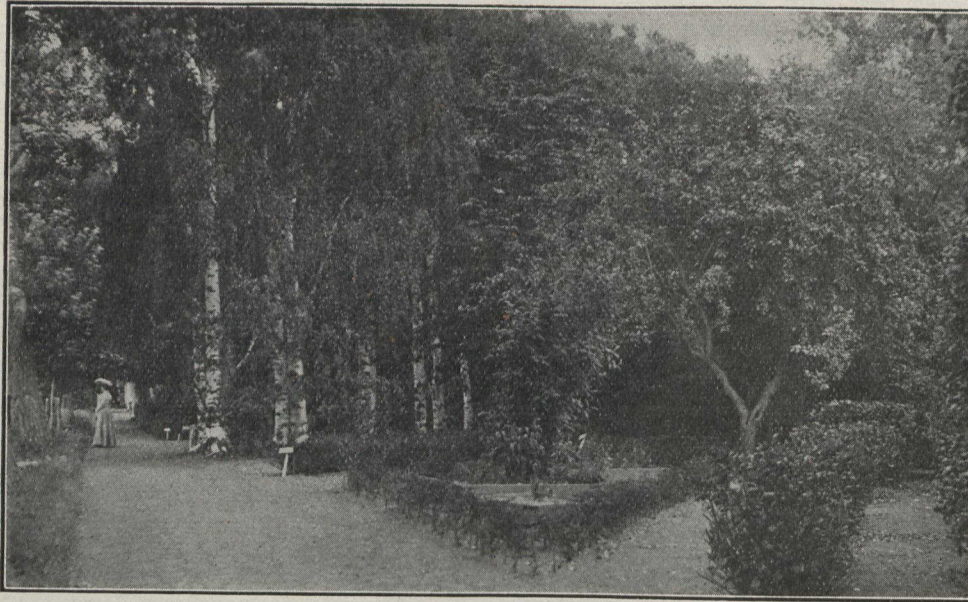
A. D. Verrault, Village des Aulnaies

It is difficult with us (seventy miles northeast of Quebec) to keep a hedge in good form, on account of the heavy snowfalls that we have; so we must

with symmetry, removing all dead wood and cutting back the straggling branches to about one-half their length. This severe pruning promoted a dense and luxuriant growth. They are, without contest, my finest hedges, especial-

gan to deteriorate, and as long as three weeks in a cut state, but they must not be cut until fully expanded, and the male organs well developed.

These new hybrids have proven very valuable for outdoor use in England, with slight protection, coming through the winter quite unharmed. It is probable that where we get sufficient snow in this country we also might make use of them in the open ground.



Berberis Thunbergii Bordering a Flower Bed, and at the right, a Hedge of Purple-Leaved Barberry

At Village des Aulnaies (Que.) Nursery

choose those that will support best a heavy weight of snow, whose branches will bend rather than break from the pressure of snow in springtime.

I have experimented with several varieties and find that the following hedges suit best our district: *Berberis Thunbergii*, *B. vulgaris* and *B. v. atropurpurea*. They are a most interesting family of shrubs, varying in size from two to six feet high, and rich in variety of leaf, flower, fruit and habit. Their showy orange and yellow flowers in terminal drooping racemes in June are succeeded by bright and various colored fruit, which they retain in winter.

I prefer them planted in a single row, from one to two feet apart (according to variety), and left untrimmed, using pruning knife to assist nature to lop off straggling branches, to remove dead wood in the spring.

The rough-leaved viburnum (*Viburnum rugosum*) makes also a very ornamental hedge worth seeing at all times of the year. Its large, dark leaves with terminal cymes of white flowers in June, followed with red fruits, render them quite attractive. It retains its foliage very late; in fact, not before hard frosts have settled will it fall. The plant is a good grower, supporting well the pruning, and is quite hardy.

We have a currant hedge made of red currant bushes that had been planted in nursery row, eighteen inches apart, for commercial purposes, where they remained six years. As all plants left to themselves, they had a very poor appearance, I then decided to trim them

ly when the fruit is ripe. [Note.—This currant hedge was illustrated and described in THE CANADIAN HORTICULTURIST for March, 1907.—Editor.]

The New Hybrid Gerberas

Robert Pinkerton, Montreal

Mr. Irwin Lynch of the Cambridge (England) Botanic Gardens is responsible for the beautiful new race of Gerberas known as *Gerbera Jamesoni hybrida*, by crossing *Gerbera Jamesoni* with *Gerbera viridiflora*. They are easily raised from seed which may be sown at any time, but preferably in spring or early summer.

Sow the seed in a compost of one-third good garden loam, one-third sharp sand and one-third leaf mould. The seed should be inserted in the soil so that the pointed or tufted end is up, the tuft coming about level with the top of the soil. The seedlings will appear in from eight to fifteen days.

When large enough to handle, prick off into small pots, and as the plants grow shift into a larger size. A rather narrow deep pot seems to suit them best.

They seem to like plenty of heat in summer, but must be kept in a cool house in winter, and on the dry side. They usually start blooming in from seven to nine months from seed. In Europe they advocate night-soil as being the most effective fertilizer for established plants. The individual flowers last for a remarkably long time. I have seen flowers on pot plants which were from five to seven weeks before they be-

Some of the best Roses

By "Amateur"

In reply to the request of "A Lover of the Queen of Flowers" that appeared in a recent issue, the following is a list of hybrid perpetual roses which will please:

Alfred Colomb	Madam Gabriel Luizet
Baroness Rothschild	Marchioness of Dufferin
Captain Haywood	Merveille de Lyon
Charles Lefebvre	Mrs. John Laing
Clio	Mrs. R. G. S. Crawford
Duke of Edinburgh	Madame Victor Verdier
Dupuy Jamain	Marshall P Wilder
Eclair	Paul Neyron
Fisher Holmes	Prince Camille de Rohan
Frau Karl Druschki	Robert Duncan
Margaret Dickson	Suzane M. Rodocanachi
Mrs. Coeker	Ulrich Brunner

For those who wish to try a few of the hybrid teas, I would suggest:

Bessie Brown	Kaiserin Augusta Victoria
Caroline Testout	La France
Killarney	Mrs. W. J. Grant

Growing Transplanted Onions

A. V. Main, Almonte, Ont.

The onion ground previously to planting should be forked over and made into a fine mould on the surface, using a rake to make it level. If the soil is light, the roller can go over it. With heavy soil it is unnecessary to firm it. At this preparation, a dressing of wood ashes and some reliable garden fertilizer may be applied. Have it incorporated with the surface soil.

Plant early, nine inches apart, and allow fifteen to eighteen inches between the rows for cultivation. I prefer damp weather for this operation, and generally use a long board to stand on. One man can single out the onion plants and lay them out to another one planting. Use a small dibble and plant shallow.

If hot days follow give a spray overhead and within a week the plants will look quite settled for six months' labor. In dry spells, good heavy waterings will be of great benefit.

I use occasional dressings of nitrate of soda. The safest method to apply it is to give a dessert-spoonful to three gallons of water and run it between the rows. This can be done fortnightly. Peruvian guano is another splendid hustler for growth. Keep the ground well aerated and clean by frequent applications of the hoe. In midsummer a top-dressing of short decomposed manure will retain the usefulness of water and fertilizer.

Ornamental Gardening on Vancouver Island

Jas. A. Grant, Royal Oak, British Columbia

THE subject "Ornamental Gardening on Vancouver Island" is difficult to grasp because of the fact that everywhere are to be found scenes which are beautiful in nature, and in the cases where art has lent a hand to improve the landscape with lawns, vistas of flowers and evergreens, the scene has been intensified and prolonged. It is not uncommon here at Christmas to pick Gloire de Dijon roses and berried hollies within a few feet of each other, grown in the open. This shows a glimpse of the possibilities that nature has provided for the ornamentation of the "Gates of the West."

On the southern end of the island, within a radius of twenty miles of Victoria, most of the artificial helps have been given, although its development everywhere is only a matter of time. The climatic conditions and the scenery abound throughout the island.

Victoria and vicinity may well be known as a city of gardens. From the cottage to the castle, almost everyone has a garden. Unlike other Canadian cities, tenement houses and hotel living is very little in evidence, and even they are surrounded by flowers.

Everything in evergreen and deciduous trees and shrubs can be grown with ease and the rocks produce, from crevices and soil deposits amongst them, picturesque oaks and arbutus trees. Ornamentation is limited only to choice and taste, Nature's supply being almost unlimited. It is not a matter of great expense to have picturesque surroundings, as many of the trees and shrubs required can be had for the digging, including the flowering dogwood and arbutus.

The above mentioned conditions have been taken advantage of and many and varied are the results. In the Rockland Avenue district of Victoria, where the grounds surrounding the residences are large, landscape gardening is the rule. Walks winding amongst the rocks and borders eight to ten feet wide planted to shrubs and flowers backed by spreading oaks, provide a sylvan scene which visitors delight in viewing from the top of a tally-ho coach. Unfortunately the owners, English-like, build high fences around their grounds, and although the beautiful flowering and evergreen trees tower over the fences and indicate the beauty within, one has to get up high to admire the otherwise unseen beauty; hence, the high coach is the outcome of the high fence.

A few of the leading favorites in trees, shrubs, flowers and bulbs which come to perfection here and are generally favored to supplement the natural product, are: Evergreens, Norway

spruce, monkey puzzle (*Araucaria*), flowering cedar and holly, juniper (deciduous), birch (silver), horse chestnut, poplar, mountain ash, weeping willow; and in shrubs—ornamental snowball, lilac, azalea, rhododendron, hydrangea and the rose. The sweet pea here finds its home and comes to perfection, also the dahlia, pansy, geranium, lobelia, clematis, wisteria, honeysuckle, jasmine and ivy. Bulbs all grow well in the open.

That ornamental gardening has not reached its maturity can well be understood when one considers the evolutionary state of things. People are coming in very rapidly, far faster than systematic work can follow, with the inevitable result. It will upset things for a time, but will result in greater order and greater beauty as well as profitable employment to those who make a profession of garden making.

Philadelphus Coronarius

Prof. H. L. Hutt, O.A.C., Guelph

Among the many varieties of ornamental shrubs, none is more worthy of a place upon the home grounds than the common mock orange (*Philadelphus coronarius*), or, as it is sometimes incorrectly called, the Syringa. This latter confusion of names is due to a mistake made by botanists 300 years ago in classing the *Philadelphus* or mock orange with the *Syringa* or lilac. But whatever confusion there may be in the names, there is no mistaking the plant when we are once familiar with it. It is a vigorous, upright grower which, when we obtain it from the nursery, usually has remarkably strong, fibrous roots and is easily transplanted. It adapts itself well to any well-drained soil, is extremely hardy, and not affected by insects or fungous diseases, as is sometimes the case with many other desirable ornamentals. When full grown the bush attains a height of eight or ten feet. It usually begins blooming, however, when

not more than two or three feet in height. It bears a great profusion of large, creamy white, fragrant flowers which appear about the first or second week in June, and in favorable seasons when the weather is not too hot they last for a couple of weeks.

The *Philadelphus* when planted alone makes a good shapely specimen plant, but is used to best advantage when planted in masses or groups in the shrubbery border, where it forms an excellent background for smaller shrubs or hardy perennials. There are a dozen or more varieties of *Philadelphus* in general use, some of the smaller ones being not more than two or three feet in height, while the larger ones, such as *P. grandiflorus*, attains a height of twenty feet or more. The latter is much later flowering than *P. coronarius*. With a good selection of varieties the bloom of this species can be ranged to cover nearly the whole month of June.

One of the most showy shrubs that we have is the Japanese quince (*Cydonia Japonica*). Its glossy green foliage and its scarlet flowers make it exceedingly attractive. In autumn it is also attractive when its golden colored, highly perfumed quinces are ripe. Although a brilliant subject, this shrub must be used sparingly. One or two specimens on a small lawn is sufficient. Its planting should not be overdone.



The Common Mock Orange—*Philadelphus Coronarius*

Failure in Asters

G. A. Chase, Toronto

I HAVE always had a good many asters in my flower garden. I buy the best seed of named varieties that I can get and raise my own plants in a hotbed, and my plants are always straight and stocky when I set them out in early June—far better than any I see exposed for sale. As I transplant the seedlings into shallow boxes in the hotbed, setting them about two and a half inches apart in the boxes, the plants receive little or no check to their growth on being transferred to the garden, a little black earth two and a half inches square going with each plant.

The soil of my garden is sandy but dark from cultivation; the subsoil is yellow sand; it is a very open soil. In digging the spade is sent down as far as possible, at least fifteen inches; a fair quantity of rotted manure is dug in, supplemented by a little bone-dust raked in the bed; and water is liberally though not superabundantly given. Weeds, if they show themselves, pay for their rashness, and the Dutch hoe is in ready use to check all baking of the surface.

Now, in all justice, should not my asters be good? And yet for the past three or four years my finest varieties—Victoria, Mignon, Hohenzollern, Comet—have all drooped and died; if any of them reached the blooming stage the flowers were inferior or only half formed. The Victoria, our finest and most delicately soft aster, suffered most. I do not think I had a bloom these last two years. The Mary Semple, however, a tall branching aster, has always been most vigorous, giving abundance of bloom every season.

I wrote to the authorities at the Ontario Agricultural College, Guelph, telling my trouble. They thought it might be blue aphid at the roots, placed there by ants, and advised using carbon bisulphide around the plant. But this was of no avail; plants kept on drooping and dying. Nor when I dug up several of the sickly plants could I find any aphid. A year ago last fall I took all the soil out of my beds, a foot or more deep, and replaced it by other soil, on which asters had never been planted. Last summer the asters, excepting Mary Semple, all died as usual. I have some plants in the spring to friends who had a clay loam in their gardens. I thought changed soil might prove a remedy; but, in one case, the delicate varieties died early as with me, and in the other, they did better and gave fair bloom.

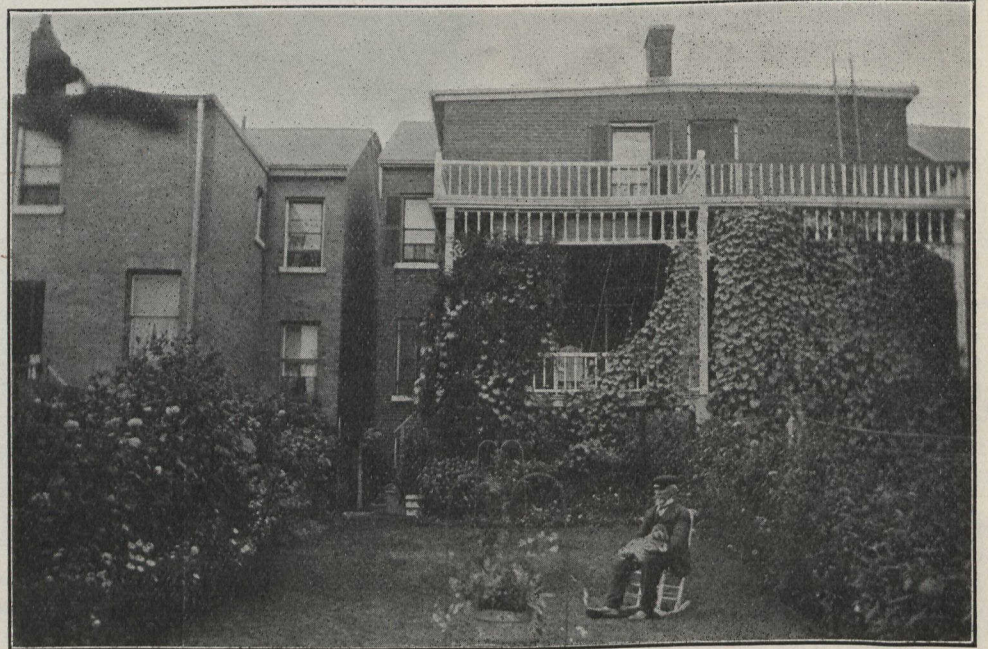
I should be very glad if any of the readers of THE CANADIAN HORTICULTURIST could suggest the cause of the trouble in my asters and name remedy. In examining my sickly plants I found that every one was diseased at the base of

the stalk, turning black. The roots looked fairly good. It has occurred to me that as the varieties I mention do not grow tall and have a spreading thick growth of leaves, low down on the

ed carmine, pretty, unique, like a cactus dahlia; Anna, pure white, star-like flower, recurve petals, makes a beautiful pot plant, one of the best.

Japanese: Early Snow, white; Pacific Supreme, pale pink.

Anemone Japanese: Beatrice Asmus, pure white, a gem, one of the best;



The Kind of Work That is Being Advocated by the Horticultural Societies of Ontario

Part of the lawn of Mr. Ralph C. Wade, Toronto. The Toronto Horticultural Society is preaching the gospel of improved home surroundings, and its efforts are bearing fruit in all parts of the city.

stalk, some fungus on the stalk may be nourished by the shade and continuous dampness caused by this low thick growth, and that this may be the origin of all the trouble. I shall try some fungicide next summer.

New and Little-known Plants

Lists of new, little-known perennials and annuals recommended by the novelty committee of the Ontario Horticultural Association were published in THE CANADIAN HORTICULTURIST for January and March respectively. Other plants recommended by this committee are as follows:

NEW CANNA

King Humbert.—One of the most striking of recent introductions. Broad, massive foliage of a rich, dark, coppery bronze, very large trusses of showy orchid-like flowers of brilliant orange scarlet, with darker markings. Very effective. Height five feet.

NEW GLADIOLI

America, Afterglow, Dawn, Evolution, Victory.

NEW CHRYSANTHEMUMS FOR AMATEURS

Pompons: Snowdrop, pure white; Alena silver pink, very free and effective.

Single: Lady Lu, large, pure white, single four-inch flower, very effective; Miss A. Holden, bright straw color tint-

Nancy Perkins, bright amber, shaded magenta, very attractive.

MISCELLANEOUS

The following notes were supplied by Mr. Roderick Cameron, Toronto:

Argyrea speciosa: A strong, fast growing vine producing large, pink colored flowers. Belongs to the order Convolvulaceae, corolla campanulate. Leaves large, heart-shaped, very silky, silvery on the under side.

Loasa lateritia (Chili Nettle): Nettle family. All the species of *Loasa* are remarkable for the singular structure of their flowers, and the stinging character of their leaves. This one is not hurtful, although it makes a person handling it very uncomfortable. Native of Chili. Half hardy perennial. A variety of the above, *Canarinoides*, is a highly dangerous plant to the touch.

Rehmannia angulata: This is one of the best flowering half-hardy plants grown. When in bloom it resembles a very large pink foxglove. If grown in pots in a cool house and rested during the dead of winter it will flower about Easter. A great novelty.

Yucca glauca (Syn. *Y. angustifolia*). As hardy as *Y. filamentosa* and rare in this country. They flower in Toronto. The plants form a short trunk. The flower-spike is not so tall as *Y. filamentosa*, and the flowers are of a greenish white color.

What Amateur Gardeners Can Do in April

THE hotbed should be ready for the sowing of vegetable and flower seeds. These may be sown directly in the soil of the hotbed or in "flats" or shallow boxes which should afterwards be placed in the bed. See the article on page 92. Always allow a little air to come in at the back of the frame so as to allow the steam to escape that always arises from a newly made hotbed. A little finely-sifted coal ashes placed on top of the manure will help to keep in the heat.

Sow seeds of annuals in light sandy soil whether in boxes or in the hotbed. Sow very fine seeds on top of the soil; they do not need to be covered. Cover seeds of asters, balsams, zinnias, petunias, phlox, cockscombs, and so forth, about the same depth as the size of the seed. Always water the soil in the boxes before sowing the seed. After sowing, press the seed evenly into the soil with some flat object. Darken the surface with newspapers or cloth so as to cause the seeds to germinate quickly. When the shoots begin to show, remove the cover. Watch the ventilation closely at this period.

The time for starting a hotbed depends upon local climatic conditions. These notes are for Toronto and vicinity. The work is done earlier in the Niagara and Essex peninsulas of Ontario and in British Columbia, and later in other parts of Ontario and in Quebec and the maritime provinces.

If a hotbed is not available, seeds may be started in boxes in the house. As soon as the seedlings show, place the boxes in a sunny window.

Sow out-doors, as soon as the ground is dry enough, seeds of mignonette, wall-flower, snapdragon and other hardy annuals.

Transplant seeds of annuals when the second pair of seed leaves are in course of development. Handle them carefully. Allow a small quantity of earth to adhere to the roots. Make a small hole where the plant is to go. Place the plant in this and press the soil firmly around it.

Strike in boxes of sand in the hotbed or house, cuttings of coleus, ageratum, geraniums and lobelias. As soon as they are rooted, in about two or three weeks, place them in small pots. Water thoroughly and shade for a few days. When established, place them again in the sunlight.

Canna roots may be divided, cleaned and put into boxes, upon the bottom of which should be placed a couple of inches of soil. Water slightly and expose to the light. When they have started growth, they may be repotted if so desired. Divide dahlia roots as well.

When the ground is fit, plant or trans-

plant perennials, such as peony, bleeding heart and iris. Over-grown clumps of perennials should be subdivided.

Remove the covering from the bulb beds. Avoid breaking the shoots that have come through the ground.

Prune hardy roses. Give the bushes an application of good cow manure placed around the roots.

All plants, shrubs, rosebushes, and so forth, that have been killed back, should be pruned back of the point to which the injury extends.

When all the frost is out of the ground and the weather is fairly dry, the lawn should be rolled. Trim the grass edgings evenly.

Rake and clean up the garden, lawn, walks and drives generally.

THE KITCHEN GARDEN

Every garden should have an asparagus bed. Start one this spring. Read the article on page 92.

The time for sowing vegetable seeds out-doors varies greatly throughout our Dominion with its wide range of climates. As soon as the ground can be worked nicely, sow seeds of peas, spinach, lettuce, parsnips, parsley, leeks and onions. A little frost or snow after these seeds are in the ground will not hurt them. As parsley and parsnips are slow in germinating, often taking four or five weeks, it is a good plan to sow a few seeds of lettuce in the rows with them. Lettuce will come up quickly, and will mark the rows; it will be used before the space is needed for the parsnips.

A week or two later sow beans, beets, carrots and salsify. Sow early varieties of radish and of table turnips as soon as

possible and at intervals of two weeks for a succession.

Besides growing the standard sorts of vegetables, why not try something new this year? For a greater variety, sow or plant Brussels sprouts, bush lima beans, Swiss chard, kohlrabi, endive, Chinese mustard, cress and cultivated dandelions.

WITH THE FRUITS

Grape vines that have not been pruned should be treated immediately to prevent bleeding. Should this condition occur, however, do not be alarmed because it is not as serious as most people think.

Finish pruning raspberries, blackberries, currants and gooseberries.

Plant small fruits when time for planting arrives in your locality. Have the soil thoroughly prepared and enriched.

Remove mummied fruit from peach and plum trees and bury or burn them. They indicate that the trees are infected with brown rot. Arrange therefore to spray them with Bordeaux mixture or some other good fungicide.

Remove the mulch from the strawberry bed when the plants begin to grow. If not too heavy, leave it between the rows to conserve moisture. In any case, leave enough for this purpose.

There is no feature of home gardening that is more interesting than fruit growing. If you have no fruits in the garden and have room for them, plant this spring.

Plant trees and shrubs mostly in groups and on borders of lawns.

Hardy ornamental grasses may be used with good effect in borders and in beds.



Boat Houses in the Canadian Labrador where Gardens Might be Established Through Proper Care

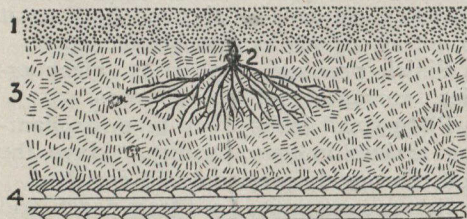
An attempt is being made to induce the fisher-folk and other inhabitants of Labrador to plant gardens. The Canadian Labrador Horticultural Mission is engaged in the work. See pages 94, 97.

Asparagus for the Home Garden

A. V. Main, Almonte, Ontario

A GARDEN is incomplete without an asparagus bed. Asparagus is one of our first outdoor vegetable dishes. A little labor and \$1.50 for plants to make a bed will be a good investment, with asparagus for years to come. The culture is simple.

Purchasing two-year-old plants from the nurserymen proves the speediest way of establishing an asparagus bed. Pal-



Cross-Section of an Asparagus Bed

1. Four to six miles of friable soil to cover the plants. 2. Asparagus plant (note spread of roots). 3. Manure and soil well mixed. 4. Good drainage (not always as well laid as in the diagram, nor is it necessary).

metto and Conover's Colossal are the standard sorts. A bed thirty feet long and four feet wide is sufficient for family use and some for charitable use or the market too. Mark off the bed; use a line on either side and trace it along with the spade.

At each side of the bed make an alley or path two feet wide. Throw the soil from the alley on to the bed, making this pathway six inches deep. The idea of elevating the bed about a foot higher than the surrounding soil is to ensure good drainage, drier in winter and spring, and this elevation gives additional warmth and compactness for an early crop. Four feet is a handy width for the work of cleaning, cutting and general routine.

Have three rows in the bed, the outside ones nine inches from the edges. The centre row will have fifteen inches on each side, which makes up our four feet. Being thirty feet in length, 100 plants will do, placing them a foot apart.

As good crops are taken from beds ten years old and even twenty years old, the work of planting is not an annual occurrence. It must be done, therefore, in a practical, thorough manner at the beginning. The soil should be of a fairly light nature, preferably a sandy loam. This must be dug and loosened two and a half to three feet deep, with an addition of manure as a basis. Be sure and locate in a dry position with a slope to the south. If the subsoil is heavy, throw it aside and lay a thick stratum of rough ashes or stones two and a half feet from the level of the bed, also a drain tile if water inclines not to move away. Some friable soil and well decayed ma-

nure for the surface should bring it to the desired height.

The roots of asparagus must not be exposed to the air. Keep them in a bag, moistened until ready. Make a good large hole for the roots and spread them out in all directions. Keep the growing crown straight and four inches of soil over it, packing it firmly. Have this done in May. If exceptionally dry weather prevails, help the growth with the watering can. Encourage the growth the first season. Support it if necessary by running a cord around the bed. Cutting the asparagus can commence the second year, each season giving it fresh vigor. How and when to cut and other factors in the care of an asparagus bed will be mentioned in next issue.

The Use of Flats in Gardening

Prof. W. S. Blair, Macdonald College, Que.

The use of "flats" or shallow boxes for starting seedlings in and for again transplanting into is becoming general with many market gardeners. There is no doubt as to the wisdom of their use in the case of the small grower or private gardener. They are easily moved from place to place, can be shifted to cold frames and finally to the open to harden off the plants before being permanently planted. It is disagreeable, to say the least, pricking off seedlings in the early spring with a northeastern wind chilling the whole outfit. If flats are used this can be done inside a building with comfort, and the time saved in doing the work under favorable conditions will go a long way toward paying for the flats. The flat can be taken right to the field at transplanting time. With very little labor the plants can be cut out with a ball of soil attached and thereby suffer little check.

There is an advantage too in the use of flats, in that less soil is required and usually more stocky plants are secured, for the roots do not have a chance to dip deeply into the manure of the hotbed, which may produce too rapid growth, developing plants rangy and weak, which suffer a severe shock when handled.

The most convenient size of flat is thirteen by twenty-two inches and three inches deep. Of course these flats can be made out of any old boxes, such as a soap box, by ripping them through and putting in bottoms where necessary. Half-inch ends and three-eighth-inch sides and bottoms make a good flat. These can be got cheaply, ready to be put together, sawn to the size required, from any box or wood working establishment. The use of planed wood,

giving one coat of raw oil with some lead in it, will pay; however, as a usual thing this is not done. There is an advantage in having the flats of a uniform size, as they can be placed to better advantage in the hotbed. One and one-half-inch resined nails should be used. In putting on the bottom boards, one-sixteenth to one-eighth-inch space between the boards should be allowed for drainage and swell of the lumber. After thorough with the flats allow them to thoroughly dry and place in a dry shed carefully piled up.

How to Grow Celery Plants*

F. W. Hack, Nerwood, Man.

In order to produce a good crop it is necessary to secure good plants. Many failures in celery growing are due to the use of improperly grown and carelessly handled plants. The first necessity is good seed, and the strictest attention is necessary to secure a reliable strain. Only fresh seed should be used. While celery seed will germinate freely when several years old, its vitality will be impaired, and as everything depends on vigorous growth, it is well to avoid even a suspicion of lack of vitality. Sow for early crop from middle to end of February and for main crop middle of March to beginning of April. The varieties generally grown are White Plume and Paris Golden Yellow.

The best place to raise celery plants is in a cool, well ventilated greenhouse. When only a few plants are required they may be started in shallow boxes in a sunny window. Very good plants may be grown in this way provided they are given plenty of sun. Where it is necessary to use a hotbed, seeding should be delayed until the heat is somewhat exhausted. A good depth of soil should be used and plenty of air admitted. Sow thinly in rows one and one-half inches apart. Cover one-eighth inch in depth with fine soil and slightly press down. Care must be taken to keep the soil moist, but not wet. The seedlings will appear in about fourteen days. In about three weeks they will be ready for their first transplanting.

Moving the tiny seedlings is very slow and tedious work, but it is important. The young plants will begin to be crowded in the seed beds, and if left to themselves will develop a long main root with very few side roots. The transplanting process disturbs this main root and causes the formation of numerous fibrous rootlets which, working near the surface, are better adapted to feeding the plants. The plants should be three to four inches apart or, if space is limited, they may be planted as closely as can conveniently be done, in which

*A part of an address before the Western Horticultural Society in Winnipeg last February. It will be continued in next issue.

Tomatoes in Western Home Gardens

Brenda E. Neville, Cottonwood, Saskatchewan

case they should be re-transplanted as soon as they become crowded.

Some gardeners leave the plants fairly close and keep them short and stocky by repeatedly clipping the leaves. This practice is apt to exhaust the vitality of the plants and is often followed by a large percentage running to seed.

The principle to be observed in raising celery plants is to secure an even, vigorous, unchecked growth throughout. The dangers to be avoided are overcrowding, unnaturally forced growth and subjecting the plants to a moist, steamy atmosphere, often the case in greenhouses and hotbeds. Any severe check to the young plants may result in disaster by weakening their vitality, rendering them likely to run to seed and making them liable to attacks of disease.

Leaf Hopper on Vegetables

Arthur Gibson, Central Experimental Farm, Ottawa

In eastern Ontario and Quebec the ravages of the apple leaf hopper (*Empoasca mali*) to potatoes, beans and many other kinds of plants, were very serious in 1908; in fact, this outbreak was one of the most important of the year. The apple leaf hopper is a very small, slender, pale, greenish insect, about one-eighth of an inch long when mature. That year it began to make its presence known towards the end of June, by causing the leaves of the attacked plants to curl up and turn brown. The injury is done by thousands of these small insects sucking the juices from the leaves and stems of the plant, which very soon blackens and fades.

The young leaf hoppers do not get their wings for some little time after they hatch from the egg. It is during this stage that most of the harm is done, and this is the only time when a remedy can be applied with much success. Potatoes which were sprayed at the Central Experimental Farm with whale oil soap, one pound in five gallons of water, or with the ordinary kerosene emulsion, early in July, before the young leaf hoppers had acquired their wings, were freed from the pest and not since injured to any appreciable extent. As these insects feed on the lower side of the leaves, it is necessary in order to reach them with a spray, to attach a nozzle to a short joint of pipe about a foot long, having an angle of about forty-five degrees in it. The severity of the outbreak of this insect in 1908, was doubtless much aggravated by the exceptional drought and heat, which weakened the plants and made them more than usually susceptible to injury.

The ideal location for a cranberry bog is one that imitates natural conditions as far as possible and enables the grower to have the greatest control over late frosts in spring and early frosts in fall.

THE hotbed for tomato plants should be made just as for raising other seedlings—a couple of feet of strawless horse manure well packed, covered with nearly six inches of light sandy loam, very fine. Water well, cover with glass, and leave for a few days until the weed-seeds start to grow. It will be safe then to set in the tomato plants.

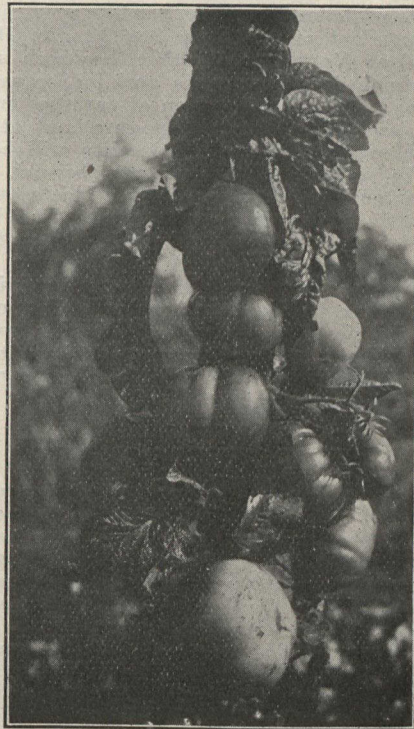
Rake the surface of the bed well to kill all weeds that have started. Slip the plants carefully from their pots, and set them quite deeply in the soil of the hotbed, placing water about each root

again, choose a cloudy day if possible. If a cloudy day does not come, never mind. Lift each plant carefully, and set in garden, deeply, so deep that only the top shows. Do not leave a bare stem above the ground, no matter how long it is. Fill the hole the plant stands in with cold water. Fill in with earth, leaving the soil loose on top. If the sun is very hot a little shade may be given beneficially, but I have set plants out in this way without shade, and had them do nicely.

Watch your plants, and when the second bunch of flowers opens on each branch, nip off the rest of the branch above the flowers. I would say nip off all but the first bunch of flowers only sometimes the first bunch does not set fruit. Do not prune the side branches off. It leaves the plant too much exposed to the winds which prevail here. But keep the ends nipped closely.

Do not water after transplanting; and do not cultivate deeply. It induces too rank a growth, and the fruit will not ripen.

Following the above method, a small crop of ripe fruit may be gathered most seasons; and a large crop of nearly ripe fruit may be picked and stored away in boxes of bran, where they will ripen slowly after the plants are frozen outdoors. Tomatoes mature slowly here because our nights are so cold even in the hottest weather.



Branch of Dwarf Giant Tomato

Grown by Mr. E. A. Sanderson, Dauphin, Man. Seventeen tomatoes averaged fourteen ounces each.

as before. The plants should stand six inches apart each way in the hotbed. After planting, sprinkle the whole bed lightly with cold water. Cover with the glass, and shade the bed if the sun is hot, by spreading over it an old blanket, or a length of burlap. Shade will only be required for a day or two, after which the sun will do no harm.

On hot days the glass should be raised a little to admit air. As the plants grow they should be given all the air possible without chilling them. Accustom them gradually to the wind. Long before time to set them in the open garden, the glass may be removed all day. Standing so close together the wind will not break the plants easily, and they will become tough and hardy.

It will not be safe to set them in the garden until after the first full moon in June. We usually have a light frost then. When the nights grow warm

Profit in Potatoes

At the convention of the Western Horticultural Society held at Winnipeg in February an address was given by S. R. Henderson of Kildonan, Man., on "Potato Growing." Mr. Henderson pointed out that even at the low yield of 192 bushels an acre, given as official returns for the average yield of the province, potatoes at 35 cents a bushel were a paying crop. He emphasized the necessity for the use of good seed, good cultivation and good land and estimated the profits on one acre as follows:

COST OF PRODUCTION

Seed, 20 bus. @ 50c.....	\$10.00
Plowing	2.50
Harrowing	2.00
Cultivating	2.00
Hilling	1.00
Hoeing	4.00
Digging	5.00
Marketing	16.00
	<hr/>
	\$42.50

PROFIT

Yield, 250 bus. @ 35c.....	\$87.50
Less cost of production	42.50
	<hr/>
Profit for one acre	\$45.00

The Canadian Horticulturist

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PETERBORO, ONTARIO



The Only Horticultural Magazine
in the Dominion

OFFICIAL ORGAN OF BRITISH COLUMBIA, ONTARIO
QUEBEC, NEW BRUNSWICK AND PRINCE EDWARD
ISLAND FRUIT GROWERS' ASSOCIATIONS

H. BRONSON COWAN, Managing Director
A. B. CUTTING, B.S.A., Editor

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5. Advertising Rates quoted on application. Copy received up to the 18th. Address all advertising correspondence and copy to our Advertising Manager, Peterboro, Ont.
6. Articles and Illustrations for publication will be thankfully received by the editor.

CIRCULATION STATEMENT.

Since the subscription price of The Canadian Horticulturist was reduced from \$1.00 to 60 cents a year, the circulation has grown rapidly. The following is a sworn statement of the net paid circulation of The Canadian Horticulturist for the year ending with Dec., 1909. The figures given are exclusive of samples and spoiled copies, and of papers sent to advertisers. Some months, including the sample copies, from 10,000 to 12,000 copies of The Canadian Horticulturist are mailed to people known to be interested in the growing of fruit, flowers or vegetables.

January, 1909.....	9,456	January, 1910.....	8,925
February, 1909.....	9,310	February, 1910.....	8,967
March, 1909.....	9,405	March, 1910.....	9,178
April, 1909.....	9,482		
May, 1909.....	9,172		
June, 1909.....	8,891		
July, 1909.....	8,447		
August, 1909.....	8,570		
September, 1909.....	8,605		
October, 1909.....	8,675		
November, 1909.....	8,750		
December, 1909.....	8,875		

Total for the year .107,638

Average each issue in 1907, 6,627
" " " " 1908, 8,695
" " " " 1909, 8,970

Sworn detailed statements will be mailed upon application.

Our Protective Policy

We want the readers of The Canadian Horticulturist to feel that they can deal with our advertisers with our assurance of the advertisers' reliability. We try to admit to our columns only the most reliable advertisers. Should any subscriber, therefore, have good cause to be dissatisfied with the treatment he receives from any of our advertisers, we will look into the matter and investigate the circumstances fully. Should we find reason, even in the slightest degree, we will discontinue immediately the publication of their advertisements in The Horticulturist. Should the circumstances warrant, we will expose them through the columns of the paper. Thus we will not only protect our readers, but our reputable advertisers as well. All that is necessary to entitle you to the benefit of this Protective Policy is that you include in all your letters to advertisers the words, "I saw your ad. in The Canadian Horticulturist." Complaints should be made to us as soon as possible after reason for dissatisfaction has been found.

Communications should be addressed:

THE CANADIAN HORTICULTURIST,
PETERBORO, ONTARIO.

EDITORIAL

HORTICULTURE IN LABRADOR

The work that is being done by the Canadian Labrador Horticultural Mission should be encouraged and supplemented by the establishment of a small experiment station in that locality supervised by the government. The work assumes national import when it is realized that the possibility of growing vegetables will revolutionize the dietary of the whole Labrador coast and rid the fisher-folk of scurvy and many other dread diseases.

During a series of lectures given in various Canadian cities last year, Dr. Grenfell stated that gardens will flourish in many parts of Labrador. Miss Edith Mayou, superintendent of the Deep Sea Mission Hospital at Harrington Harbor, has been successful in introducing the work. (See pages 91 and 97). The selection of varieties must be done with the greatest care and other problems peculiar to the locality will have to be studied. The work goes beyond the accepted idea of mission work. It is a question of outstanding importance. The Dominion government should give the matter serious consideration. A small station for testing varieties and for general investigation work in determining the horticultural possibilities of the Canadian Labrador would most likely result in inestimable benefit to our fellow citizens in that far-away corner of our great Dominion.

THE SOCIETIES' GRANT

The increase in the grant to horticultural societies in Ontario does not meet the need. While the societies are thankful for small mercies, they expected and require a larger increase than \$2,000. This amount is inadequate. When divided among the societies each one will receive an amount that is insignificant when compared with the great growth in membership and in work that has taken place and which still continues.

The horticultural societies are deserving of greater support. They are producing results in their work that are not duplicated by any other similar organization. Their efforts, which are voluntary and not for commercial purposes, mean more than the government apparently appreciates. Each society in the province should impress these facts upon its local member of the legislature so that they will be prepared to grant an increase next year that will be worthy of the cause.

EXPERT GARDENER NEEDED

In the department of agriculture at Toronto there should be an expert on landscape gardening. This suggestion was made on various occasions by the late Mr. J. S. Pearce, then superintendent of parks for London, Ont., and was brought to the attention of the government through these columns about two years ago. It was discussed at the time also by the Canadian Horticultural Association. There is a general feeling among florists, private gardeners and home-makers that such an appointment should be made.

A Provincial Landscape Architect could be of great benefit to the province. His duties could include the planning and planting of the grounds surrounding public buildings and in public parks. His advice would be sought by municipalities and by individ-

uals and would result in a great change for the better in the appearance of our towns and cities. The announcement of the appointment of a Provincial Landscape Architect would be received with pleasure by all persons that are interested in the improvement of Ontario homes and public places.

ADVERTISING VEGETABLES

In the growing of fruits and vegetables, business methods are as necessary as in any other line of commercial effort. One of the first considerations is to let people know what you have to sell. To do this best and quickest, advertising should be done in the local press. To some growers, the idea of paying for space in a newspaper is something to be shunned. Why should it be? There is no reason why market gardeners should not announce in the papers daily what they will have on their delivery wagons the following day. Try it and see. Do not start to advertise unless you intend to follow it up.

When writing the advertisement, be original. The statement that "John Jones Grows the Best Vegetables in this Locality," will not bring marked results. Be seasonable. Tell about one thing at a time. Always use the same position in the paper, even if it costs a little more money. Back your statements with a superior product and you will soon become convinced that it pays to advertise.

THE FARM ORCHARD

In spite of the fact that fruit growing is one of our most profitable industries, most farm orchards are neglected and a disgrace to the country. There are more uncared for and unprofitable orchards in Canada than profitable ones. It is the one department of most farms that receives no thought and no attention. If this class of farmer realized what the orchard can do for him and had his best interests in mind, this condition of affairs would not be. No part of the farm can be made to yield a greater return per acre. Every dollar expended upon the orchard, in money, time and labor, will return to the owner two dollars and, in many cases, much more. In the orchard, even old ones, there is an opportunity for gain that few farmers recognize.

To renovate an old orchard all the operations in up-to-date fruit growing should be practised. There is no half-way mark in orchard management. The older and more neglected the orchard is, the more necessary it is to undertake its rejuvenation in a whole-hearted manner.

If it is on poorly drained land, it should be tile-drained; main drains alone run through the depressions would improve matters. Assistance in money and in planning the drainage scheme may be had in Ontario from the government. It is not always practicable to drain old orchards, however, as the roots interfere with the work. Land for new orchards should be thoroughly drained before planting, either naturally or mechanically.

Most orchards are sod-bound. Plow them early this spring and cultivate every two weeks or so until mid-summer. Then sow a cover crop of clover. The results in vigor and healthfulness will be surprising.

Have the trees been pruned properly and regularly? In most cases the answer is "no." Start to get them into proper shape right away. If long neglected, do not be too severe the first time. Take out about one-third of the large limbs that overcrowd and thin out the smaller ones all around the outside of the tree. Next year and the one following complete the removal of un-

necessary large limbs and continue the pruning of small twigs then and every year afterwards. Read the articles on pruning that appear in this magazine.

How often has the orchard been sprayed? "Never!" Well, commence now. No work in orchard management pays better. In some seasons, spraying means the difference between ten dollars and one dollar or less on one tree.

When all these things are put into practice, the orchard will take a new lease of life. Try it and see. Do not put it off. Hundreds of farmers have done this and are making money that at one time they did not believe possible. They have made new orchards out of old ones. If you have an orchard, you can do the same. If you haven't one, buy trees and plant. It pays to grow fruit.

PUBLISHERS' DESK

The March issue of THE CANADIAN HORTICULTURIST was a record breaker in many ways. It was not only the largest issue that we have ever published, but it contained the largest number of columns of advertising, the value of the advertising was the greatest, there was the largest number of individual advertisers, and also the largest number of new advertisers, of any single issue. This not only shows that our old advertisers are still using the paper and that it brings results for them, but that new advertisers in large numbers are beginning to find that THE CANADIAN HORTICULTURIST is a paper that appeals to the class of people whom they wish to reach.

As this page is one of the first to go to press, we are unable to give any definite information regarding the April issue, but from indications as our first forms go to press, the April issue will be another "largest ever." What better evidence can we give that THE CANADIAN HORTICULTURIST is "making good" with its advertisers?

If this catches your eye, Mr. Advertiser, who is not advertising in THE CANADIAN HORTICULTURIST, why not let the experience of other advertisers guide you and plan to use space in the May issue. It will be a good one. Forms close April 20th.

In the article on "The Preparation and Use of Concentrated Lime-Sulphur," by Prof. J. P. Stewart, that appeared in our March issue, all references to gallons on page 53 are in wine measure. Five gallons in this measure equal approximately four gallons Imperial, the

measure used in Canada. In the table on page 69, it should also be stated that the treatment for plant lice is not always as successful as might be desired.

What is a Crab Apple?

In connection with this question the illustration that appears on this page is particularly interesting. Mr. R. A. Marrison, of Catarqui, Ont., from whom the specimens were received, states that this seedling has been accepted by consumers, by nurserymen and by professional horticulturists as a crab-apple. He writes:

"Our customers always pay us double the price that they could buy any other crabs for, and they always remember to ask for them the next season. We have not had the slightest difficulty in having them accepted as crabs. They are extra good keepers for crabs."

"An apple grower could probably point out the tree as a crab at 100 yards distant, if it were growing in a row with other apple trees. It looks like a crab tree, and its crab leaves are nearly as large as a man's hand—perfect crab tree leaves."

In the report for 1905 of Mr. W. T. Macoun, Horticulturist, Central Experimental Farm, Ottawa, this apple is described, under the heading "New Fruits," as follows:

"Seedling crab apple.—Fruit large for a crab; two by two and one-half inches; form, roundish, slightly angular; cavity, medium depth and width; stem, long, slender; basin open, medium depth, much wrinkled; calyx, closed; color, yellow, well washed with deep crimson and splashed with dark crimson; dots few, yellow distinct; skin, moderately thick, moderately tough; flesh, yellow, tender, juicy; core medium; briskly subacid; pleasant flavor, very little astringency; quality, good for a crab; season, probably early to mid-October. A handsome crab of the largest size. May prove desirable as a late variety."

Since Mr. Macoun wrote the above description and after he had examined more specimens, he stated in a letter to THE CANADIAN HORTICULTURIST that, in his opinion, the introducer would have difficulty in getting this apple accepted as a crab apple. This is the opinion of THE CANADIAN HORTICULTURIST. The size of the fruit alone would place it outside of the list of crabs. Furthermore, its origin is obscure, it being a chance seedling. Mr. Marrison says:

"I have always believed it to be a seedling of the Snow apple, as it came up where a lot of refuse from Snows had been thrown; but some specimens of its fruit grow larger than that variety."

The case of this seedling further emphasizes the need for a definition to distinguish between apples and crab apples. What do the readers of THE CANADIAN HORTICULTURIST think of this case? More expressions of opinion on the general question are invited. Note the following from Mr. W. M. Robson, of Lindsay, Ont.: "The question, 'What is a crab apple?' is a startling announcement, notwithstanding the present advancement in the science of pomology. It is a strange anomaly that necessitates some authentic answer to its identity. Of late, several seedlings from apple parentage of a size that would scarcely command recognition as an apple of merit, yet, being insidiously merged into the crab apple family, have become a prodigy in this class. Thus, subject to the whim, or caprice of the individual, their propagation (and questionable accuracy) is continued, resulting in the confusion of species."

"After more than 50 years of apple culture in Ontario, with its several colleges, each having its chair on Pomology and Horticulture, not to mention the numerous auxiliaries by way of horticultural societies, lectures, conventions, and demonstrations—all intended to aid and disseminate the principles and essentialities of fruit-growing including kinds, qualities and correct nom-



Two Specimens of a Seedling Crab Apple, "Phenomenal"—Actual Size—The Largest and the Smallest that the Tree Bore Last Season

The question, "What is a crab apple?" that has been discussed in recent issues of THE CANADIAN HORTICULTURIST, was first asked on the receipt last fall of a number of apples of various kinds, which were claimed by the senders to be crab apples. The specimens from which this illustration was made were among the number. The apples measured in circumference 10½ x 9½ and 8½ x 8½ inches respectively. They were sent by Mr. R. A. Marrison, Catarqui, Ont.

enclature—it is a sad comment on the times and our boasted system to have to ask the question: 'What is a crab apple?'

"The answer of the interested majority would probably be that it is an apple in a class by itself, minus its distinctive characteristic undefined by an acknowledged authority. Others may define it as a species without an authorized formula to distinguish its identity at present.

"Personally, I consider that the crab apple merits a better fate than that of being assimilated out of recognition by the invasions of different species. Surely its unique character as a preserving and ornamental fruit and also its fame as the parent of illustrious progeny, should entitle it to a place worthy of protection from the fate of obsolescence.

"Then, if such a condition exists it ought to be a sufficient incentive for anyone to ask for an investigation by a competent person in the college, who will give to patrons and the public the component characteristics, properly formulated, of the crab apple."

Canadian Apple Show

Editor, THE CANADIAN HORTICULTURIST: I noticed in the editorial columns of your February issue some remarks regarding the holding of an annual apple show in Canada along lines similar to the one held in Spokane, Wash., that has been attracting so much attention, and undoubtedly been productive of much good. The addresses and discussions in connection with the Spokane Show have infused new blood in the apple growers of the west and have helped very much to produce that exceptionally fine fruit, and the up-to-date methods practised in cultivation, pruning, thinning, packing and marketing.

During the past apple harvesting season, I was privileged to spend some time in the

principal apple sections of British Columbia and everywhere would you hear reference made as to the valuable lessons and the information learned at Spokane. Preparations were then being made to attend the 1909 show as well as have their products on exhibition, where subsequently, British Columbia again captured a share of the prizes.

The object lessons there learned together with the talks by practical men along all lines, from the growing of the trees in the nursery to the marketing of their products, are looked upon as of inestimable value. It has done much good towards educating British Columbia apple growers, and placing them in many respects in advance of us conservative Ontario apple growers. While some of the methods there practised, on account of the different climatic conditions, would not be practicable here, there are however, many lessons we could learn from them to our advantage. The western fruit, being so much superior in general appearance, uniformity, shipping and keeping qualities, with the careful grading and packing, accounts for the good prices they are able to secure.

In view of these facts, it would be useless for us at present to attempt to compete with them at an apple show. Our apples and some of our other fruits are superior in flavor to western grown fruit, but in appearance and keeping qualities the west has the advantage. The all important matter that confronts us is to grow a better class of apples and I am satisfied we can do so if we go about it right. The sooner we get out of the old rut, allowing our trees to overbear and produce a large quantity of apples that are valueless for market and really so few that are strictly No. 1, will the apple industry of Ontario take on new life and prove remunerative as it has in the west. We will then again be pro-

ducing apples, even vastly superior in uniformity and appearance with the aid of modern methods, to the choice apples that were grown here years ago before the insect and other pests were in our midst. Then, too, being free of fungi, they will possess much better keeping qualities.

What we need is an annual Ontario apple show and convention. There is no province in Canada capable of such vast expansion of this industry, adapted for growing good flavored apples and capable of producing a variety in the various localities from the early to the late or winter varieties. Therefore, we should consider the advisability of holding such a show and convention to develop this industry. By the object lessons and instructions imparted, such a show would be the means of arousing an increased interest and leading the way to develop this important, but much neglected industry.

Canada has the ideal climate to produce the best apples and wheat in the world. Let us see to it that we put on the market the best products it is possible for us to produce. We should never rest content to leave good enough alone, but press forward for something better.—W. B. Rittenhouse, Beamsville, Ont.

[NOTE.—That better provincial shows are needed before we undertake to hold a national apple show is evident. Mr. Rittenhouse's suggestion that an annual apple show and convention be held in Ontario is already an established fact in the Ontario Horticultural Exhibition and the annual meetings of the Ontario Fruit Growers' Association. It is planned to develop this show along similar, but more restricted, lines to that of the Spokane show. If fruit growers of Ontario give it their best support, it will become the extensive and influential show that Mr. Rittenhouse suggests.—Editor].

Plant Northern Grown Stock

It is hardy, mature, and will grow where other kinds fail. It is the kind you should plant in your orchard and garden this spring to secure the best results.



View of Hydrangeas in our Nursery at Pointe Claire

HARDINESS AND QUALITY

are prominent characteristics of our stock. Our trees and plants are well grown. Note the width between the rows in the illustration and the bushy well-developed plants. Our aim constantly is to grow nursery stock of the best quality. A trial order will convince you that our stock is the best that grows.

THE CANADIAN NURSERY CO., Ltd.

Nurseries: Pointe Claire, Que. 10 Phillips Place, Montreal, Que.

A FEW RELIABLE SALESMEN WANTED

GRASSELLI ARSENATE OF LEAD

- ☞ It is an arsenical poison.
- ☞ This is what it is for:
- ☞ To destroy leaf eating and chewing insects, such as the Codling Moth, Canker Worm and Curculio.

- ☞ Here is why it is better than White Arsenic or Paris Green:

- 1st. It sticks, ready to destroy the insects when they commence to feed. It also shows, so you may know whether or not your foliage and fruit is all covered.
- 2nd. It will not burn the foliage, even though used stronger than directions. (Have you ever figured the cost to you if an arsenical burned the foliage?)

Why You Should Use Grasselli Arsenate of Lead:

- 1st. Because it is a poison made by chemists whose business it has been to make high grade chemicals over 70 years.
- 2nd. It has been used in the Niagara section the past two seasons with best results.—Therefore, it is not an untried brand about which you know practically nothing.
- 3rd. The price is right. We charge a reasonable price for the Best.

WILL YOU SEND YOUR ORDERS EARLY TO

THE ST. CATHARINES COLD STORAGE & FORWARDING CO.

(ROBT. THOMPSON, President)

ST. CATHARINES, ONT.

OR SEND ENQUIRIES TO US

THE GRASSELLI CHEMICAL COMPANY
CLEVELAND, OHIO

Use Best Seed for Gardening

A. V. Main, Almonte, Ont.

Do you want to have a good garden this summer, a better one than last year? If so, in the first place, procure good, reliable seed from a reliable source. Where can such seeds be purchased? I have sown seed from all the noted firms in Great Britain where they specialize and have extensive trial grounds. Yet, I have had failures with seed not germinating.

You can't condemn a seed firm if some packet has given a poor percentage. Much depends on the treatment, temperature moisture and depth of sowing for success with seeds. The individual or grower is largely in control of the seed proving good or bad. Because your neighbor has a better tomato crop than you have, the blame is laid on the seed, although it may be the same seed.

A firm that wilfully sells useless seed can never survive long. One fault is that too many dabble with seeds. In small towns, you find seeds displayed in almost every store. It is surprising that reputable seed houses that supply these off-shoots, as it were, do not have a better system. One agent in small towns and villages is surely representative enough for one firm.

I have found Canadian seed firms to furnish seed equal in quality and high percentage of germination to any house of fame in Great Britain. A large quantity doubtless comes from there and other countries. However, the seedsmen in the Dominion have the right article in stock and it is adaptable to the climate. I have experimented with several vegetable strains from the Old Land, but find them entirely secondary to Canadian sorts.

In Canada we should have great trial

grounds and produce more of our own seed. There is no gainsaying the fact but that seed matured, harvested and carefully selected in this country would naturally be better acclimated than the foreign product. Nevertheless, we are more or less dependent on our neighbors for supplying our wants in this particular line as well as in many others. Farmers and gardeners that read THE CANADIAN HORTICULTURIST should send direct to those seedsmen that use the columns of this paper as their advertising medium. It is just as economical and more profitable than local purchases.

Leading seed firms test all their seeds before sending them to their customers. A sample of each sort is sown in pots or boxes in their glass houses. If it fails to give a satisfactory germination, it is not put on the market; thus, the customer cannot find fault with the purity of the seed. We should give our support to the Dominion seedsmen, and they should be encouraged to give more attention to the extending of trial grounds, hybridizing and the selection of adaptable varieties suitable for the different parts of the land.

Gardeners themselves ought to experiment more and find the strains that give the best results in their own locality. The garden is too often subjected to random treatment; likewise, many orchards and farms. It is being felt more keenly every year that a random, haphazard, careless management of crops is ruinous and detrimental and cannot stand the rivalry of up-to-date methods.

"The Man With The Hoe," is the name of an interesting little booklet prepared by the Bateman Mfg. Co., makers of the Iron Age Tools. Free copies may be had by writing to the above company at Box 516-G Grenloch, N.J., and mentioning this paper.

Horticulture in Labrador

Last year an attempt was made to grow vegetable and flower seeds in the Canadian Labrador and success attended the effort. In a letter to a lady in London, Ont., a year ago last spring, Miss Edith Mayou, Superintendent of the Harrington Hospital in the Canadian Labrador, stated that the dietary of the fisherfolk might be improved by growing vegetables for food. The suggestion was referred to Mr. Emery B. Hamilton, London, Ont., an expert in regard to seeds, etc., and was taken up enthusiastically by him. Previous efforts to grow satisfactory vegetables had failed in the Canadian Labrador, but his selection of the hardiest early varieties which were sent by the last boat last year, brought forth most satisfactory returns. Only some \$30 contributed by sympathizers who were willing to expend the amount on an experiment that did not seem to be promising, were at the disposal of those in charge. The entire amount was used for seeds, leaving no surplus for tools. Only crudest tools were used by the inhabitants of the barren coast who made rakes by driving long nails through a bar of wood and manufactured watering-cans by punching holes in tomato cans. Those who had the ambition to make the effort were well rewarded.

Last fall a horticultural exhibition was held and tools necessary for gardening distributed for prizes. The exhibition was a success. The work will be extended. As it is supported entirely by subscription and being in connection with the great mission of which Dr. Wilfred T. Grenfell is the head, contributions will be gratefully received. Address, Mr. Emery B. Hamilton, chairman, Canadian Labrador Horticultural Mission, 546 Wellington St., London.

FRUIT GROWERS

Who Want Clean Fruit Should
Write For Our Booklet on - -

CAMPBELL'S SPRAYS

- "Prepared Bordeaux Mixture"
- "Nico-Soap Insecticide"
- "Vermoid, Soil Fumigant"

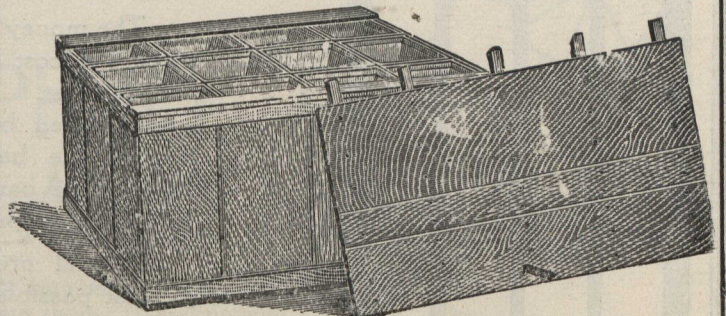
All Ready for Use in Few Minutes
No Clogging of Pumps
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BASKETS

We are Headquarters for
all kinds of Splint Baskets



Vener supplied for the protection of trees from mice
during winter

FRUIT PACKAGES A SPECIALITY

SEND FOR OUR PRICES

The Oakville Basket Co., Oakville, Ont.

Mention The Canadian Horticulturist when writing

PEAR AND APPLE BLIGHT

We have positively
demonstrated that we

**CAN CURE
THIS DISEASE**

Write us for Parti-
culars

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REMEDY CO.**

Vacaville,
California

Ontario Vegetable Growers

The annual meeting of the Ontario Vegetable Growers' Association was held in Toronto on Feb. 8, with the president, T. Delworth, Weston, in the chair. The following directors were present: F. G. Fuller, London; F. Whitehead, London; E. H. Titterington, St. Thomas; J. W. Rush and James Dandridge, Humber Bay; C. H. Weaver, Dunnville; G. H. Pood, London; R. H. Lewis, Hamilton; C. W. Baker, Byron; J. Dugal, Tecumseh; Geo. Syme, jr., Toronto; Wm. Broughton, Sarnia; T. A. Newton, Woodstock; F. F. Reeves, Humber Bay; and the secretary, J. Lockie Wilson, Toronto.

The financial statement showed a balance on hand of \$53.12. It was decided to hold the next convention in London during the time of the Western Fair. The matter of changing the name of the association was left in the hands of the executive. A motion to assist the Dunnville branch in getting express rates on vegetables readjusted was carried.

The need for a revision of standard weights of vegetables was brought up by Mr. Rush, who suggested the following as fair: Parsnips, per bush, 45 lbs.; carrots, 50 lbs.; beets, 50 lbs.; artichokes, 56 lbs. As the standard now is 60 lbs. for all and commission houses buy by weight the result is a loss to the grower. Potatoes should have a standard of 75 lbs. instead of 90 lbs. as they are frequently sold in sugar bags which only hold one and one-quarter bushels and weigh 75 lbs. The executive was instructed to ask the Dominion government to fix the above standards for vegetables.

Officers were elected as follows: Pres. T. Delworth, Weston; 1st vice-pres., F. G. Fuller, London; 2nd vice-pres., T. A. Newton, Woodstock; executive committee; T. Del-

Small Fruits

**STRAWBERRIES
and
RASPBERRIES**

Quebec Grown Plants

Have you found suitable varieties for your soil and section?

The beginner should make his trials wide to arrive at this.

Professionals should bear in mind the best variety is always moving forward.

A trial patch is very interesting, and inexpensive, and leads to improvements that increase the effectiveness of one's work for all time.

I have some of the best varieties of both these fruits.

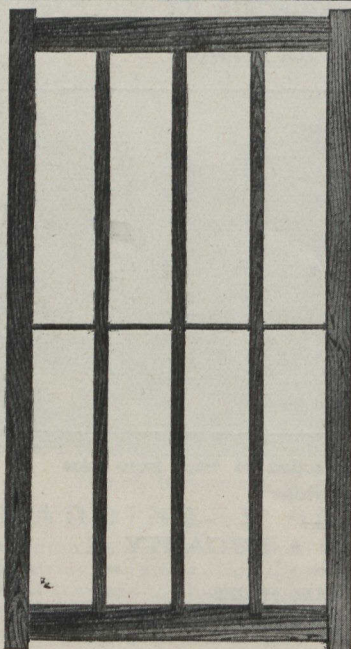
Send for Catalogue.

Will Lower Quotations for Quantities.

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GO TO BATTS LIMITED FOR HOT-BED SASH



**PROFIT AND PLEASURE IN GROWING EARLY VEGETABLES
AND FLOWERS IN HOT-BEDS**

The money saved in growing your own vegetables and flowers, saves the cost of the beds the first year. Our Hot Bed Sash are built to last. All the joints are tight fitting, blind mortised and white leaded before being put together. A $\frac{1}{2}$ inch oak rod runs through the bars and into the stiles. A metal pin is driven into each of the bars and stiles through the rod. In this way each bar is held in its proper position and prevented from sagging.

A trial order will convince you that our sash possess the greatest possible strength and durability.

Hot bed folder mailed on request.

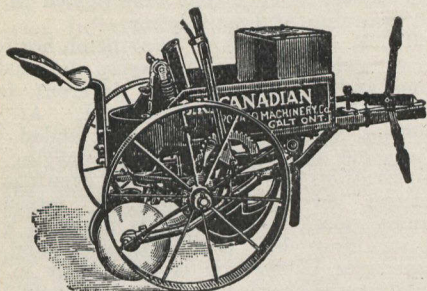
**SIZE:-- 3 FT. 2 INS. WIDE BY 6 FT. LONG FOR 4 ROWS OF 8 INCH
GLASS, FOR BUTTED OR LAPPED GLASS**

PRICE:--NORWAY PINE 95c., CLEAR RED CYPRESS \$1.20

MAIL YOUR ORDER TO-DAY

BATTS LIMITED—374 PACIFIC AVE.—WEST TORONTO

POTATO PLANTER



1909 MODEL

With or without fertilizer attachment, opens the trench, drops the seed, covers it, and marks for the next row all in one operation. Does not bruise or mar the seed in any way. One man and team can plant from 4 to 6 acres per day.

Write for Catalogue

Canadian Potato Machinery Co., Limited
124 Stone Road GALT, ONT.

The confidence felt by farmers and gardeners in Ferry's Seeds to-day would have been impossible to feel in any seeds two score of years ago. We have made a science of seed growing.

FERRY'S SEEDS

always do exactly what you expect of them. For sale everywhere. **FERRY'S 1910 SEED ANNUAL** Free on request.

D. M. FERRY & CO., Windsor, Ont.

worth, J. Lockie Wilson, F. F. Reeves, C. W. Baker and C. H. Weaver; directors on Ontario Horticultural Exhibition, F. F. Reeves, Thos Delworth, Geo. Syme, Jr. and J. W. Rush.

Hon. J. S. Duff, Minister of Agriculture, who was present, expressed his willingness to set aside a portion of the Driftwood Experimental Farm for experiments with potatoes so as to determine the most suitable kinds for seed.—G.

Improving Vegetable Varieties

Fred Collins, Chatham, Ont.

Out of the host of so-called new varieties of vegetables that appear annually, I do not think that many show very decided advancement. The man that accepts the optimistic descriptions in the seed catalogues is doomed to much disappointment. I am more in favor of improvement of the very excellent varieties we already have by a system of plant selection. Take for instance, the Earliana tomato. In my estimation, it is the best early tomato we have but it has many defects, among which are a hard green stem and an irregular shape. My plan is to select a plant which produces fruit freest from these defects and keep all the fruits for seed. It would be better to cover the vine in some way to prevent cross fertilization, but I do not take that much trouble and I have a very much improved Earliana tomato.

One of the great difficulties I have to contend with is to buy pure seed of good germinating quality. Last year, I bought muskmelon seed from one of our leading Canadian seedsmen and it was so mixed that it was difficult to get a dozen fruits of one variety. I also bought parsnip seed from the same firm, and, after making two sowings, I had not one parsnip for my table.

Send me your order for

STRAWBERRY PLANTS

Good plants that will grow

I have the following choice varieties:

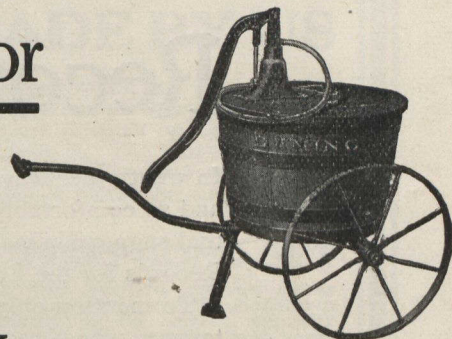
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| ABINGTON | PRIDE OF MICHIGAN |
| AMOUT | PARSONS BEAUTY |
| BEDERWOOD | RUBY |
| CHESAPEAKE | SAMPLE |
| COMMONWEALTH, | SENATOR DUNLAP |
| GLENN MARY | TENNESSEE PROLIFIC |
| GOOD LUCK | THREE W'S |
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1910 Price List Sent on Application

W. H. VANDERBURG
POPLAR HILL, ONT.

Deming Sprayers Save Labor

Spraying must be done at a busy time. Our pumps are made for busy men. They don't break down when most needed—when a few days' delay means the loss of your entire crop. No time lost in repairing—the farm hand finds they work easier than any he ever heard of.

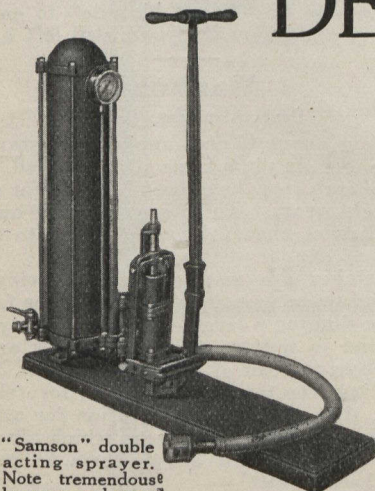


This cart sprayer has 24 gallon tank, and strong, well built barrel pump with submerged cylinder.

DEMING SPRAY PUMPS AND NOZZLES

Are without doubt, the best spraying apparatus on the market. Experiment Stations recommend them. Governments use them. Practical fruit growers would not be without them.

Our Catalogue and Spraying Chart, giving full particulars regarding more than twenty styles and sizes of hand and power spraying machines for all spraying operations, will be sent you on request by:—



"Samson" double acting sprayer. Note tremendous leverage and great capacity.

J. A. SIMMERS, 147-151 KING STREET EAST Toronto, Ont.

Or **BLACKIE BROS.,** Halifax, N.S.

NOTES FROM THE PROVINCES

British Columbia

At the convention of the British Columbia Fruit Growers' Association held at Victoria in February, Mr. W. E. Scott, deputy minister of agriculture, gave an account of his experiences in England, where he went in charge of the British Columbia fruit destined to be exhibited there. He stated that there is a market for A. No. 1 fruit only, but none other pays to ship. The highest price he obtained on selling boxes of apples that had been on exhibition there was for Spitzenberg, from 10s. to 12s. 6d., a box. Freight costs \$1 a box and as ordinary No. 1 pack would bring but 8s., there are better markets nearer home.

The cry is for a big red apple and Jonathan, McIntosh, Spitzenberg, and King are recommended as the best varieties for this market. He gave a warning against planting too many trees of Cox's Orange as they were not the most satisfactory.

Exhibitions were made at 24 different places, each exhibition lasting from two days to a week, and much good has been effected. The fruit obtained 22 medals, as follows: Nine gold, three silver gilt, nine

silver and one award of merit. All this was in addition to a Royal Horticultural Society's gold medal.

"Two important questions," remarked Mr. Scott, "have to be solved before we can cater to the better class settler; the first being land clearing on a financial basis, and the second, the question of labor and domestic service." The acute want now is to obtain suitable girls for domestics and he suggested that the Government establish a home for these and some financial assistance until places could be bound for them. —W.J.L.H.

Vancouver Island, B. C.

F. Palmer

With the exception of a few days' cold or wet weather now and again, fruit growers were able to work in their orchards throughout the winter. Shortly after the fall spraying of lime-sulphur solution was over, pruning was commenced and was carried on briskly during all fine weather.

For spring spraying a few growers intend to use the lime-sulphur solution, but the

majority are in favor of an extra strong Bordeaux solution, aiming to kill the aphids and red spider eggs that were missed in the fall spraying of lime-sulphur.

Mr. R. M. Winslow, provincial horticulturist, gave a series of spraying demonstrations and lectures in the different fruit growing sections of the island. At the meeting, which were all well attended, the afternoons were given over to spraying demonstrations proper, and the evenings to lectures on various spraying mixtures, pumps, nozzles, etc. This is the first work of its kind that has been attempted on Vancouver Island and it will result in the fruit growers having a more intelligent idea of spraying.

Prices on Vancouver Island

W. J. L. Hamilton

Since I have contributed to THE CANADIAN HORTICULTURIST, I have had many enquiries from subscribers as to prices of fruits, etc., in this locality; so, perhaps a few words on these lines may prove of interest. I must premise, however, that this district tributary to Victoria is an ideal country for the fruit industry, so the prices I quote are only those of which I have personal experience, and might prove misleading in other parts of the province.

Apples of good varieties, from 10 to 12 year-old trees, should bring in about \$200 an acre net. Pears are less profitable, also plums, whilst cherries and prunes bring rather more.

Strawberries rule at from 8 to 10 cents for main crop, with fancy prices for a limited number early in the season. The net profit per acre is in the neighborhood of \$400., whilst red raspberries, loganberries and blackberries bring some \$300 an acre, ranging from six cents for canning up to 10 cents in crates.

Currants are not in much demand. Gooseberries are, but, as their price fluctuates, they are not so staple a crop.

Asparagus is worth 8 to 10 cents a pound and rhubarb averages about three cents.

Transportation facilities are improving and great changes are projected; so, the land values will soon jump. In fact, the value is steadily rising all the time, and will continue to do so, as once the land rises to a price prohibitive to profitable horticulture, the wealthy man steps in and pays a long figure for it for a home, for the climate is ideal and the surroundings of great beauty.

This is partly the secret of the town of Victoria proving such a good market, as it is just the place for a man with a love of beauty who has "made his pile" to end his days in and enjoy the years still left him.

Manitoba

David Alexander, Oakville

I have about 45 crab apple, three standard apple and six plum trees all doing well. Most of the crab trees have been bearing for seven or eight years. These are the only ones in the district that I know of that are doing well.

Mistakes are made by not having the ground properly prepared by summer fallow, in not digging a large enough hole for planting and in putting the subsoil back around the roots instead of good surface soil. When planting, the top requires to be severely cut back, then give good cultivation for at least the first three or four years which gives the trees strength and allows them to mature for the winter.

My trees have very little protection, although I think it would be advisable. I allow the trees to grow to a full top, except

Edison Talent making Records for you

In what other way can you hear so cheaply and so comfortably such an array of talent as that engaged in making Amberol and Standard Records for the Edison Phonograph.

To mention only a few of these star entertainers, whose records are the joy of thousands, there are:

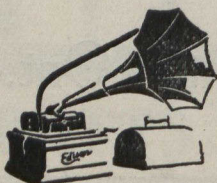
- Mabel McKinley Grace Cameron
- Albert Spalding Harry Lauder
- Vesta Tilley Ada Jones
- Nat Wills Marshall P. Wilder

There are several good records from each of these and a hundred others that you can hear at the dealers and own and hear in your own home for a trifle.

Edison Standard Records	- - -	40c.
Edison Amberol Records (twice as long)	- - -	65c.
Edison Grand Opera Records	- - -	85c.
Edison Phonographs	- - -	\$16.50 to \$162.50

There are Edison dealers everywhere. Go to the nearest and hear the Edison Phonograph play both Edison Standard and Amberol Records and get complete catalogs from your dealer or from us.

National Phonograph Co., 100 Lakeside Ave., Orange, N.J., U.S.A.



cross branches. Fruit growing would be a greater success in the province if agents selling would give a few instructions or have some information in pamphlet form to go with stock.

New Brunswick

The appointment of a provincial horticulturist and the appropriation of \$2,500 for the encouragement of horticulture is certainly a step in advance and indicates a real desire to get something done. Three new illustration orchards are to be set out this spring and the old ones will receive closer attention than it was possible to give them in the past. The horticulturist has

already visited three illustration orchards, and three orchard meetings and two evening sessions were held in Charlotte county, the week ending March 5th, at which special attention was given to the renovation of old orchards and the home fruit garden. The balance of the illustration orchards will be visited before growth starts and pruned, and again in June when demonstrations of planting, pruning and spraying will be given and general orchard practice discussed.

The Fruit Growers' Association is planning an active campaign and have already doubled their membership. Efforts will be made to hold a record-breaking apple exhibit and three days' convention in St. John about the first week in November with a

view to attracting wide-spread attention to our fruit growing possibilities. It is expected that 1910 will prove to be a very important one in the history of New Brunswick fruit growing.

Prince Edward Island

J. A. Moore

The Wealthy is perhaps the apple best suited to Prince Edward Island if it is given a favorable location and is properly handled. It needs a well sheltered spot, for when it is ripe it will drop easily, but will hold on the tree till the first week in October.

It is ridiculous for any man to try to get



OUT OF 259,000 PHONES IN USE IN CANADA, 250,000 ARE MADE BY US

DON'T you think that fact almost speaks for itself? There hardly seems much left to say. No better evidence could be demanded—or given—of the absolute perfection of every instrument turned out by us. For a long time past we have had our best engineers at work on the problem of designing a more powerful Farmers' Line Telephone. And now we have it. The work was completed months ago, although it is only now that we are offering it to you. The interval has been devoted to "trying out" these new sets under the most exacting conditions it would be necessary to meet anytime—anywhere.

OUR NEWLY DESIGNED NO. 1317 TYPE TELEPHONE SET

represents the attainment of perfection in telephone construction. Go over it point by point—prove it for yourself by comparison with any other instrument you like.

SEND FOR OUR FREE BOOK

ALL you have to do is to ask for Bulletin No 2216 and we will mail you FREE, at once, the full story of farm telephones. Asking for the book places you under no obligation—don't hesitate to tell us you want it. We are anxious that you should be posted on the value and economy of farm telephones. A post card will bring it.

Take the transmitter—into which you talk—you will find it the standard long-distance type.

Then there is the receiver—the ear-piece; it is simply perfect—never will you be bothered by local noises to spoil transmission. The result of long and careful study, it is the best possible construction and combination for the purpose.

The generator has also been well worked out—so well, in fact that this generator is stronger than any other telephone generator on the market. Observe how easily it turns. It will ring more telephones on a longer line than any other 5-bar generator made to-day. Thousands of these generators are now operating on lines more than 30 miles long with as many as 40 telephones on the same line.

The ringers and gongs are unusually efficient. Our new type 38 ringer is not

only very sensitive, *but very strong and operates on from only one-third to one-fourth of the current ordinarily required. The extra large brass gongs produce a volume of noise fully half as great again as gongs on other sets. You'll never fail to hear this telephone when it rings. The switch hook makes all contacts on the best grade of platinum points—that makes for efficiency.

Taken as a whole, Set No. 1317 is an extremely handsome and serviceable instrument. The woodwork is of quarter-sawed oak of finest quality and handsome finish. And in point of service this telephone is unsurpassed—More than \$10,000 was put into it in engineering expense alone before the first instrument was made. Would you like to know more about it?

The space here won't permit us to tell you, but if you will write, we'll gladly give you any information you may desire. Address your nearest office.

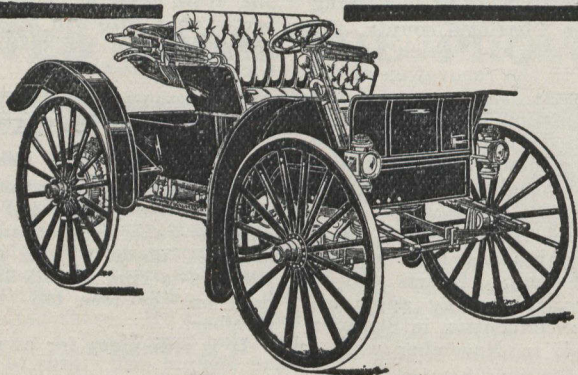
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Easier to Operate than Any Other Car

YOU will not only find the I H C auto buggy the easiest to drive, but it is so simple and easy to operate that your wife and children can use it with perfect safety. If you need to go to town or visit a neighbor it is always ready. No time is lost in hitching up.

The I H C Auto Buggy

will travel any road—over hills, through mud, snow, etc., at 1 to 20 miles an hour. The large wheels protect you from jars when going over rocks, clods and bumps. The solid rubber tires make punctures "blow-outs" and the resulting delays impossible. They do not flatten out and loosen the dirt and gravel like the inflated tires do. It's the "suction" tire cars that are doing nine-tenths of the damage to the roads. You can use an I H C buggy when you would not dare to take a horse out. It is never affected by the weather and it never gets tired.

For Business or Pleasure

it is the most sensible, serviceable vehicle. If your wife and children want to go to town or on a pleasure trip it doesn't mean taking a team from the work in the field if you own an I H C auto buggy. The International auto wagon has the same engine construction as the auto buggy. It will meet your requirements for a light delivery wagon. The full elliptic springs (36 inches long by 1-3/8 inches wide) and the long wheel base make it easy running and give it a stylish appearance. See your local dealer or write the International Harvester Company of America at nearest branch house for further information.

CANADIAN BRANCHES: Brandon, Calgary, Edmonton, Hamilton, London, Montreal, Ottawa, Regina, Saskatoon, St. John, Winnipeg, Yorkton.

INTERNATIONAL HARVESTER COMPANY OF AMERICA CHICAGO U S A
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THE I-H-C LINE

LOOK FOR THE I. H. C. TRADE MARK. IT IS A SEAL OF EXCELLENCE AND A GUARANTEE OF QUALITY.

SEND FOR CATALOGUE OF ENGLISH GROWN SEEDS OF PROVEN QUALITY

- The World's Best in PANSY MIXTURES EXHIBITION SHOW, . . . 50c.
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SPECIALTY MIXTURE, . . . 50c.
BUGNOT'S GIANTS, . . . 50c.
PARISIAN TRIMARDEAU, 25c.
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Special Amateur's Collection CONTAINING

18 Varieties of flowers for Garden and Cutting in the World's Best Seed. Post Paid for . . . \$1.00

PANSY MADAME PERRET, 25c.

ROBERT T. PINKERTON

709 EASTERN TOWNSHIPS BANK BLDG., MONTREAL, CANADA

good results in growing apples if he has not a good windbreak most all around his orchard. Part of this shelter could be made with cherry trees planted close together which would give good protection in fall and be a source of revenue at the same time.

The Yellow Bellflower also should be given more attention by growers. The tree will stand a good deal of pruning and if the fruit were thinned—a practice which must shortly come in vogue if we want to compete successfully—a fine size of fruit would reward the grower. There is no finer winter apple here than the Yellow Bellflower (Bishop's Pippin).

Annapolis Valley East, N. S.

Eunice Watts, A.R.H.S.

At one of Berwick Fruit Growers' meetings an unusual discussion took place in which a speaker advocated growing orchards in half sod and non-pruning in the raising of fruit for English markets. As an example he quoted the name of a well known Kings county man who leaves sod around the trees and cultivates a strip down the centre of the rows into which he puts fertilizer. This man sprays his trees but does not prune them. Growing apples by this method and gathering them early, the fruit is said to keep longer, and stand up well in the markets. The returns received from England were double those of his neighbors who sent by the same boat; for instance, his 88 barrels of Baldwins sold for 81 pounds (£81) while other men only received 10 or 12 shillings a barrel. The speaker said that he was growing apples for the money there was in them and he thought he would try a block of orchard in the sod plan. If the English people wanted crab apples he would grow them—but, when he wanted apples for himself he would grow them in the orthodox way!

One of the leading fruit men said that he thought that the man referred to had by his methods done great injury to the fruit industry. He could not account for the high prices, but he did know a man who shipped to the same firm as the "non-pruning" man and this grower received 32 shillings when other people were receiving 18 and 20 shillings. He thought that in the competition to get our fruit commission merchants resorted to different devices, and one method was to give a widely known grower big returns, so that when others heard of it, they would naturally ship to that firm which would make up for their loss by reversing their prices at a later date.

Orchardists are saving several dollars per ton, by co-operating in buying fertilizers.

For Spraying

Fruit Trees, Shrubs, Bushes and Plants, there's nothing to equal



Requires but one pumping to empty entire contents of tank. Automatic lever valve stops flow of liquid while going from one plant to another. Easy, light, compact; tested to stand 5 times the pressure required to expel liquid. Two nozzles, with hose attachment for spraying small trees. Write for catalogue. 1 THE EUREKA PLANTER CO. Limited, - Woodstock, Ont.

The Late Mr. Murray Pettit

In the sudden death of Mr. Murray Pettit of Winona, Ont., which took place on March 3, the fruit growers of Ontario, and particularly of the Niagara district, lost one of the best known and most prominent personages connected with the industry. Throughout his long and useful life Mr. Pettit was identified with organizations and movements that had and have to do with the progress of fruit growing. As president and a director of the Ontario Fruit Growers' Association, president of the Niagara District Fruit Growers' Stock Co., Ltd., president of the Niagara Peninsula Fruit Growers' Association (which position he held at the time of his decease), and as a prominent figure in other organizations, he labored always in the interests of the industry rather than only for personal gain. Mr. Pettit had been also reeve of the township of Saltfleet, warden of the county of Wentworth and repeatedly president of the South Wentworth Conservative Association. The nominations for both the provincial legislature and the Dominion parliament had been tendered to him, but he always declined.

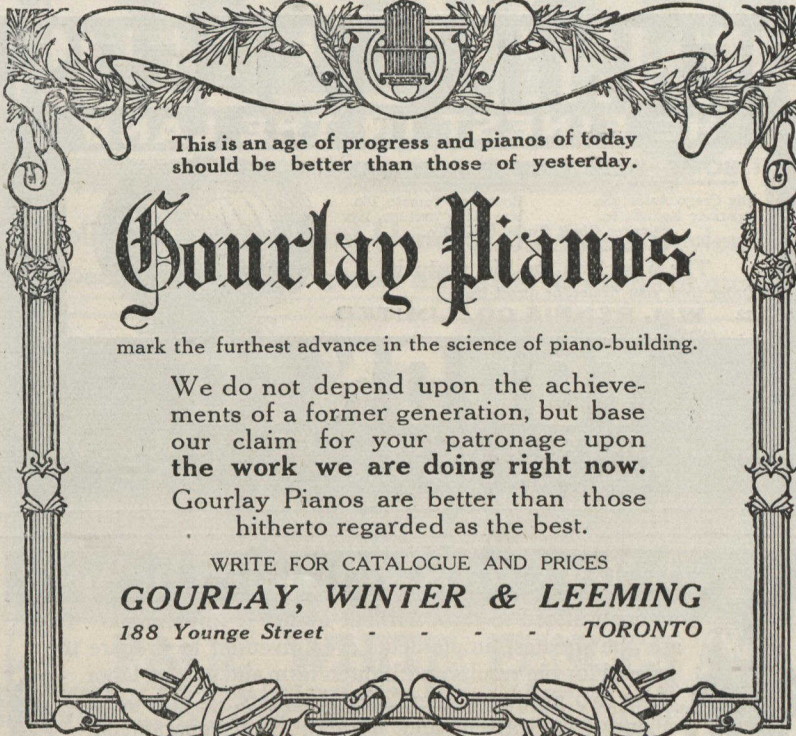
As a fruit man, Mr. Pettit was an authority, particularly on grapes. For a number of years he conducted experiments with grapes for the Ontario Department of Agriculture. He was one of those who introduced the famous Niagara grape into the commercial vineyards of the Niagara district. His opinion on the culture of grapes and on varieties was sought by leading horticulturists in all parts of this continent. Besides being a leader in all progressive movements in connection with our fruit industry, he was an upright and honorable citizen and a most courteous and unassuming gentleman. The name of Murray Pettit will be an honored one in the history of Canadian horticulture.

The reading of THE CANADIAN HORTICULTURIST ought to act as an incentive to bet-

ter efforts in the science of horticulture. I hope it will continue to improve in the future as it has most certainly done in the past.—W. T. Patullo, Caseyville, Alta.

A bulletin from the Ontario Department of Agriculture, entitled "Bacterial Blight of Apple, Pear and Quince Trees," has just been issued. The author is Mr. D. H. Jones of the Ontario Agricultural College. This is a valuable contribution to the literature

on this disastrous disease. Among other things mentioned the author tells of experiments conducted to show that the disease is spread by aphids and other sap-sucking insects inoculating twigs, by fruit bark boring beetles and other borers inoculating the branches and trunks, and by workmen's tools when pruning operations are in progress. Copies of this bulletin (No. 176) may be had on application to the Department of Agriculture, Toronto.



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PAY AFTER IT HAS PAID
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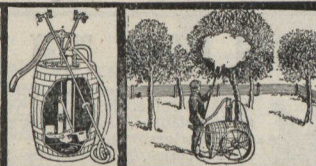
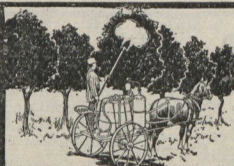
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Sprays "anything"—potatoes or truck, 4 rows at a time. Also first-class tree sprayer. Vapor spray prevents blight, bugs, scab and rot from cutting your crop in half. High pressure from big wheel. Pushes easy. Spray arms adjust to any width or height of row. Cheap in price, light, strong and durable. **GUARANTEED FOR 5 FULL YEARS.** Needn't send-a-cent to get it "on trial." You can get one free if you are first in your locality. Write now.



Horse-Power Potato & Orchard Sprayer.
For big growers. Most powerful machine made. 60 to 100 gallon tank for one or two horses. Steel axle. One-piece-heavy-angle-iron frame, cypress wood tank with adjustable round iron hoops. Metal wheels. "Adjustable" spray arms and nozzles. Brass ball-valves, plunger, strainer, etc. Big pump gives vapor spray. **Warranted for 5 years.** Try this machine at our expense with "your money in your pocket." See free offer below. Write today.



Fitz-All Barrel Sprayer.
Fits any barrel or tank. High pressure, perfect agitation, easy to operate. Brass ball-valves, plunger, strainer, etc. Automatic strainer. No "cup leathers or rubber" about any of our sprayers. Furnished plain, mount 1 on barrel, or on wheels as shown. 1 year guarantee. It don't cost you "a cent" to try it in your orchard. Get one free. See below. Write today.

FREE—Get a sprayer FREE.—After you have tried the sprayer and are satisfied that it is just as we recommend it, send us a list of the names of your Neighbors and we will write them and quote them price and have them call and see your machine work, and for every Fitz-ALL Sprayer we sell from your list we will credit you with \$2.00 or send you check if you have paid cash.
For every Man-Power Potato & Orchard Sprayer we sell we will credit you with \$3.50 or send check.
For every Horse-Power Potato & Orchard Sprayer we sell will credit you \$5.50 or send check.
We do all corresponding and selling. All you need do is show the sprayer. Many have paid for their sprayers in this way. This offer is good for only the first order in each locality. Don't delay. Send the coupon or post card NOW.
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COUPON—Fill out and send today. This Coupon will not appear again.
ONTARIO SEED CO., Ltd., 138 King St., Waterloo, Ont.
 Send me your Catalog, Spraying Guide, and "special offer" on the sprayer marked with an X below.
 Man-Power Potato & Orchard Sprayer.
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We can save you money on your Strawberry Plants. First-class, vigorous, well-rooted stock. Fresh dug, true to name, well-tested varieties, grown from selected mother plants including Williams, Dunlop, Excelsior, Parsons' Beauty and Good Luck.

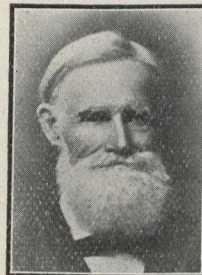
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Our 1910 price list tells all about them. Send for it to-day

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A Young Man at Ninety

A good friend of THE CANADIAN HORTICULTURIST and one who has been a subscriber since the first issue of this magazine appeared, is Mr. S. P. Morse of Lowville, Ont. Soon after the Ontario Fruit Growers' Association was organized in 1859, Mr.



Morse became a member. From the birth of THE CANADIAN HORTICULTURIST until the present time he has been a strong supporter of the publication and has helped in many ways. He has been successful in securing many new subscriptions. In a letter recently received from Mr. Morse he said:

“My desire to help increase the circulation of THE CANADIAN HORTICULTURIST was quite as much of a patriotic sentiment as a business enterprise. To develop Ontario to her full capacity as a producer of first-class fruit was to add enormously to her resources and prosperity. I pointed out the benefit to be derived from a paper that specializes like THE CANADIAN HORTICULTURIST. I was convinced that every person who is interested in horticulture in any way should take your magazine, which is authentic and reliable.” In THE CANADIAN HORTICULTURIST for January, 1907, brief mention was made of Mr. Morse's good work. At that time he had sent in 15 new subscriptions and altogether has secured 60 or more. As Mr. Morse is now 91 years old these results from his canvas are exceptional.

As a fruit grower and as a nurseryman, Mr. Morse has had a wide and varied experience. He still maintains his interest in these things. The horticulturists of Canada as well as THE CANADIAN HORTICULTURIST hope that Mr. Morse may yet add many years to his already long and useful life.

Build a Telephone Line.—Now is the time for you and your neighbors to get together and discuss the question of forming a rural telephone company. You may not know that by writing to the Northern Electric Mfg. Co., Toronto or Montreal, a little booklet may be secured, free of cost, that gives some valuable suggestions as to how to go about forming a rural telephone company. Ask for booklet No. 2216 when you write.

Our cover cut this month illustrates a section of the Niagara district of Ontario. The view is from the mountain, near Winona, and gives a fair idea of the extent of the vineyards and orchards in that famous district.

RENNIE'S SEEDS

THE FINEST IN THE LAND

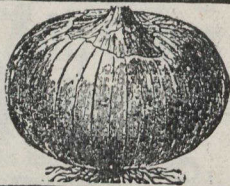
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Big Crego Aster, 25c. Beefsteak Tomato, 10c.
Sparkier Radish, 5c. May King Lettuce, 10c.
Spencer Giant Sweet Peas, 10c.
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The 6 packets for 55c. postpaid.

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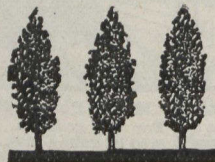


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No better stock or value offered than at the old reliable CENTRAL NURSERIES. We ship direct to customer with satisfaction. See our new Priced Catalogue before placing your orders. It will pay. If you have not had good results from others, TRY OURS—30TH YEAR.

The new Hardy Hydrangea HILL of SNOW, a Beauty. Baby Rambler in Bloom all summer, by mail 35c. each.
Apple, Pear, Plum, Cherry, Peach and Ornamental TREES
Roses, Shrubs, Seed Potatoes, Etc.



A. G. HULL & SON, ST. CATHARINES, ONT.

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A Change of Seed is Always Advantageous

I am offering 5,000 bushels pure bred seed potatoes grown from imported English, Scotch and American seed. Extra First Early, First Early, Second Early, Main Crop, Late Main Crop. For prices, etc., address:

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Special attention given to Cleanliness and Purity in making our Maple Syrup. We follow the most up-to-date methods, and guarantee our product Absolutely Pure. Send us an order, and you will buy from us next year. Write us to-day, as the supply is limited.

Price, \$1.60 per Imp. Gal.; 6 Gal. lots, \$9. f.o.b. Wroxeter.

T. R. BENNETT

WROXETER, - - - ONTARIO

Some Comments on Pruning

Editor, THE CANADIAN HORTICULTURIST: In an article entitled "Pruning the Orchard" that appeared in the March issue, page 58, the writer says that the best time to prune is in June or first of July "when the sap is done running." Is the sap done running then? How is it that we do our budding in July and August, when the sap is running freely between bark and wood?

There is not much growth after that and the wounds made by pruning at that season are not healed til the next season, while if the cutting is done immediately before growth begins, the healing process is carried on all through the growing season and by the fall all small wounds are healed completely. My opinion is that pruning should be done at a time that will permit of the healing of the wounds in the quickest possible time, and that time is just at the beginning of the growing season.

On the other hand, if we wish to give a tree a check and cause it to come into bearing or to set more fruit than it has been doing, we may either let the ground go to sod, or prune it quite severely about the first of July, and this causes it to throw the energy, that would otherwise be devoted to the wood that has been cut out, into making fruit buds on the wood that has been left.

The statement, "keep the tops open, and let in the sun," is indefinite. We have had men doing that around here for years, and they have ruined hundreds of trees. In pruning a tree, we should make it open enough to admit the light and air through-out the head, but we should not begin on the inside of the tree to prune, but rather on the outside, cutting out or shortening cross branches, till thin enough to let in the light; but by no means should we cut out all fruiting wood in the centre of the tree, so it will bear all its fruit on the tips of the branches.

The writer says: "Cut out all suckers and branches that spread over." What he means by "spread over," I do not know, but there are thousands of trees throughout our country that should not have the suckers cut out of them, but should rather have them trained into fruiting wood to properly balance the tree. In fact there are thousands of trees that should be pruned back to encourage them to throw out suckers, to be trained into fruiting wood in the centre of the heads.—W. J. Kerr, Ottawa.

Amateur fruit growers may secure a valuable book, entitled "Amateur Fruit Growing," free of cost, by sending only one new subscription to THE CANADIAN HORTICULTURIST.

D. M. Ferry & Co's Seed Annual for 1910 may be had free of charge by writing to them at Windsor, Ontario. It contains much of interest for those who think. Mention this paper.

**Royal Botanic Gardens
KEW, ENGLAND**

Office of the Curator,
Kew, September 13th, 1909

Mr. H. H. Groff,
Simcoe, Ontario, Canada

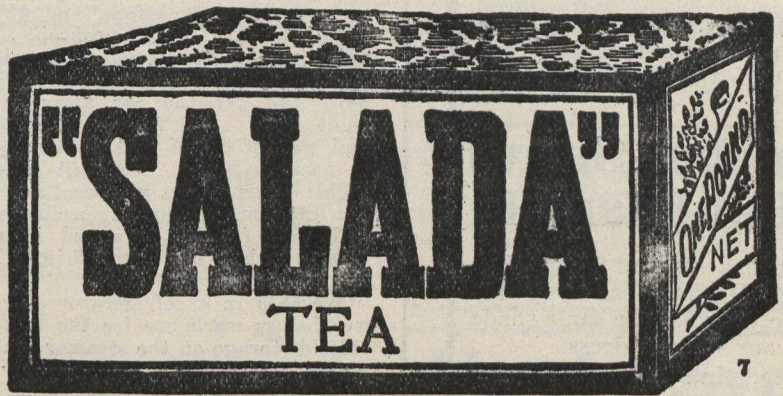
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Your Gladioli have been and are still very much admired here. The Yellows and Blues are exceptionally good, and the named varieties, BLUE JAY, DAWN, LA LUNA, and PEACE, are superb.

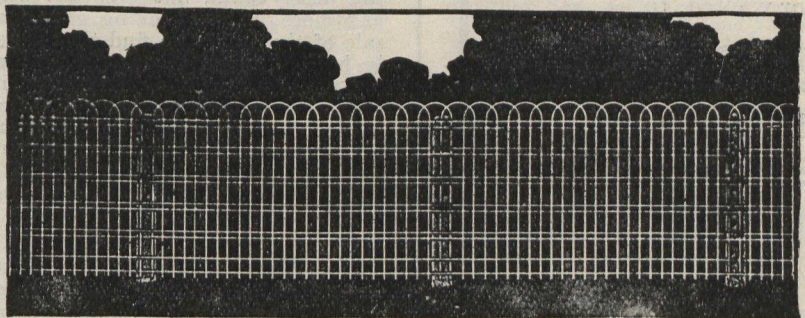
W. WATSON, Curator.

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A Revelation in Tea Goodness



is a delicious and fragrant blend of the finest Ceylon Tea.
Get a package from your grocer and enjoy its excellent qualities.



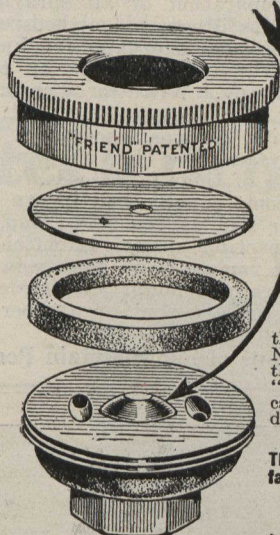
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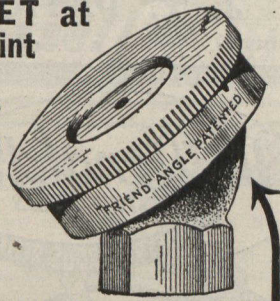
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There's a **SECRET** at the Arrow Point

Thousands of Up-To-Date Fruit Growers are saying, "FRIEND NOZZLES ARE SUPERIOR." Why is this?

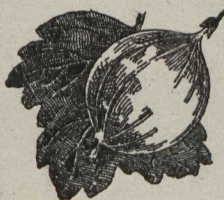
SIMPLY because they GET THERE. An IMITATION indicates that somewhere there is an ORIGINAL. Look on the NOZZLE you use and see if you can find the MAKER'S NAME and the word "PATENTED." The "FRIEND" is the ORIGINAL large Nozzle doing away with the cluster. "FRIEND" Nozzles have no HORNS, no HOOKS, nothing to catch, drip or clog. They make the finest MIST-LIKE Spray, driving it farther into the trees than the cluster.

The "ANGLE" sprays up under the leaves and down into the CALYX. The "REGULAR" is for ordinary work, State which is wanted. Satisfaction guaranteed or money refunded. Price, \$1.00 each, postpaid

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"Friend" Nozzles mailed from Canadian Nozzle Branch. No Duty.



SMALL FRUIT PLANTS

Gooseberries, Josselyn, Red Jacket, Downing, Pearl, Houghton.—Currants Perfection, Ruby, Cherry, White Grape, Lee's Prolific, Champion, Black Naples, Victoria.—Raspberries, Herbert, Cuthbert, Marlboro, Brinckle's Orange, Golden Queen, Strawberry-Raspberry.—Garden Roots, Asparagus, Rhubarb, Perennial Celery

WM. FLEMING, Nurseryman, Box 54, Owen Sound, Ontario

Have Your Hat Match Your Gown

Make your last year's straw hat as fresh and dainty as any you can buy, by coloring it with

Anchor Straw Hat Enamel

It makes soiled Straw Hats as good as new—and you may have your hat the same shade as your summer dress.

Made in 21 fashionable and popular colors.

Ask your dealer for Anchor Straw Hat Enamel or send 15 cents for sample tin, stating color wanted, to

BRANDRAM-HENDERSON, LIMITED.

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CHOICE MIXED DAHLIAS

All the new show Cactus and standard Dahlias. All varieties named or mixed for spring planting. All home grown and finest forms and colors. By mail or express at lowest popular prices at once.

Address all orders early to

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Strathroy, - - - Ontario

Have Produced the Finest Crops for the past thirty years.

If you grow crops of any kind or description, a request by mail will bring you our handsomely illustrated catalogue.

Write at once. Do it right now. May mean dollars in harvest.

Kenneth McDonald & Sons
Opp. A OTTAWA, ONT.

Shipping Pears to Glasgow

J. O. Duke, Ruthven, Ont.

I have shipped two carloads of pears, mostly Kieffer, to Glasgow, one last year and one the year before, and while neither shipment was very profitable, still the balance has always been on the right side.

We begin picking about Oct. 1, and usually can get the car away in seven or eight days. The fruit is carefully picked and put in crates and immediately hauled to packing house. No fruit is left out all night. It is always kept cool and dry. None but uniform and perfect specimens are taken and each fruit is wrapped in paper and packed in half size boxes, 5 in. x 11 in. x 20 in.

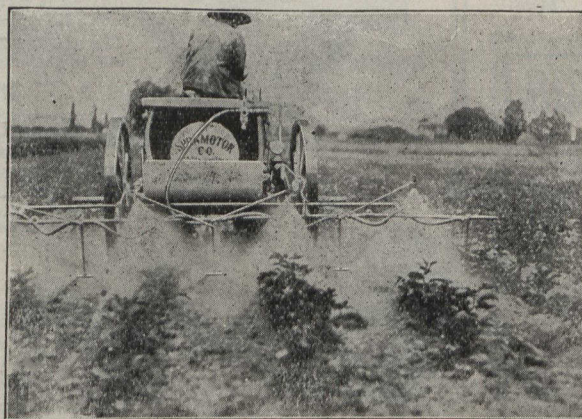
We ship in a refrigerator car and if the weather is warm we ice the car. We ship in cold storage on the steamer, and the fruit arrives in first-class shape. The fruit sells at a fair price; Kieffers at 2s. 9d; Lawrence, Clairgeau, and Anjou at about 4s; and Duchess, at about 4s. 6d. per half case; but the charges are enormous.

We hear of the Old Country laborer being poorly paid, but I cannot believe that any more, for on looking over the account sale of these cars we find that it costs nearly half as much to remove the fruit from steamship after it is tied up, as it does to pay the freight both inland and ocean from here to Scotland. Here are the items of last car; Freight £60, 11s., 10d; portorage, etc., £24, 16s., 6d. This amounts to about 21 cents a box for freight and 9 cents a box for portorage and other charges.

Free Book on Spraying.—A most reliable and interesting treatise on spraying and one which should be in the hands of every fruit grower is that published by the Goulds Manufacturing Company, Seneca Falls, N.Y., entitled "How to Spray—When to Spray—What Sprayers to Use." This book, as its name applies, covers the subject thoroughly. It tells just the proper time to spray most effectively for all kinds of insects, fungi, etc., and contains complete formula for the preparation of all spraying mixtures. It also illustrates methods of spraying and describes the extensive line of reliable spraying outfits made by this well known company. Write for a copy.

Geo. Keith & Sons, seedsmen, Toronto, have for years been best known for the high quality of their farm seeds. They now aim to become equally well known through their flower and garden seeds, and to that end are devoting special attention to the selection of varieties and quality in Keith's Selected Strain of flower and garden seeds. See their advertisement on another page.

Get one of our Fountain Pens.



At Last The Perfect Washer



Our "Champion" is easily the champion of all washing machines.

All cogs and machinery covered. Lever and High Speed Balance Wheel operating together simply cut the work of washing to the lowest possible point.

Don't think of buying a washing machine until you have seen the "Champion". If your dealer can't show it, write us for booklet. 76

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Because of their shape, plates of "Bissell"

Orchard Harrows turn over soil cleaner, better than you've been accustomed to have it done. Attach wings and Harrow extends out 12 ft. or more to cultivate under limbs of trees—closes up narrow enough to cultivate between grape vines. Combination Harrow too—reversible from "Out Throw" to "In Throw." Low seat, well-braced frame. Ask your dealer for information or write Dept. N.

T. E. Bissell Co. Ltd., Elora, Ont.

BUILT IN SIZES FOR ONE, TWO AND THREE HORSES

N. B. POTATOES

Can supply seed potatoes of the following kinds: Green Mountains, Empire State, Carman, Beauty of Hebron, Early Queen, Early Rose, Delaware.

Will guarantee stock true to name.
GEO. A. FAWCETT MIDDLE SACKVILLE N.B.

This shows the H.P. Spramotor arranged for spraying potatoes, three nozzles for a row and four rows, two spraying from the sides and one from the top, adjustable as to height and width up to 40-in. rows. Nozzles absolutely will not clog. 12-gallon air-tank, automatic and hand controlled; 100 lbs. pressure guaranteed with 12 nozzles open. An acre can be sprayed in 20 minutes. Has agitator clean-out pressure relief into tank, and nozzle protector all under control of the driver from seat. For 1 or 2 horses. Fitted for orchard, vineyards and grain. This ad. will not appear again in this paper.

Heard Spramotor Co.
1398 King St. - London, Ont.

FOR SALE AND WANTED

Advertisements under this heading inserted at rate of two cents a word for each insertion, each figure, sign or single letter to count as one word, minimum cost, 25 cents, strictly cash in advance.

GINSENG FOR SALE.—Seedlings and stratified seeds, due to come up in May. Write to J. E. Janelle, Caughnawaga, Que.

WANTED—GOOD FARM in good locality. Will deal only with owner. American Investment Association, 813 Palace Building, Minneapolis, Minn.

FOR SPRING PLANTING—Sweet Cherries, leading varieties; also Apples, Pears and Plums. One thousand Norway maples. Good stock. Prices reasonable.—J. Elmer Crow, Ridgeville, Ont.

THE LEADERS.—Splendid, Senator Dunlap and Williams, strawberry plants, \$3.50 per thousand; 75c per hundred, by mail prepaid.—R. C. Cryslar, St. George, Ont.

GINSENG successfully grown in Eastern Townships. Seeds, seedlings and plants for sale, with full instructions for cultivation. Apply J. Hight, Memphremagog, Ginseng Gardens, Georgeville, Que.

BRITISH COLUMBIA FARM LANDS.—80,000 acres on Grand Trunk Pacific Railway. Fort George District—retail or en bloc. Rich soil, ideal climate, easy terms.—The Mercantile Trust Co., Ltd., Vancouver, B. C.

BRITISH COLUMBIA—Fort George lands—50,000 acres fertile wheat and mixed farming lands. Send for photographs and surveyors' reports.—The Wright Investment Co., Dominion Trust Building, Vancouver, B. C., Canada.

WANTED—Persons to grow mushrooms for us. Small waste space in yard, garden or farm, can be made produce from \$15 to \$25 per week. Write for illustrated booklet and full particulars.—Montreal Supply Company, Montreal.

LANDSCAPE ARCHITECT.—Charles Ernest Woolverton, Grimsby, Ontario, is prepared to make plans for the improvement of country estates, city parks or private grounds, and also to give lists of suitable trees, plants and shrubs for planting. He has no personal interest in the sale of any of these, but can direct clients for purchasing them at lowest prices. He will superintend the work of the gardeners in carrying out his plans, where such service is needed. Terms very moderate.

SALMON ARM, Shuswap Lake, B. C., has the finest fruit and dairy land in B. C. No irrigation necessary, mild winters, moderate summers; no blizzards, or high winds; delightful climate; enormous yields of fruit, vegetables and hay; good fishing; fine boating amidst the most beautiful scenery, and the Salmon Arm fruit has realized 25 cents per box more than other fruit in B. C. Prices of land moderate, and terms to suit. Apply to F. C. Haydock, Salmon Arm, B. C.

SOMETHING NEW
GERBERA JAMESONI HYBRIDA
 SMALL PACKET \$1.00
ROBERT T. PINKERTON
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The FARMERS' GARDEN
 A Seed Drill and Wheel Hoe is indispensable—not only in a village garden but on largest farms.
 Farmers should grow all manner of vegetables and "live on the fat of the land." Should provide succulent roots for Cattle, Swine, Poultry, and save high priced feed stuff. Great labor-saving tools of special value for the home as well as the market garden. Send for free book.

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Only One of Many Iron Age Tools

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COMING EVENTS

Under this heading, notices of forthcoming exhibitions and meetings of horticultural importance will be published. Send the information as long in advance as possible.

- EXHIBITIONS.**
- Calgary, Alberta Provincial.....July 4-9.
 - Charlottetown, P. E. I. Provincial,.....Sept. 20-24.
 - Halifax, N. S. Provincial..Sept. 28-Oct. 6.
 - London, Eng., Royal Horticultural Show (for colonial-grown fruit and vegetables).....Dec 1-3
 - St. John, N. B., Dominion Exhibition.....Sept. 5-14.
 - Winnipeg, IndustrialJuly 13-23.

"Roofing Right," is the name of a finely illustrated booklet, of 48 pages, prepared by the Pedlar People of Oshawa, Ont., and is a book that will interest those who are thinking of buying roofing for any building. It will be sent free on request by writing to the above company and mentioning THE CANADIAN HORTICULTURIST. Ask for booklet No. 8.

Rennie's Seed Annual is a handsome catalogue giving full descriptions of the best seeds that can be grown, as proved by the yearly increasing sales throughout the Dominion, neatly bound in lithographed covers with bright colors, illustrated by 250 engravings devoted to vegetables, flowers, field roots, grains, etc., showing good crops of some special varieties taken from nature. No seed buyer can afford to be without the Rennie Seed Annual, which tells you just what to plant in your garden for 1910. Write for it to-day.

At a special meeting of the board of directors of the "Friend" Manufacturing Company of Gasport, N.Y., on Feb. 10, it was voted to double the efficiency of the present plant by the addition of a large fire-proof structure, to be used for the installation of the new and modern machinery

which the company have recently purchased and contemplate purchasing for another season's work.

All persons that intend to sow garden seeds this spring should send to John A. Bruce & Co., Hamilton, Ont., for a copy of their 1910 catalogue. An excellent variety of high-class seeds is offered by this firm.

Northern Grown Trees
 Apple, Pear, Plum, Cherry, Peach, Grapes, Small Fruits, Deciduous and Evergreen Ornamentals, Roses, Flowering Shrubs, Climbers, etc. Specialties: Mammoth Dewberry and Wismer's Dessert Apple. Catalogue Free; it tells the whole story.
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The "Bissell" Garden Disk Harrow cuts clean and stays down to its work. You can close it up small enough to pass between vines and berry bushes—extend it out to go under limbs of fruit trees. A reversible Harrow. Can be used as "In-throw" or "Out-throw." Adjustable pole and shafts allow it to be used with single horse or team. High or low seat—strong, well-braced, light draught. Write Dept. N for particulars or inquire of nearest agent.
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All of our seeds are grown by experts. They are critically tested and none but fresh, pure and clean seeds of the highest germination are placed in the packages bearing our name.



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Niagara Peninsula Growers' Meet

THE meetings of the Niagara Peninsula Fruit Growers' Association held last month at St. Catharines and Winona were well attended. In consequence of the death of the late president of the association, Mr. Murray Pettit, vice-president Robert Thompson filled the chair with his usual capability. Secretary Carl E. Fisher was at his desk, looking after the arrangements of the convention. Feeling references were made to the work of Mr. Pettit, and a resolution of condolence moved by Mr. J. W. Smith and seconded by Mr. W. H. Bunting, was unanimously carried. This, on behalf of the association, has been tendered to Mrs. Pettit and her family.

PEACH PRODUCTION

"Profitable Peach Production," was a subject handled by Mr. T. A. Farrand, of Eaton Rapids, Mich., in a way that showed the speakers' close association with the growing of this fruit. Mr. Farrand spoke altogether from Michigan conditions where he said the area for profitable peach production was limited. Many mistakes were always being made in trying to grow the fruit under unfavorable conditions. The location of a peach orchard was the most important factor. Trees must be planted on a high elevation. Frost is bound to settle in low

places, and under these circumstances the buds run a sure chance of being nipped.

"I advise you to plant the varieties the markets demand," said Mr. Farrand. "There is at the present time no demand for white peaches in Michigan." The Elberta is the standard variety there, although not so hardy in the bud as some other varieties. Engol's Mammoth is a much harder peach than the Elberta. There was never a time in history when good fruit was overproduced.

The speaker laid strong emphasis on planting the trees a suitable distance apart as some growers put them in altogether too close to each other. Twenty to 24 feet apart would be about right. Good judgment must be used here as well as in other things.

In answering a number of questions, Mr. Farrand gave the following list of six yellow-fleshed peaches for a continuation: St. John, Engol's Mammoth, Kalamazoo, Elberta, Smock and Salway. Mr. J. W. Smith's list was: St. John, Early Crawford, Elberta, Yellow Rareripec, Lemon Free and Smock. The man from Michigan didn't know of a better yellow peach than the St. John or Triumph.

With Mr. Farrand, clay was preferable to light sand for growing peaches. In his state, the package known as the Georgia



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The Harmonic Tone Prolonging Bridge—Acoustic Rim and Special Method of Ribbing—Grand Piano Scale and Construction—and many other exclusive features add musical excellence and durability to

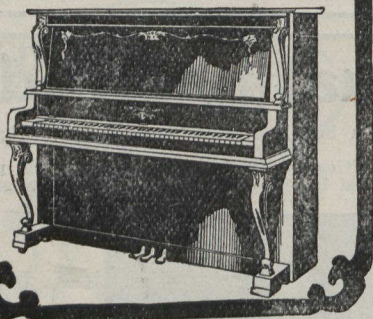
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We also invite your investigation of our easy payment plan, full particulars of which will be sent on request.

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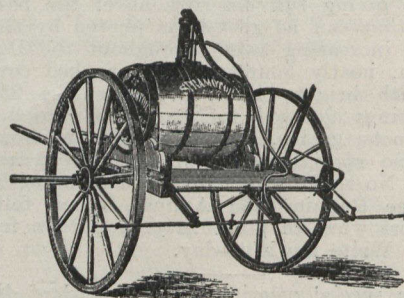


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It is mounted on a cart with strong hardwood frame. Has 52-in. wooden wheels with iron hubs and steel axles. For one horse.

Can be used for orchard, vineyard, mustard and potatoes, or for painting and whitewashing. Sold without cart as well. Guaranteed. Write for free Treatise on Crop Diseases. **Agents Wanted.**

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You can't tell by looking at the seeds in the store whether they will grow or not. You can't be bothered testing them.

But you can be sure of getting healthy, vigorous seeds that you can depend on by buying

EWING'S

For forty years they have been giving big, healthy results. Write for our big illustrated catalogue. It is Useful, Interesting and Free.

WM. EWING & CO., Seedsmen
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SEEDS

carrier, was used for shipping. Peach trees were better protected stored in cellars if the ground was not in a condition to plant.

PROFITS IN ORCHARDING

On "The Profits in the Other Fellow's Orchard," Mr. Farrand told of how he had at different times taken over neglected apple orchards and by systematic spraying and pruning made them profitable. By the examples shown, the apple growers who formerly had let the orchards degenerate were now awakening to the good profits that could be derived from them, and in consequence Michigan was making great strides in the last couple of years by following up this industry closely.

ORCHARD CULTIVATION

With the aid of a stereopticon, Prof. J. P. Stewart of the Pennsylvania State College showed the growers views of trees that fertilization had benefited and contrasted them with others that had been left to shift for themselves. The topic Professor Stewart chose, was "Proper Orchard Cultivation," and in it he confined his experience and remarks almost wholly to apple orchards.

The use of fertilizers and nitrogen when not placed too near the trees gave excellent results. The plowing in of cover crops provided nitrogen. He would not plow apple orchards in the autumn only under the ex-

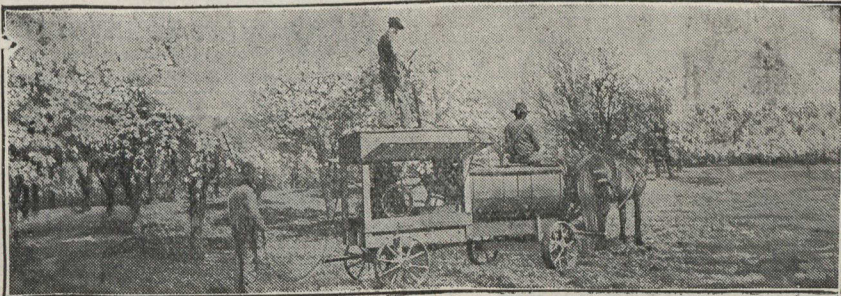
ceptional circumstances of tougher sod in the spring.

DISTRIBUTION OF FRUIT

At one of the sessions, Mr. J. E. Johnston of Simcoe told how co-operation had benefited the growers in Norfolk county by proper distribution. Major H. L. Roberts of Grimsby gave a short interesting talk on what the association was trying to do along the lines of distribution. They were striving to secure better prices and extend the markets. Co-operation was making good progress but ultimate benefits could not be secured unless every grower put his shoulder to the wheel.

FERTILIZERS

"The object of fertilization," said Professor Gamble of the O.A.C., in an address on this subject, "is to supply material that acts on soil elements rendering them soluble and unlocking plant food." It was well to apply lime on light soils once every six or seven years where heavy manuring had lessened this ingredient in the soil. Whether to plow or sow a cover crop, depends largely on the season. If the season be dry it is well to have a cover that holds the moisture. Cultivation increases the decay in organic matter and liberates the nitrogen. Cultivation and water had more to their credit in the growth of successful crops than manure.



**FOR RAPID THOROUGH WORK
CHOOSE THE I H C SPRAYER**

GET ready for spraying time with a dependable outfit, one that will enable you to do the work rapidly, at the right time, with least expense and sure results. I H C power sprayers are made in all styles and sizes for all purposes—orchard, field and vineyard. One of them will just meet your needs. Complete outfits—engine, pump and all accessories, mounted on skids or wagon trucks as ordered.

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As extensive growers of fruits, we know that first class, thrifty, and reliable stock is demanded by the modern horticulturist.

We have a splendid stock of trees. Our trees are healthy and hardy when shipped. They reach you in a fresh condition—sure to live, and grow steadily.

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Fertilizers should be reliable ones, true to name; or, it would be well to purchase the pure materials and mix them at home.

There is always a misrepresentation with regard to commercial fertilizers. Three ways were used to supply plant food—by applying barn yard manure, by the use of artificial fertilizers and by turning green crops down.

Heavy mulching bleaches plants, frees the nitrates and allows the ground to get cold. A proper application depends on weather and soil. Nitrogen from the air is a necessity for plant food, and the tap roots of growing things open the ground to the air.

"No matter how complete an analysis has been made of a soil," said Professor Gamble, "it is of little service in showing up its immediate requirements. It depends a good deal upon the plant, also the available food the soil contains for that plant."

Mr. Geo. A. Robertson, speaking on methods for underdraining in clay, sand and gravelly soil, laid down some rules for depth and distance apart. Three feet deep and 30 feet apart in sand. In an orchard the depth depended on the subsoil: the distance apart should be from 60 to 66 feet. In clay, 45 feet was about right, the depth depending a lot on the substance encountered below three feet.

In discussing the growing of strawberries and raspberries, Mr. Farrand said that mulching was of vital importance. On heavy soil he grew the heavier crops and planted his strawberries the same width as corn, cultivating them the same way. He had not

much experience with red raspberries, but cut his blacks low, planting on rich ground six feet apart.—J.A.S.

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Our soil being a deep rich sandy loam and our many years experience in commercial strawberry growing, helps us to offer you first class vigorous well rooted plants. Leading varieties. Send for price list to-day.

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2½ Cents

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POULTRY DEPT.

Conducted by S. Short, Ottawa

The advantages of hatching by artificial methods were fully described in this column in the February number and it is only fair to say that it is equally interesting, if not more so, to hatch in the natural way, that is, by means of the mother hen, especially if only one or two broods are desired. It is particularly interesting to young children and the wise parent should take the opportunity that the hatching season affords to give the little ones this most interesting lesson in nature study, thus awakening and arousing a healthy curiosity in their young minds in regard to the mysteries of incubation.

The first step, of course, is the setting of the hen. To this ceremony a general invitation should be issued. Due consideration should be given to the place in which the nest is to be made, the preference being for the darkest corner of the room. It might be explained here that it is better to take the broody hen away from the laying pen and give her, if at all possible, a small place to herself where she cannot get out. The reason for this is that if the hen is set in a pen where there are layers, they will disturb the sitter by getting into the nest with her to lay and thus eggs are broken and prospects of a good hatch spoiled.

The place to set the hen should be in a dark corner for they like to sit in the dark and will not leave their nests as frequently as when in a very light position. The nest should be shallow and rounded, the hollow

space being an easy fit for the hen's body. Shallowness is important for then the hen has only to step into her nest and sit down on her eggs. When the nest is deep, such as when made in the bottom of a barrel, the hen in jumping down is very liable to break her eggs and every precaution must be taken to prevent such accidents. Should she break an egg, it is better to wash the remainder or those that have become smeared with the contents of the broken egg. Water the same temperature as the eggs should be used for washing.

Food and water should be placed in the brooding room and the hen allowed to come off her nest at her own time. The nest should be dusted carefully with an insecticide two or three times during the hatching period. Too much powder should not be used for when the hen sits closely she generates heat and too much powder causes itching and thus makes her so restless that she will get off her nest to get relief.

As the hatching day arrives, those interested in the proceeding, especially the children, will begin to count the day until the expected brood comes forth. When the morning of the day arrives, there is usually just as much enthusiasm to go out to see how many chickens there are as at Christmas time to see how many presents Santa Claus brought. While it is not wise to disturb the hen when the chicks are just hatching, yet to satisfy the impatience of the little ones, an experienced person can without doing much injury, remove one or two chickens that came out in the night and have dried off to show to the audience; and it is worth while to hear the exclamations of wonder and delight. Each youngster must be allowed to hold the chickens in turn and they may be returned to the hen. The following day the brood should be brought out-

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Write for our complete catalogue of Sprayers and Garden Tools. THE EUREKA PLANTER CO. LIMITED Woodstock - Ont. 6

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| Butter Beans | Musk Melon | Radish |
| Early Cabbage | Water Melon | Summer |
| Late Cabbage | Citron | Squash |
| Cress | Golden Globe | Winter |
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| Aster (Red, White, Blue or Mixed) | Pink |
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Oz. pkts. any of the following, 15c each. Postpaid Sweet Peas, Nasturtiums Tall, Nasturtiums Dwarf, Morning Glory, Scarlet Runner Beans.

Oz. pkts. any of the following, 20c each. Aster, Alyssum, Candytuft, Poppy, Mignonette Rare Dahlia Roots, white, pink, red and variegated, 15c each. Postpaid. Lawn Grasses, 30c per lb. Postpaid.

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Close enough to keep chickens in. Strong enough to keep the cattle out.

Saves Expense

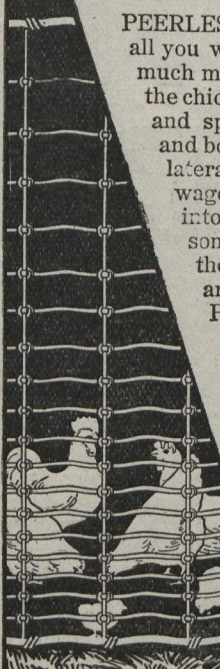
PEERLESS JUNIOR Poultry Fence will do all you wish of a poultry fence and will do much more. It is built close enough to keep the chickens in, but it is also built strong, rigid and springy. Those heavy, hard steel top and bottom wires, together with intermediate laterals, will take care of a carelessly backed wagon, or an unruly animal and spring back into perfect shape again. It is the most handsome and most effective poultry fence on the market. At every intersection the wires are firmly held together by the never-slip PEERLESS Lock.



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because it never needs repairs. It is the cheapest to put up, too. It is stretched up like a field fence. More than half the price can be saved in posts and lumber alone, as required by some other poultry fences. Write to-day for our printed matter. It tells you how to get your full money's worth in fences. We build fences for every purpose.

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THE WILLIAMS STRAWBERRY This celebrated strawberry still maintains its lead in the Niagara District as the best all round commercial berry. In size, vigor, productiveness and the qualities that go to make up a first-class shipper, it stands at the head of the list of proved varieties, and is now more largely grown than any other strawberry in this section. We can supply a limited quantity of first-class plants at lowest rates.

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Only requires 1 man

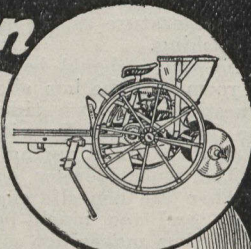
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The Aspinwall No. 3 Potato Planter is not a two-man machine. It only requires one man, saving you the extra man's wages. It is lighter draft, too. And will plant one-third faster. No other potato planter can compare with it in accuracy. The Aspinwall No. 3 drops over 99 per cent. good. And does it without slightest injury to the seed. We've put seed through the planter over fifty times and it produced as good results as seed planted by hand. No change of pickers required for different sizes of seed or different distances of planting.

Get our catalog A 2, explaining detailed construction of Aspinwall No. 3, which is made by largest makers of potato machinery in the world.

THE ASPINWALL MANUFACTURING CO. 2
Jackson, Mich. and Guelph, Ont.

**Aspinwall No 3
Potato Planter**



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DUPUY & FERGUSON'S SEEDS

Twenty First Prizes awarded at the Lachine Horticultural Society Exhibition, Aug. 1909, and Twenty First Prizes at the Montreal Horticultural Exhibition, Sept. 1909, to Mr. F. S. Watson, of Lachine, Que., on products grown from seeds supplied by us.



THE GREAT ISMENE

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We also keep in stock French Spiral Wheel Spring Secateurs, English Watering Cans, Orchid Baskets, and all kinds of Garden Tools.

doors and cooped in a nice sunny spot and protection from the rains afforded.

Special care in feeding should be taken. Oatmeal, boiled eggs and bread crumbs should be fed sparingly for the first week. Usually the children are so taken with the new arrivals that they feed enough the first day to last for a week and the result is that perhaps a chicken or two dies but what of it, a delightful lesson has been given to the children in a branch of suburban or agricultural life, a lesson that is rarely forgotten and usually remembered in after life, something that perhaps may affect their destinies when the time comes for them to choose where they will pass their days—in the crowded cities or the green pastures of the country.

Reports from the Niagara district state that fruit buds apparently have come through the winter in good shape. Peach buds never looked better for the time of year. In the words of Mr. W. H. Bunting, St. Catharines, "with a continuance of normal conditions, there is every prospect for a good crop of fruit of all kinds this season." For Essex peninsula, Mr. J. L. Hilborn, of Leamington, gives a similar report. Even tender peaches show few dead buds.

Among the seed catalogues recently received is that of Graham Bros., Ottawa. A feature of this catalogue is a number of special collections designed to meet the needs of the ordinary purchaser, and which will be of interest to amateur flower growers. A copy of this catalogue may be had by writing to the above address and mentioning THE CANADIAN HORTICULTURIST.

METALLIC CEILING
WRITE FOR PRICES
METALLIC ROOFING CO.
LIMITED
TORONTO, CANADA.

**FARMERS, AND
FRUIT, AND
VEGETABLE GROWERS**



WHY ARE YOU IMPORTING PHOSPHATE AND AMMONIA WHICH IS A BY-PRODUCT OF YOUR FARMS OF WHICH YOU ARE EXPORTING MANY THOUSAND TONS ANNUALLY, BONES AND WHICH CONTAIN LARGE QUANTITIES OF PHOSPHORIC ACID AND AMMONIA.

KINDLY ANSWER THE ABOVE

PURE BONE MEAL IS THE CHEAPEST
FERTILIZER.

THIS PLANT FOOD IS ALL FROM OUR CANADIAN SOILS AND SHOULD ALL GO BACK. SEND FOR PRICES, ETC.

THE
W. A. FREEMAN CO.
LIMITED
HAMILTON, CANADA.

N. B. Fruit Growers' Meeting

At the fifth annual meeting of the New Brunswick Fruit Growers' Association that was held at Fredericton on Feb. 25, it was decided to hold the next meeting at St. John in November next. Officers for the ensuing year were elected as follows: Pres., C. N. Vroom, St. Stephen; vice-pres., W. B. Gilman, Fredericton; treas., Henry Wilmot, Oromocto; sec., A. G. Turney, Fred-

ericton. A very good exhibit of apples of fine quality was made.

Addresses were given on "Care of the Orchard," by Prof. W. S. Blair, Macdonald College; "Strawberry Growing," H. H. Smith, Blissville; "Controlling Black Knot," Professor Andrews, Sackville; and on general topics by Dr. Landry, A. G. Turney, President Stephenson and others.

Pure Maple Syrup

Direct from the Producer

I give special attention to Cleanliness and Purity in making my Maple Syrup. I follow the most up-to-date methods and guarantee the product absolutely pure. Send me a trial order, and you will buy from me next year. Write to-day as the supply is limited. I hold a Gold Medal Diploma from the Louisiana Purchase Exposition, St. Louis, 1904.

ANDREW REICHARDT

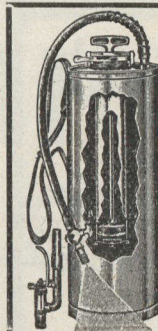
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THE BEST MAPLE SYRUP

Secure your supply of maple syrup for the coming season from us. Our syrup is pure and unadulterated, and is manufactured by the most approved methods. Our syrup will please you to that extent that you will be glad to order from us next year. Write to-day for prices. Mention The Canadian Horticulturist when replying.

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IMPROVED AUTOMATIC COMPRESSED-AIR SPRAYER

Best Hand Sprayer made at the price. An absolute necessity for every farmer, fruit-grower, florist. Will repay its cost in one season for potatoes alone. Saves time, labor and material. A boy can do the work. Will run continuously for six to ten minutes. Apply to your dealer, or drop us a card for descriptive circular.

CAVERS BROS.

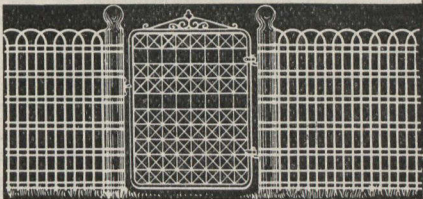
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As handsome as the best iron fence at less than the cost of cheap wood

Here's a neat, strong, durable fence that will add to the appearance of the handsomest city lawn and is cheap enough, close enough and strong enough for the farm. The

Peerless Lawn Fence

is made of heavy No. 9 steel spring wire, so it can never sag. It is carefully galvanized and coated with white enamel paint. No investment you can make will add so much to the appearance of your property.



Also a full line of poultry and farm fences and gates. Write for particulars.

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China ASTER Plants

From Best Seed

Queen of the Market, white, early
Queen of the Market, pink, early

15c per dozen; 40c per hundred, postpaid

Lavender Gem, early
Royal Purple, medium early
Vick's Branching, white, late
Crego, a fine late pink

15c per dozen; 50c per hundred, postpaid

Packed to go safely anywhere in Canada
East of Rockies by Mail

May be planted with good results until 15th June

Not less than 25 of one variety at 100 rates
Orders received now will be filled in latter part of
May and in early June

Please send Postal Note with order

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Think Only of Permanency

When buying fencing FORGET about the NOW cost. Do as the railways. Think only of PERMANENCY. Select the fence with the quality, weight, stiffness and strength to give longest service. And three or four years from now you will shake hands with yourself because you were shrewd enough to see eye to eye with the railways and buy IDEAL woven Wire Fence.

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"IDEAL" FENCE

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No fence has a simpler lock than the IDEAL. Yet the railways have proven to their entire satisfaction that the IDEAL lock has the greatest gripping-tenacity. Other things being equal, the impossible-to-release grip of this simple lock makes IDEAL fence strongest in existence. But other things are not equal. IDEAL Woven Wire Fence has the best quality of hard drawn elastic steel wire laterals. It has the stiffest uprights. The galvanizing is the smoothest and heaviest—most rust-proof. The scales prove IDEAL the weightiest woven fence. What further reason do you need to prompt you to buy IDEAL fence? Well, here is another: IDEAL Fence will cost you no more than other fences that you will not buy if you think only of permanency. Our fence and gate booklet shows different styles for horses, cattle, hogs, etc. Write for your copy.

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and increase your income. The weight, quality and strength of IDEAL fence make it easiest to sell.
THE MCGREGOR-BANWELL FENCE CO., LIMITED, WALKERVILLE, ONT.

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More County Exhibits Wanted

Fruit growers in all parts of Ontario should get their county councils interested in the fact that the directors of the Ontario Fruit Growers' Association have decided to offer to duplicate the amount voted by a county council up to the extent of \$50, for special county exhibits at the Ontario Horticultural Exhibition, such as have been shown in the past by Norfolk, Huron and Northumberland and Durham. The only saving clause is that they must put up at least 20 boxes or barrels of fruit packed in a commercial way.

This should encourage some of those counties that have in the past only been able to get \$25 from their councils and which they considered not enough to make a special exhibit. Under the above arrangement such counties would now have \$50, for an exhibit. Further information may be had from P. W. Hodgetts, Parliament Buildings, Toronto, who is the secretary of the exhibition and of the association.

Read the premium offers in this issue of THE CANADIAN HORTICULTURIST.

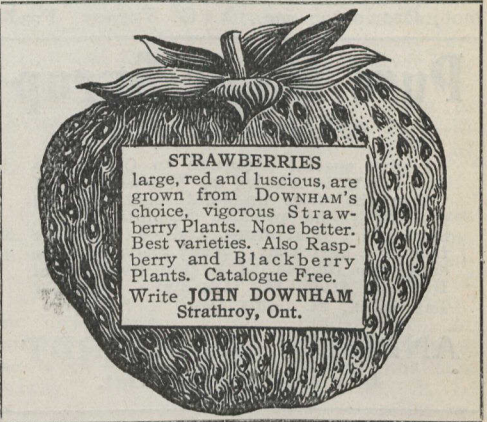
RASPBERRIES

10,000 Cuthbert, No. 1
 Plants, at \$6. per 1000

Also Herbert and Marlboro, cheap
 Perfection Currant, Shrubs and Roses

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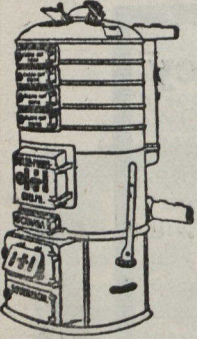
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"SOVEREIGN" HOT WATER BOILER

It is difficult to state in actual figures how much better the "Sovereign" is than any other hot water heating system for hot houses—



but from the general records of the performances of the "Sovereign" boiler it is well within the mark to calculate—

that of any two boilers of the same rated heating capacity the "Sovereign" will give five weeks heating from a ton of coal, against four to three weeks in any other design.

'Sovereign' Hot Water Boiler

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'The "BACON" Seed Drills and Cultivators

The only Rear-Wheel Driven Seed Drill on the market. The feed in the "Bacon" handles seed without bruising or breaking, and seeds evenly to the last seed. Machine instantly converted from a regular seed sower into a hill dropper. Feed Cut prevents waste of seed when turning rows.

For sowing Sugar Beets, Parsnips, Radishes, Carrots, Onions, etc., the 1908 model of the "Bacon" is unequalled for strength, lightness, easy running and good work. Write for our complete catalogues.



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Stop That Limp



Change that limping, useless horse into a sound, healthy horse, willing and eager to do a good day's work.

Don't let a Spavin, Curb, Splint, Sprain, Ringbone or any other Lameness keep your horse in the stable. Cure it with

Kendall's Spavin Cure

It cures without leaving a scar, blemish or white hairs—because it does not blister.

Port Kalls, B.C., June 14th 1909
 "Have been using your Liniment for years and find it all that you represent. Have not been without it for 10 years."
 GEORGE GORDON.

\$1. a bottle—6 for \$5. Excellent for household use. Sold by all dealers. Ask for free book "A Treatise On The Horse" or write us for copy. 55

DR. B. J. KENDALL CO. Enosburg Falls, Vt.

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For More and Better Fruits and Vegetables

No careful, experienced gardener omits a good sprayer from his equipment. The garden and field crops, fruits and vines must be protected from the ravages of insects and plant diseases.

Keep Things Growing

—follow the example of practically all the Government and State Experiment Stations, and 300,000 Gardeners, Farmers and Fruit Growers, and use one of

Brown's Hand or Power Auto-Sprays


AUTO-SPRAY No. 1. Handpower, capacity, 4 gallons; is just the thing for all-round work for small orchards or field crops up to 6 acres. Fitted with the Auto-Pop Nozzle, this Sprayer does more work and does it better than three ordinary sprayers. It is the best machine obtainable for whitewashing and disinfecting poultry-houses and stables.

OUR TRACTION POWER outfits, for large orchard work, are superior to all other power sprayers because most simple, dependable and sustaining greatest pressure. No expert or experienced help is needed to operate them. Power costs nothing. Fitted with Non-Clog Automatic Nozzle.

Write for Free Book and Valuable
Spraying Guide

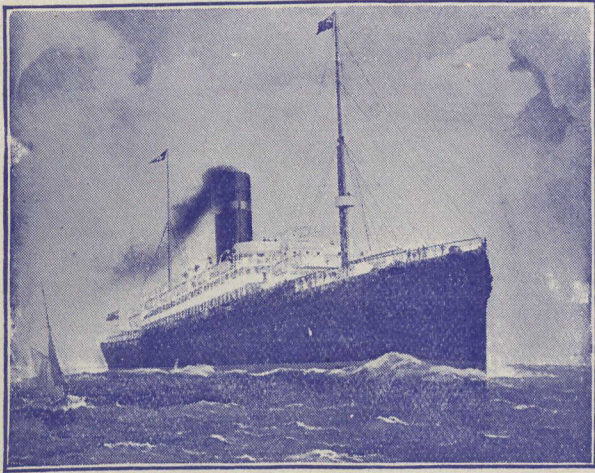
Let us send you our book and the spraying guide, compiled by Prof. Slingerland, of Cornell University College of Agriculture. Let us prove that we are headquarters for the sprayer that will produce the most profitable results for you.

EVERY AUTO-SPRAY IS GUARANTEED TO SATISFY



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S.S. Welshman, April 9th S.S. Cornishman, April 16th

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Every Farmer's Wife in Canada Ought to Read this Advertisement



If you, Madam, are a farmer's wife, you should use your influence to get your husband to roof the house and barn with Oshawa Galvanized Steel Shingles. For these practical reasons:

Safe Against Lightning

Every thunderstorm that passes over your place endangers his life and your own, and threatens damage or destruction to the property. But there would be no such danger if the farm buildings were roofed with Oshawa shingles. They protect any building against lightning—far better than any lightning rod system possibly can.

Safe Against Fire

And, at certain times in the year, the house you live in and the barn nearby is in danger from fire—flying sparks from the threshing machine; sparks from the kitchen chimney; sparks from passing locomotives; sparks from forest fires, perhaps. Farmers' roofs catch fire in many ways—and you are different from most farmers' wives if you do not dread this ever present danger. You need not dread it at all when the buildings are covered with a seamless steel fire-proof Oshawa shingled roof.

Improves Cistern Supply

Probably you depend a good deal on cistern water. An Oshawa-shingled roof keeps your cistern fuller, and the water is cleaner, tasteless, without odor. It never can be from a wood-shingled roof. It always is from an Oshawa-shingled roof.

Costs Very Little

When you speak to your husband about this, ask him to send for the instructive and handsomely-illustrated free book called Roofing Right. He will see when he reads that, that the actual cost of an Oshawa-shingled roof is less than five cents per year for a hundred square feet of roof surface. He will see that this roofing is **guaranteed to satisfy in every sense for twenty-five years, or he gets a new roof for nothing.** He will see that it will pay him well to cover his house and barn with a roof that is **guaranteed wet-proof, wind-proof fire-proof and lightning-proof** for a quarter of a century, and that will be a good roof in every sense for fully 100 years.

Use Your Influence

Interest yourself in this vital matter. It directly concerns you. Get your husband to enquire into it. Get him to send for the free book—now—to-day. Or send for it in your own name. Do that anyway. You will be interested in what the book tells you; and it is important that you, as well as himself, should know all about roofing, and about Roofing Right in particular. Send now for the book, please.

OSHAWA STEEL SHINGLES are made of 28 gauge steel, specially toughened and heavily galvanized to make them rust-proof. Thus they weigh about **SEVENTY-EIGHT**



pounds to the square. With the box about 88 pounds to the square.

When considering metal shingles always learn **THE WEIGHT OF METAL** per square offered and be sure that the weight is of the **METAL ONLY.**

Make the weight test yourself. First be sure the scales are accurate. Then unbox a square of Oshawa Shingles and weigh them. Note that the weight averages **78 pounds WITHOUT THE BOX.**

Don't go by the box weight. Some boxes weigh fourteen pounds or more.

G. A. Pedlar

DON'T stop when you have Oshawa-Shingled your roofs. That is only the first step towards making a house modern, or a barn what a barn should be. Go on and plate your house inside and out with steel. Cover the surface of your barn with steel. In a word, "Pedlarize" every building on your farm. This way:

Make Your House Fireproof

Finish the interior of every room in your house with Pedlar Art Steel Ceilings and Side-Walls. These are made in more than two thousand beautiful designs, the patterns stamped accurately and deeply into the heavy and imperishable metal. They cost less than plaster in the first place; and they will be like new when a plaster ceiling or wall is cracked to the danger point—which doesn't take long as a rule. They are easily put in place. They can easily be painted and decorated.

Make Your House Sanitary

Then, if you surface the exterior of the house with Pedlar Steel Siding—it is made to simulate brick, rough stone, cut stone—these Ceilings and Side-Walls and an Oshawa-shingled roof gives you a residence that is more nearly fireproof than the "skyscrapers" of the great cities. Also, such a house will be much warmer in winter than if it were built of solid brick—and so it will save its cost in fuel-savings. It will be cooler in summer. It will be sanitary inside—you can wash the ceilings and walls clean with soap-and-water. It will be a handsome, substantial, and enduring proof of your judgment in choosing the modern building material—steel—Pedlar-made Steel.

Make Your Barns Safe

With Pedlar Steel Siding you can finish the outside of your barn most economically, and your cattle will thrive better in bitter weather than if they were housed in a solid concrete barn. This heavy-gauge seamless steel finish, keeps out the wind and keeps in the animal heat. It saves in lessened feed-bills enough to pay its cost over and over. It costs but little; it is simple to put on; and it will outlast the building's very timbers. Most important of all, it—with Oshawa Steel Shingles for the roof—makes barns practically proof against fire, entirely free from every kind of dampness, and proof against lightning.

Learn About Pedlarizing

At the same time you send for your free copy of Roofing Right Booklet No. 8, ask us for particulars about these other Pedlar specialties. We will send you samples of any of them; prices; illustrations; and samples of the Oshawa Steel Shingle as well—all just for the asking.

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GET A TWENTY-FIVE YEAR GUARANTEE**

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