

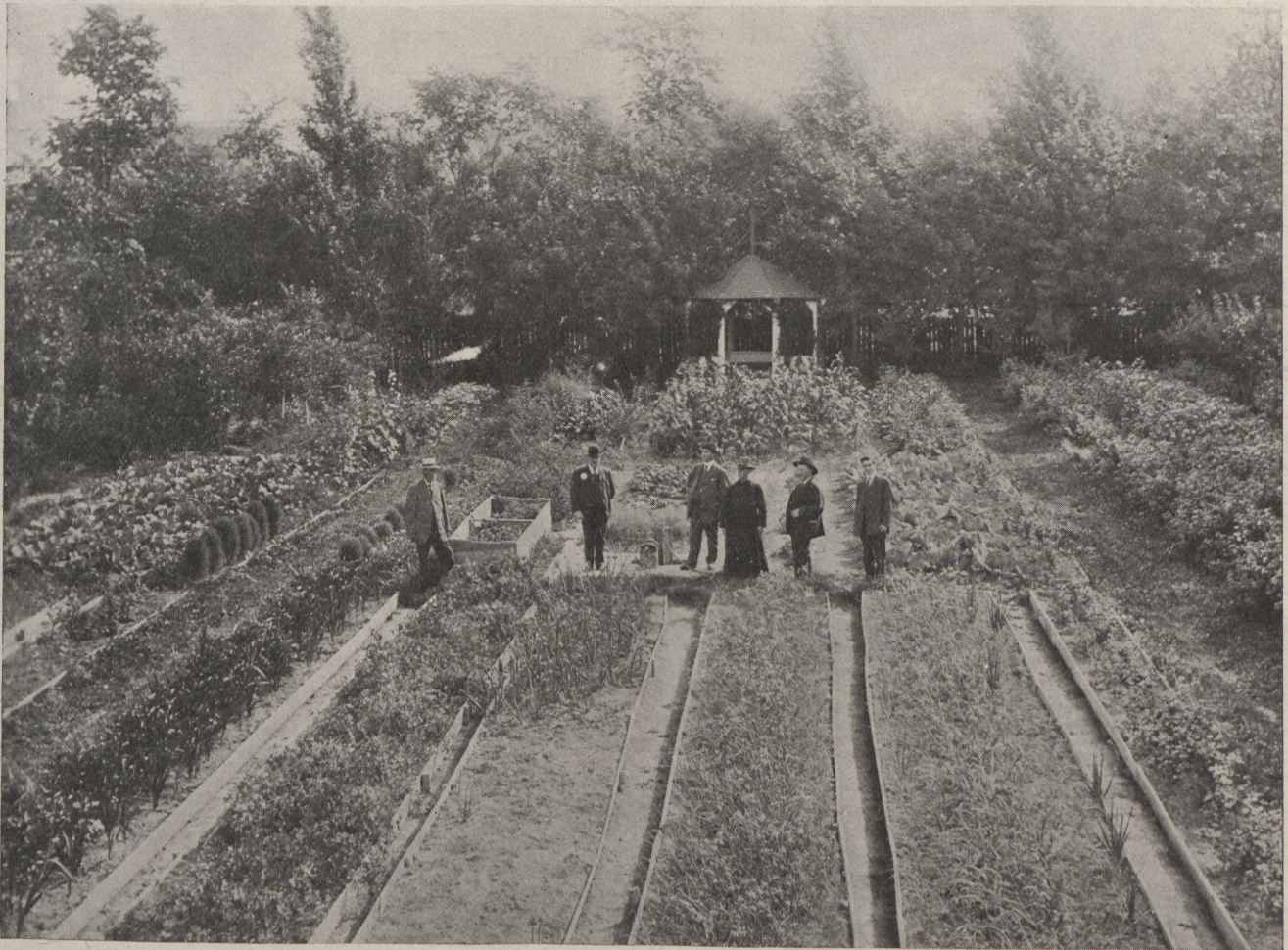
THE CANADIAN HORTICULTURIST

JULY, 1910
Vol. 33 No. 7

PETERBORO, ONTARIO

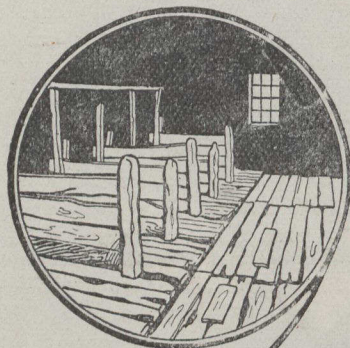
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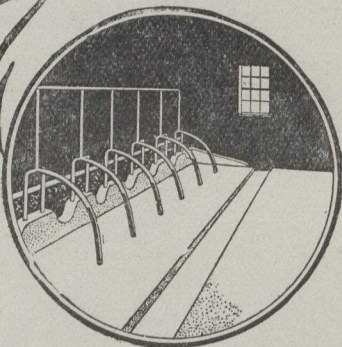
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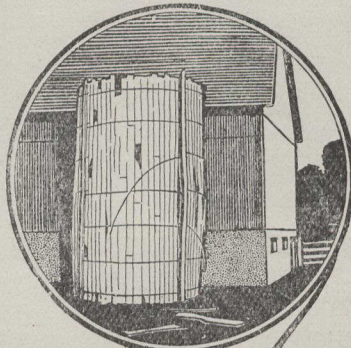
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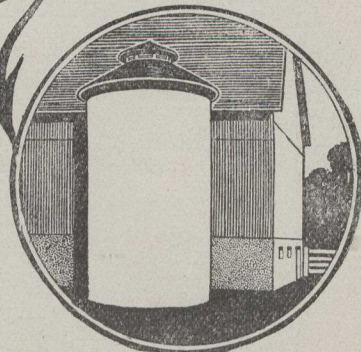
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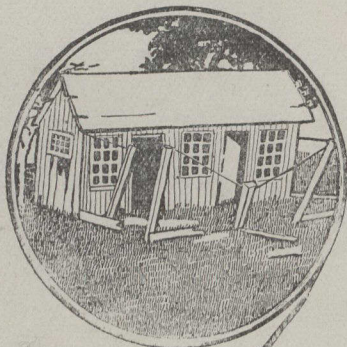
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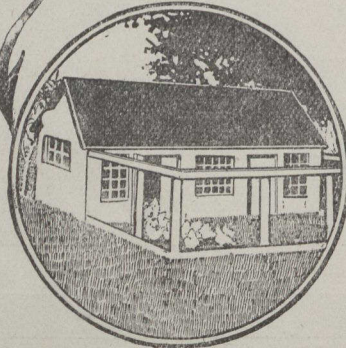
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The Canadian Horticulturist

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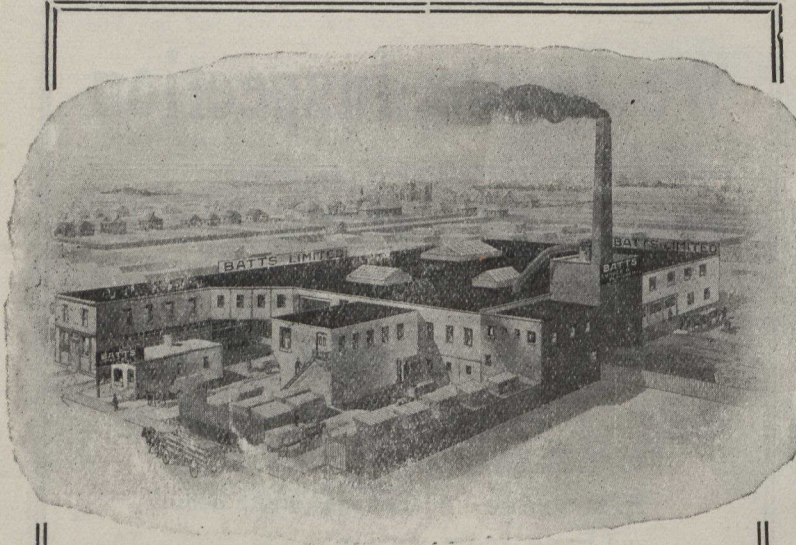
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The Canadian Horticulturist

Vol. XXXIII

JULY, 1910

No. 7

Great Possibilities of Ontario Apple Orchards

THERE are neglected orchards on thousands of farms in Ontario, the owners of which have no conception of their value. These orchards range in size from one to twenty acres. Many of them are stocked with excellent varieties of trees. For the most part they are unpruned, unsprayed, uncultivated. Did their owners realize the returns that might be obtained from their orchards they would be quick to give them the slight care and attention that is all that is required to make their value apparent. As it is they do not appreciate their possibilities and consequently most of these orchards could be purchased for only a few dollars an acre. Money invested in some of these orchards, with a little care and attention might soon be doubled.

The best of these orchards are located in the counties adjoining the great lakes. There are hundreds of them in the county of Prince Edward which is exceptionally well adapted for the growing of fruit. Others may be found in counties all along the shores of Lake Ontario, Lake Erie, Lake Huron, and the Georgian Bay, as well as in some counties situated further inland.

There are sections where an awakening has taken place. For the most part these are where co-operative fruit growers' associations have been formed, as at Trenton, Newcastle, Oshawa, Simcoe, Chatham, Forest, Walkerton, Meaford, and elsewhere. In some of these districts there are fruit growers who now are making \$100 and \$200 an acre and more out of apple orchards that a few years ago they were planning to destroy.

REASONS FOR NEGLECT

Most of these neglected orchards were planted many years ago. They proved profitable for some years. Later, however, their output became greater than the local markets could absorb. At that time the great markets in Western Canada had not been created, and the population of the towns and cities of Ontario was much smaller than it is now. The co-operative handling of fruit was practically unknown. The growers were forced to sell their crops to apple buyers. If they obtained 75cts. to \$1.00 a bbl. they generally considered that they did well. These conditions proved discouraging. In the course of a few years thousands of these orchards

were neglected. Most of them are still in that condition.

CHANGED CONDITIONS

Within the past five or six years the general situation has changed completely. Over 1,000,000 settlers have come into Canada. Important consuming centres have sprung up all over the great West, and lately in Northern Ontario, as though by magic. The population of the cities and towns has increased greatly. Together with this the co-operative system of handling the apple crop has been introduced, and has been proved to be practical and profitable. About forty co-operative apple growers' associations now save for their members the

A Bond of Union

It is well for the horticultural interests of Canada that we have such a publication as THE CANADIAN HORTICULTURIST. It is the bond that unites those interested in horticulture all over the Dominion, and thus it is a factor in building up Canada. We should all support it.—Thos. Delworth, Weston, Ont., President, Ontario Vegetable Growers' Association.

proceeds from their fruit that formerly were divided among two or three middlemen. By means of their warehouses they are able to store their apples, and thus to sell them when the market is the most favorable. Thus to-day there are many hundreds of apple growers in Ontario who receive two and three dollars a barrel for their apples, and who thus are making large profits out of their orchards. And still there are thousands of farmers in the province who do not realize what the changes that have taken place mean to them, and whose orchards in consequence are an eyesore to them, and even in some cases a source of loss.

THE GEORGIAN BAY DISTRICT

The Georgian Bay district is one in which hundreds of neglected orchards exist. In Nottawasaga township, Simcoe county, however, such an awakening is taking place as is needed in the other fruit sections of the province. There is a prospect that within the next few years it will become general throughout Ontario.

The section is well adapted to the growth of apple trees and many of the semi-hardy fruit trees. The so-called mountains—a high ridge of land running along the shore near the Bay, which is a continuation of the Niagara escarpment—together with the tempering influence of the Georgian Bay to the north, renders the climate of the district most favorable for fruit. Fruit trees do remarkably well, and so far as apple trees are concerned, it would be difficult to find a place that by nature was better adapted for their growth.

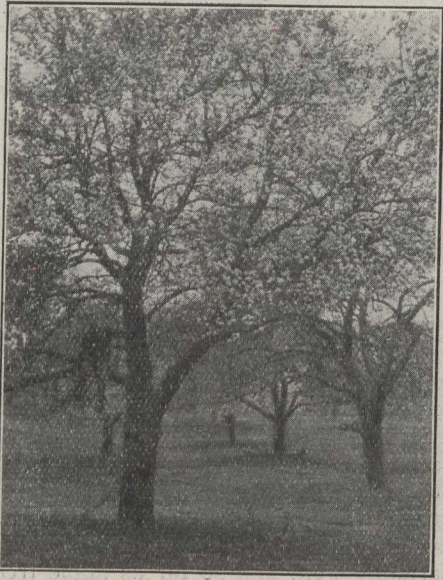
START OF THE MOVEMENT

Last year, the Fruit Branch of the Ontario Department of Agriculture interested itself in the district. During the summer, considerable data relative to the actual conditions of the orchards was gathered.

There is located at Collingwood one of the Branch Offices of the Ontario Department of Agriculture. Its representative, I. F. Metcalf, B.S.A., realized that the farmers of the section did not appreciate their opportunities. Acting on his knowledge of the district, along with that obtained from the orchard survey work, he planned to conduct some demonstration orchards this year in the hope of improving the orchards generally. His efforts are meeting with distinct success.

The start was made last spring in the township of Nottawasaga. Six orchards that were in a badly neglected state were selected at favorable points. Having gained the consent of their owners, these were taken over by the Department for a period of two years to be used for demonstration purposes. The orchards are located on the farms of the following men: W. Hamilton, Collingwood; W. J. Ovens, Duntroon; C. Campbell, Stayner; R. Steele, Cashtown; S. Blackburn, Creemore; John Osborne, Dunedin. These orchards are representative of orchards in the district. The trees were pruned, scraped, and sprayed. All of these orchards had previously been in sod, as are most of the orchards in the district. They were plowed and have since been cultivated.

The owners of the orchards assisted with the work of pruning and spraying, and did the manuring, plowing, and cultivating, as directed. The farmers who owned the orchards will reap the full



Before Pruning, No. 1

A tree in Mr. Colin Campbell's orchard, Georgian Bay District, before pruning.

benefit of the work. The Department is keeping an account of all labor and expenditures. The ultimate results will be compared with those obtained in past years in order to demonstrate the profit that may be gained by giving care to these orchards.

GREAT RESULTS ALREADY

These six demonstration orchards were inspected by a representative of The Canadian Horticulturist during the second week in June. The transformations that have been worked already are remarkable. They have aroused the interest of the entire section. The orchards which before their introduction to the pruning tools and cultivating implements were equal to the worst, have taken on an appearance common to the best, and their owners are delighted beyond measure at the prospects now before them.

PRACTICAL MAN IN CHARGE

The practical part of the work is in charge of Mr. W. F. Kidd, of Simcoe. Distinct credit is due Mr. Kidd for the thorough manner in which the work has been accomplished. The orchards are located on main roads. Large signs draw the attention of passers-by to the work that is being done. This has helped to create the great interest already apparent on the part of other orchardists.

CARE GIVEN THE TREES

Three sprayings in all will be given for the season. With the exception of one of the orchards, where part of the trees are being sprayed with Bordeaux, commercial lime-sulphur, diluted one to forty, and arsenate of lead, three pounds to the barrel, is the spray mixture used. The spray outfit is of an ordinary kind, the waggon and tower having been fitted up by one of the owners of the orchards.

It is such as any farmer might make for himself. In each of the orchards, demonstrations in spraying and in pruning have been given. Farmers attended in large numbers.

The influence of the demonstration work is having effect. Farmers have commenced to prune their trees, and to plow and cultivate their orchards. Mr. Kidd will remain in the district throughout the summer, going from farm to farm, talking over orchard matters and showing those farmers who wish to learn by actual demonstration how to prune and care for their orchards so that they may return greater profits.

An extension of this line of work to other similar sections throughout the province is needed. The Ontario Fruit Growers' Association, the Department of Agriculture and local organizations should co-operate to that end.



After Pruning, No. 2

The same tree in Mr. Campbell's orchard after pruning.

Peach Leaf Curl

I enclose you leaves taken from my peach tree. They are curled up and present a most horrid appearance. This is the second or third year they have been affected in this manner. Can you give me any good solution that may be used as a spray to remedy this evil?—H. F. L., Brantford.

The peach leaves are attacked by a very common disease of the peach: the peach leaf curl. This is very prevalent and very severe in all peach growing districts this year. Trees badly affected for several years in succession are often so greatly weakened that they will die. The disease can be kept under control by spraying with either Bordeaux mixture or lime-sulphur before the buds begin to burst in the spring of the year. If this spraying is put off until the buds have started to burst or are well swollen very often it fails to give satisfactory results. One spraying is sufficient.—L. Caesar, O. A. C., Guelph, Ont.

Banding Apple Trees

Grant S. Peart, Burlington, Ont.

In apple sections infested with the codling moth, the time has come to supplement spraying. No matter how thoroughly the spraying may be done there are always some moths left.

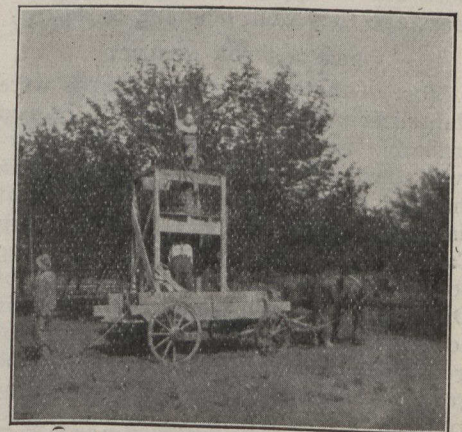
In addition to spraying, we have used bands for many years with excellent results. Our experience indicates that burlap sacking, of which bran sacks are made, is the only material fit to use, because the worms will not enter bands made of dyed cloths. We aim to make the bands long enough to go around the trunk of the tree. They are placed anywhere from three to four feet above the ground, so that any hogs running in the orchard are unable to reach and destroy them. The bands should be made from eight to ten inches in width, and folded once so as to have a double thickness. When placed on the tree they should be stretched reasonably tight so that they will not sag with rain. One nail is sufficient for each band.

The larvæ go into and under the bands and sometimes transform into the adult moth in less than a week, according to the weather conditions. Thus, the bands should be examined at least once a week. To do this we find that the handiest tools to use are a light house hammer or a pair of pinchers.

When removing the band, take one end in the left hand and strip it from the tree carefully, otherwise some of the worms will drop to the ground and escape. Before replacing it, the band should be thoroughly examined, inside and out, so that every worm is detected and crushed.

By working systematically, a man can do about 200 trees a day quite easily.

The bands placed on the trees during late spring and early summer, should be examined for the first time not later than the middle of July, and not taken off the trees for the winter before the apple crop is harvested.



The Simple Spraying Outfit Used

The implements used in the demonstration work were of an inexpensive nature. Already farmers have bought and fitted up several spraying outfits like this for use in the section.

Banding apple trees is a profitable work. With spraying combined, we have frequently reduced the wormy apples to ten per cent. Another advantage to be derived, and one which is very liable to be overlooked by the grower, is the encouragement into his orchard of beneficial insects. Very often we have found while examining the bands, numbers of larvæ of the ladybug beetles, ichneumon and brachonid flies, feeding on the codling worms.

Thinning and Summer Pruning

W. J. L. Hamilton, Salt Springs, B. C.

Although it is frequently regarded as one of the minor operations of the orchard and sadly neglected, a great deal of the success of the commercial orchard depends on the proper thinning of the fruit. It should be understood that it is seed production rather than fruit production which saps the vitality of the trees: consequently, as trees are disposed to overbear, exhaustion ensues, and a year is needed in which to recuperate. This is the reason why most trees only bear a good crop every second year.

If, however, thinning is performed judiciously, the tree freed from the labor of so much seed production, turns its attention to perfecting the fruit left on it: hence they are larger, more perfect, more vigorous, and consequently more resistant to disease; in other words, more No. 1 fruit is produced and fewer culls. Sun and air, also, obtain full access, and a better color is obtained, which, in this day of the red apple, means better prices.

When fruit, particularly apples and pears, touch one another, the spray cannot find access; besides which, at the point of contact the skin is thinner, and insects which feed on the fruit find easy access, generally spoiling both the fruit where they touch.

If the simple rule is observed to thin all fruits so that, when matured, no two fruits shall touch one another, the tree will not be exhausted by the over production of seed, and so will bear well every year. The crop also will be heavier, since the individual specimens will be much larger, besides almost all of them being perfect specimens, and in consequence, of the highest market value. This good fruit can be obtained only where intelligent spraying is conscientiously carried out in conjunction with the pruning and thinning.

SUMMER PRUNING

Another point often imperfectly understood is the importance of summer pruning. In the winter we prune to shape the tree, and for wood production, generally cutting back about one-third of the year's growth, whereas in summer we

prune with the object, in the apple orchard, of producing fruit bearing spurs. These spurs are really abortive branches, that is, branches whose growth has been checked.

If then, in summer, we pinch back with the finger and thumb, all branches whilst they are still green and tender, upon



A Sample of the Signs That Called Attention to the Work

This shows a portion of Mr. Osborne's orchard at Dunedin. Note its sadly neglected condition. It is typical of hundreds of other orchards in this district.

which we want fruit spurs to form, at about the fourth leaf of the young growth we will find that the end bud left will grow strongly, as it receives most of the sap, and tries to take the place of the original twig which has been shortened; at the same time the other three buds left on the shoot will also start to grow, but, since the end one is taking most of the sap, these are starved and dwarfed, forming fruit spurs.

If these points are properly attended to, and the land is cultivated "with brains," the crop can hardly fail to be a good one, given reasonable weather. In cultivating, never, if possible, use a plow, which tears up and breaks the surface roots, leaving projecting ends, and weakening the tree. Always disk the orchard; use a disk with side draft to cultivate close to the stems, without bringing the team too close. If the disk does not cultivate deep enough, weight it. Commence to cultivate just as growth starts, and keep on until you want growth to stop, or, in other words, when the tree has made all the wood it can ripen before frost.

Also rake up and burn all leaves and rubbish, as these are the winter nesting place of insect pests and many fungous diseases.

Burn or otherwise destroy all the fruit you thin out. Remember, that a few fruit trees, properly attended to, will pay, whereas a number of neglected ones are an expense and an eyesore.

Use of Lye as a Spray

I am perplexed regarding spraying. I noticed in the Gillett Lye pamphlet that they claim it is a sufficient spray for all purposes. What strength of lye would you use in spraying, after apple blossoms fall? Do you think 2 lbs. with 5 lbs. lime to 50 gals. of water sufficient strength? In the pamphlet they claim it will destroy aphids

and canker worm. Will it kill bark louse bug?—H. W. C. C. Windsor, N. S.

We have never used Gillett's Lye during the summer as a summer spray. We have found it very effective and useful as a winter and spring treatment for bark lice, and for cleaning up the branches of trees. We should not spray for apple trees in foliage, unless it were very much diluted; the amount of dilution I am not prepared to say at present. For winter and spring treatment one pound to two gallons of water is about right, and does good work.—Prof. W. Lochhead, Macdonald College, Quebec.

In our experience, the best treatment of Oyster Shell Scale is a lime wash when the trees are dormant. The lime-sulphur wash is also good. These, we believe, give better results than Gillett's Lye, which has not been found satisfactory here in controlling Oyster Shell Scale.—W. T. Macoun, C.E.F., Ottawa.

The strength of spray should depend very much upon the age and species of the tree. It would be well to experiment a little, starting with a weak solution and gradually making it stronger until the proper strength for the work required is ascertained.

Lands which yield good crops of wheat and corn may be expected to be good apple lands, if other conditions are right.

Lessons from Professor "Nineteen Ten"

Reported by "Weary Worm," Winona

PROFESSOR "Nineteen Ten" is by far the youngest of four Professors, being not yet six months old. Young as he is, however, he is already teaching us lessons with the best of our college men, who, able and clever as they are, at the same age were much more interested in the pure milk question than in either the fungus diseases or insect enemies of fruit.

The Professor, in his own original way, has just given a most valuable lesson on the question of "Curl Leaf" in the peach. This he has done by means of an unusually early and warm opening of spring, followed by a long spell of cool, wet weather. It is "up to us" to profit by his strong hint.

It has been demonstrated this season that the only way to control the serious fungus disease of the peach is by early and thorough spraying with a mixture of lime and sulphur, in which the proportion of lime must be large.

This application can hardly be made too early or too thoroughly. A prominent grower at Vineland had his trees sprayed while it still froze hard at nights; result, trees free from "Curl Leaf." Numerous object lessons on this question have abounded in the Niagara District this year for any one with eyes to see. Where the spraying had been done carelessly it was very visible in the orchard; where branches had been missed the "Curl Leaf" was bad, the rest of the tree being free from it.

Some growers sprayed their trees from one side only: result, one side of the tree with but little "Curl Leaf," and the other with plenty. Where individual trees at the ends of the rows were only half done, the results were plainly manifest; and where trees were left unsprayed terrible results followed, amounting in many cases to the total loss of the crop.

GROWERS UNPREPARED

The exceptionally early season caught many growers unprepared. They left the spraying to the usual time with disastrous results, which will cost them a large proportion of their crop.

The lime and sulphur spray for "Curl Leaf" is purely preventive, and must be applied before the buds come out. If applied later it does little, if any, good. Moreover, it would seem as if it is the lime which chiefly does the work.

Several interesting experiments have been conducted along this line. In the orchard of Mr Newton Cossit, of North Grimsby, trees sprayed early with lime and water only—at a strength of 25 to 30 pounds of lime to 40 gallons of water, were free from the disease, and compared favorably with other trees in the same orchard sprayed at the same time with lime and sulphur.

A number of experienced fruit-growers report that the old home-boiled mixture, 20 lbs. lime and 15 lbs. sulphur to 40 gallons water is preferable to either the home-made concentrated or the commercial article for the prevention of this disease. Others report satisfactory results from the commercial article when very thoroughly applied. To be on the safe side it is necessary to add from 15 to 20 pounds freshly slaked lime to each 40 gallon barrel of home-made concentrated or commercial preparation previous to putting on the trees. This will ensure success, and indeed Professor Cæsar of the O.A.C., Guelph, has already advised this course.

LESS SUSCEPTIBLE VARIETIES

Another lesson taught by Professor "Nineteen Ten" is that Early Crawford, Fitzgerald and peaches of that type are less subject to "Curl Leaf" than other varieties, and that Early Rivers, Triumph, and Elberta are peculiarly liable to it. A further lesson is, that in a season like this it is not advisable to cultivate the peach orchards too early, as such action has a tendency to increase the disease.

Out of seeming evil good often comes. It has been demonstrated to a certainty that those who were ready and forehanded in applying thoroughly the proper lime and sulphur mixture are about to reap a great reward, for these men have the crop and the others have it not.

Instances there are of orchards containing 50 acres and upwards of peaches being practically free from the curl as a result of proper spraying, and of orchards of five acres and less losing their whole crop from neglect of this precaution.

Those who thus escaped have a large crop; indeed, one large grower in the Winona neighbourhood already has a gang of women and others employed thinning the crop.

OTHER LESSONS

We are being taught, this season, some other things: one is that it is not safe to use Arsenite of Lime or Paris Green in combination with lime and sulphur, several such attempts having resulted in burning the foliage. Arsenite of Lime can be used with Bordeaux safely, at a strength of one quart of the stock solution to 40 gallons water. But if a drenching spray be needed less than a quart must be used.

Prof. Stewart's formula for making Arsenite of Lime is: 2 lbs. white arsenic, 2 lbs. sal soda, and 1 to 1½ gallons water; boil till thoroughly dissolved, then add 3 to 4 lbs. lime, and boil five or ten minutes longer, adding water to make up 2 gallons. This is the stock solution previously referred to. In actual

use this spring, however, it was found that where a drenching spray was used on early apples, the foliage was slightly burned, but when the amount of lime added was increased to 5 and 6 lbs. no injury took place.

Mr E. M. Smith, a well-known grower near Winona, reports that using home-made lime and sulphur of winter strength diluted 1 to 40 as a summer spray on plums, burnt the foliage, but that diluted 1 to 50 it did not hurt the foliage, and did good work.

Another lesson taught by Professor "Nineteen Ten" is, that in a season like this it does not pay to set out tomato plants too early. Those first put out, in most cases, had to be replanted and in other cases were behind those planted later.

These are a few of the lessons the Professor has already taught us. As he grows older, he probably will have more lessons for us, perhaps of still greater importance.

Thinning Apples*

W. H. French, Oshawa

Three years' experience leads me to believe that thinning apples is fully as important and profitable as either good fertilizing, working, or the spraying of the orchard. Judicious pruning will help, but cannot take the place of thinning.

In the season of 1907, I thinned 100 trees. I commenced in a block of ten Snows, ten Wagner and forty Golden Russet, which were well laden. I removed one-third of the fruit from all but two trees, leaving these two for comparison purposes. In another lot of forty Northern Spys there were six trees that were exceptionally heavy laden. I left two of these unthinned; from two I removed one-third of the fruit; from the other two, two-thirds. The remaining thirty-four trees were well filled. I took off one-third from all but two. Part of them I finished at one picking, and part I went over twice.

THE RESULTS

Later, when looking over the work of the summer, I found: First, that until one is familiar with the work, it is better, if there is much fruit to remove, to thin twice rather than once. The second thinning should follow about three weeks after the first. It requires about that time for the results of the first work to develop, second, that on my light land, it is not quite enough to only remove one-third of the fruit when the trees are heavily laden, one-half is better; third, that to remove two-thirds of the crop is the extreme limit, as otherwise the fruit is liable to be coarse and overgrown.

*Extracts from a paper read at the Short Course in fruit growing held at the Guelph Agricultural College.

Lawn and Garden Suggestions for July

CONSTANT attention to all plant life must be given this month to keep everything looking nice. Watering must be done copiously so as to thoroughly soak the soil. Do not be content with merely laying the top dust. Water in the evening if possible, and then next day slightly stir the surface of the flower beds with a hoe or rake. By doing this you encourage the roots to go deeper in search of nourishment.

Keep all dead and withered flowers cut from your plants so as to prevent the strength of the plants being used up in forming seed pods. Constant attention to this will insure a continuous supply of blooms on many plants which are sometimes thought to produce only one crop of flowers. Many varieties of the campanulius, poppy, and stocks will produce fine flowers the second time if well fed and not allowed to seed.

Take notes of your perennial bed and borders, and determine what needs removing the coming fall, and also the time of flowering, and if the flowers are as good as last year. If they are not, it is proof that the soil is exhausted, and the plants need removing and dividing up again.

Look well after your Asters and Dahlias. Do not let them suffer from drought, or they will be a failure. Water copiously in the evenings, and mulch around the plants with well-rotted

manure or grass clippings. Watch for the Aster bug. Spend a few minutes each evening catching them. You will be surprised how it will help to lessen the number of spoilt blooms.

Keep all plants well tied up. Doing so makes a place look better and more business-like, and aids the production of better flowers. All early spring bulb foliage may now be cleaned off. Those that are dry will pull away. Those that are green, such as Narcissus, may be safely cut away a few inches above the soil.

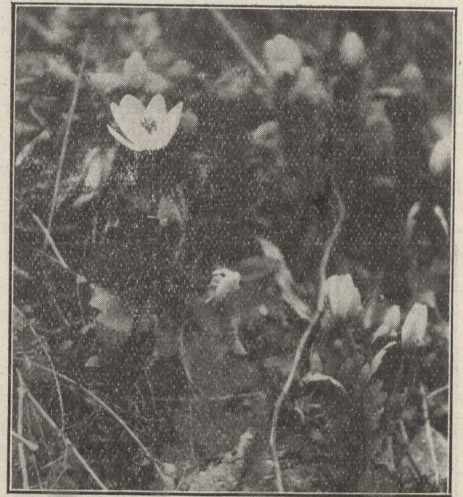
If you have any blank spaces in your borders there is still time to sow seeds of candidtuft, portulaca, and annual poppies, which will make a fine show during the late summer.

Give close attention to the pansies. Keep them well watered. Apply liquid manure once a week. Keep all seed pods picked off. You should then have good flowers all the season.

WITH THE VEGETABLES

In the vegetable garden there is still time to sow dwarf beans, cabbages (late kinds), and cauliflowers. Also sow fortnightly small sowings of radishes and lettuces, cress, and some parsley, which will do to lift later.

Celery will now require lots of water and feeding. Apply liquid manure once a week, but see that the soil is moist before doing so. If it is not, then soak



Blood-root a Hardy Native Plant

The Blood-root, *Sanguinaria Canadensis*, has the purest white color of any plant known. It is one of the most shy of wild plants, but it takes most readily to the garden, where it will be apt to double in size, flower earlier and to repudiate its love of water. With care it can be transplanted from the woods in July. These flowers have been grown successfully for many years in the garden of Mr. A. Alexander, Hamilton.

the ground well with clear water first, and then apply the fertilizer. Towards the end of the month the early celery may have a little soil drawn close up to the sticks, which helps to keep them moist, and commences to bleach it. Take care not to draw up too much soil, or it may cause rot to start.

THE SMALL FRUIT GARDEN

Keep all fruit bushes free from weeds, and spray occasionally with Bordeaux mixture to keep leaf blight in check.

A good mulching around the raspberry and blackberry canes will be beneficial this month, and will prevent the surface roots from being dried out.

Keep all small shoots and side growths cut away on your tomato plants, and thin out the heavy foliage, to let all the sunlight possible reach the fruit.

GREENHOUSE WORK

In the greenhouse, plant cucumbers if you have the room, and clean up under the benches. Whitewash the walls, and so forth, so as to prepare for growing your winter flowering plants.

The Rudbeckia

J. McP. Ross, Toronto, Ont.

Its perfect hardiness and the fact that it can be grown almost anywhere, added to its easiness of propagation, have made the rudbeckia rather too familiar in some localities. Nevertheless, they are a beautiful class of plants, and an indispensable border plant, despite their freedom of growth and popularity.

Its proper place is at the back of the border next to the fence, where its tall spikes of bloom show to advantage. It grows to a height of five to six feet, producing masses of pure yellow double flowers in great freedom—lighting up the neighborhood like a flock of yellow but-

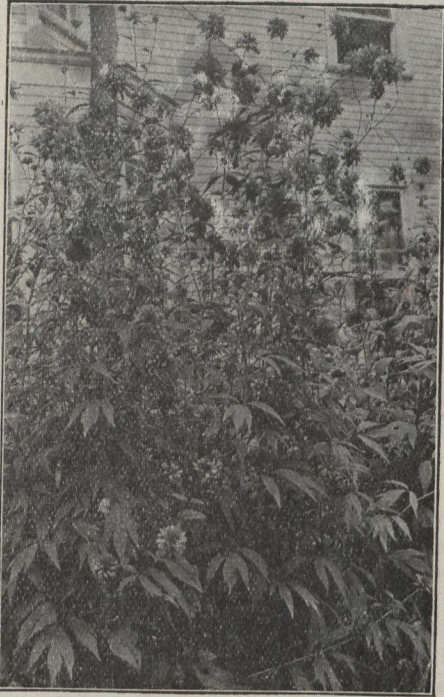


A Few of the Flowers in a Hamilton Roof Garden

The roof where this illustration was secured has been converted into an attractive roof garden by its owner, Mr. C. D. Blachford, of Hamilton. The flowers are planted in boxes. Summer cypress, scarlet runner, hyacinths, sweet peas, climbing nasturtium, begonias, white alyssum, blue lobelia, geraniums and numerous other vines and plants, have been grown successfully. The adjoining stone wall has been covered by a climbing vine which grows up wire netting eight feet high and presents a most pleasing appearance, especially when in bloom.

terflies, and from which ample cuttings can be made for decorative purposes. The variety (Golden Glow) is one most in cultivation, but there are many other single varieties equally desirable and floriferous.

It is necessary sometimes to tie the clump to a centre stake to prevent the



Golden Glow in Bloom

stalks breaking down with the wind, as the abundance of flower blooms make them top heavy in showery or windy weather.

The growing popularity of all the herbaceous plants is causing growers to be on the look out for new varieties, as many amateurs are going in for collections of the various species. Catalogues, therefore, give descriptions of many new rudbeckias, all worthy of cultivation. A few plants make quite a show. They bloom from July to September, and thrive under all conditions of neglect or cultivation. The best results are obtained when they are given ordinary care. As they are strong growers they require manure annually. When you do not need to plant again, or cannot give the plants away, they may be kept under control by digging surplus growth under.

Red Spider on Geraniums

What is the cause of geranium leaves turning yellow and shriveling?—A. J. L.

The trouble is probably red spider, a nasty pest during July and August, especially in light sandy soils. The remedy is to try and spray often with cold water on the under side of the foliage. Mulch the soil with short grass from the lawn.—E. F. Collins.

Care of Bulbs

Will you kindly give me some information on how to manage bulbs after they have flowered? Some bulbs seem to do better if taken up every year, while others do better when left alone. Of course Gladioli should be taken up every year. I have had much trouble with my Poeticus Narcissus. Many of the bulbs blight.—A. J. C.

Tulip bulbs give best results, as a rule, if the bulbs are taken up each year after the crops die down, or if the bed is intended for annuals the tulips may be dug while the tops are yet green, and heeled in in a well drained place with the tops still attached to them. If taken up when the tops are dry, the bulbs are kept dry until September, when they should be re-planted. If left in the ground all summer and subjected to moist and dry conditions of ground alternately, they are likely to be injured, although in well-drained soil some varieties will persist for several years; hence it is not really necessary to take up the bulbs each year. Narcissus should not be taken up every year, but when the clumps get so thick that the bloom is affected they should be dug out and the best bulbs re-planted and given more room.—W. T. Macoun, C.E.F., Ottawa.

Trouble With Geraniums

Can you give me a little advice regarding the enclosed geranium leaves. If you hold them against the light there is something in the leaf like a fungus. It gradually spreads, the leaves turn yellow and drop. The blooms do not open in the center, but shrivel up.—S. L. B., Island of Orleans, Que.

We have had the leaves examined carefully and have found that the brown spotting and dying of the leaves is due to a bacterial disease. This disease is favored by moist conditions and therefore often caused to develop and become noticeable by over watering, lack of drainage and too much shading. If these conditions are overcome and the soil in which the plants are growing is suitable we

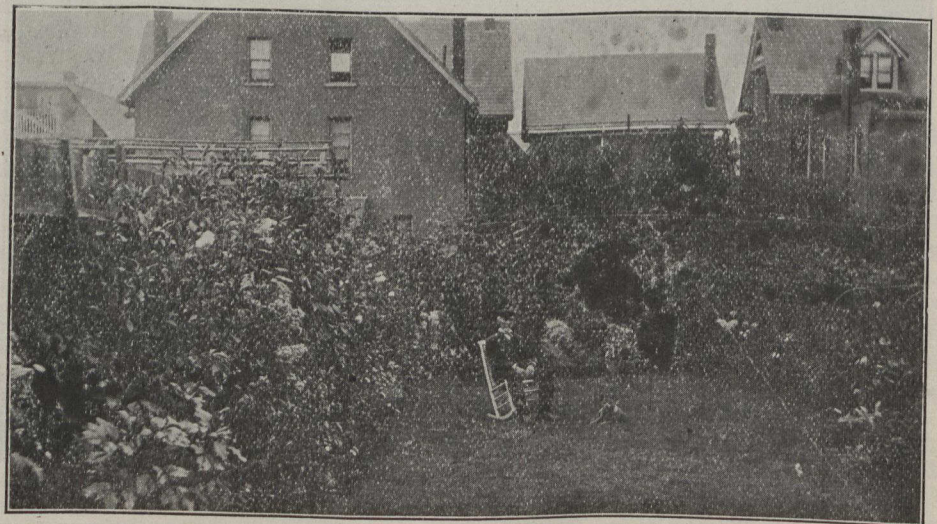
think that there is no fear of the disease becoming serious.—J. E. Howitt, O.A. C., Guelph, Ont.

Cactus as a Decorative Plant

J. H. Callander, Peterboro

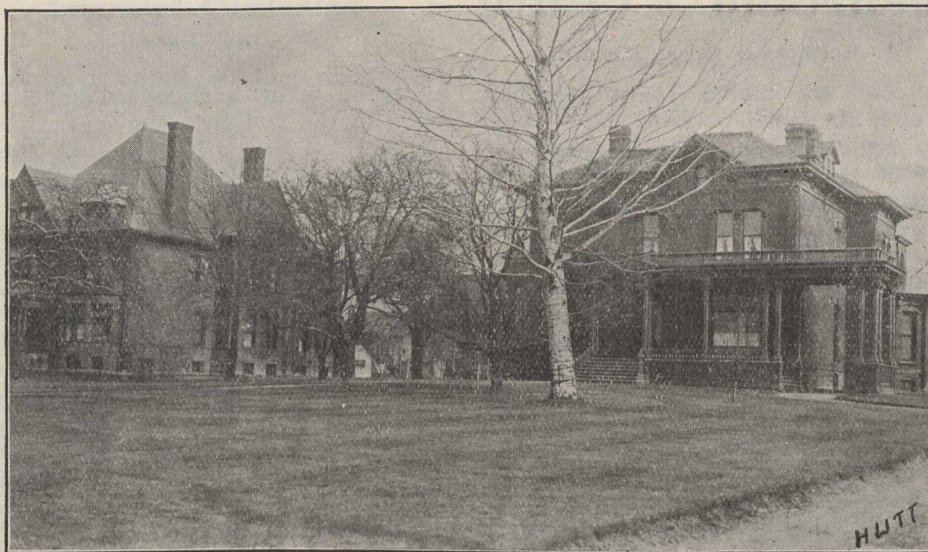
The growing of Cacti, a class of plants that comprises in its members the strangest productions in form and habits that Nature has ever added to plant life, has received a decided revival within the last few years. Their splendid qualities as decorative plants, both in the conservatory and garden are beginning to be realized. The first great factor that has helped to bring about this result is the success in creating odd and beautiful effects by massing in indoor groups, or forming striking designs in carpet bedding, by those who have tried the Cacti for these purposes. This success has led others to desire some such arrangement. For house plants, there is no other species like the Cactus. It endures all temperature, the dust that is the enemy of foliage plants, gases which destroy other vegetation, and appears to simply revel in a long siege of neglect. Added to this, the oddity of form and the wonderful coloring of the spines, has made them always a source of curious admiration. To crown all, the magnificence of many of their flowers surpasses everything that it has been found possible to produce under the most favorable cultural conditions.

This grandeur of bloom is not found on the carefully tended plants as might be expected, but comes oftenest on neglected specimens that find their ideal conditions in being allowed a season of rest. They reward the delighted owner with a flower or flowers of rare beauty, form and coloring. Cacti not only stand neglect, but actually demand it to enable them to give the best results. A great many of the parks in the larger



A Backyard Garden in Toronto Which Shows What Can be Done

This garden, of Mr. R. C. Wade, Riverdale Ave., Toronto, demonstrates the great improvements that can be made in the average city backyard. Compare this backyard with that of the average city house.



Homes on Van Stittart Ave., Woodstock, Ont.

Note that all front and division fences between lawns have been removed. In every town and city there are residences and streets, the appearance of which might be improved by the removal of unsightly fences.

cities of the United States have had a very fine collection of Cacti for many years. They have been bedded out each season, and visitors have always been led to the Cactus bed as one of the sights of the park. These influences have been quietly at work to bring these peculiar plants into prominence, and general favor.

Renewing a Lawn

I have had a fairly good lawn for three years, but there is very little sod. I have lots of earth and I want to know how it would be if I put about half an inch of same all over it on the top of the present grass. Would I practically have to make a new lawn, or would the present grass grow through it? Of course, I expect I would have to put some seed on.—H. S., Smith's Falls, Ont.

It will do no harm and probably will be of benefit for you to place a half inch or even more of well pulverized earth, spread evenly on your lawn. This should be done before the grass grows very much. If much growth has been made, mow it closely before applying the earth. Seed may be sown and raked in after the earth has been spread. Make the surface level and firm by rolling.

Summer Care of Bulbs

Narcissus bulbs should be left undisturbed in the ground as long as they continue to produce good flowers. Most of the best varieties will produce good flowers for four or five years. If it is desired to increase the clumps or to make new ones, they may be dug after a few years and the bulbs separated and given more room, when they will multiply again with renewed vigor. Hyacinth bulbs may be left in the ground from year to year, where they will often increase. If tulips are in suitable soil they may be left undisturbed for three or four years, or

until they get too crowded to produce good flowers or have died out so much that they need to be replaced. As a rule, the best flowers are obtained by planting new bulbs each year. This is almost a necessity for show beds. As soon as the petals are formed, the seed pods should be removed, in order to conserve the energy of the plant, which would be used in developing seeds instead of the bulbs, but the stem and leaves should not be cut until they have dried up as they are necessary to the proper maturing of the bulb. As soon as the stems and leaves have died, the bulbs may be dug up, cleaned, and kept dry until August, or if the bed is needed for annuals, they may be dug up shortly after they have done flowering, and heeled in in a partly shaded place so that they will dry up gradually, in order to get them as mature as possible.

June Pinks

T. H. Taylor, Hamilton, Ont.

Although the June or Scotch Clove Pink does not appear in the gardens of to-day to the same extent as formerly, it is still a very useful hardy border plant. It has very neat foliage for a narrow border plant, particularly after the blooming season is over when the new growth is coming, and all flower stems have been removed. Our preference for this flower, with its exquisite odor, is shown by the fact that although ours is only a small garden in a city lot, a walk from the house to the rear of the garden is bordered with them, in addition to those shown in the accompanying illustration. Some of the earliest recollections of gardening and flowers take the writer back to boyhood's days, when a handful of these flowers were given him, leading to a resolution that if ever the possessor of a garden, this sweet flower with its de-

lightful fragrance should have a goodly space to itself.

The culture is easy. It will grow in any ordinary garden soil, though perhaps a light soil suits it best, if fertilized. The clump shown in the illustration grows in a moderately heavy soil, which has been well treated with fertilizer for the roses growing behind the pinks. Those bordering the walk are growing in a very light soil. They are doing well but do not show quite such good flowers as those in the clump.

This plant is very easy of propagation, should any readers of THE CANADIAN HORTICULTURIST wish to increase the space devoted to it, or to raise new plants for other garden-loving friends. After the bloom is over a heavy growth of new spurs takes place which when three or four inches long, can be cut off and placed in a trench a few inches apart, and the earth firmed around them. By fall, most of the cuttings will be rooted, and will bloom the following June.



June or Scotch Clove Pink

A section of the flower bed in the garden of Mr. Thomas H. Taylor, Hamilton, Ont. (See accompanying article).

The trench should preferably be in light warm soil, with reasonable care that the earth does not dry out.

Several attempts have been made by the writer to secure the White Pinks, Her Majesty, Snow, etc., but either he has been told that the florist was "sold out," or the order was filled with plants which when they bloomed turned out to be the old ones he already had. Her Majesty more nearly approaches the carnation, and is a beautiful flower, but no opportunity has yet occurred for the writer to test its growth and hardiness.

Mushroom Culture*

J. McPherson Ross, Toronto

TO a great many people the art of growing mushrooms is quite a mystery, and even amongst gardeners of considerable experience and skill their cultivation is attended with a good deal of guess work, because they lack the knowledge of two or three essential points, which, if attended to at the outset, the after crop of this delicious esculent can be looked forward to with absolute certainty. Everyone likes mushrooms, and there is no reason why anyone who can procure the manure and has a place, either in a shed or out-building or a cellar, may not have a bed producing plenty of mushrooms the year around, excepting June or July—and even in these hot months they can be grown if kept covered up from the flies.

Mushrooms will grow anywhere when given the proper materials, and dark, dry cellars not being used for anything else are ideal places, spaces under verandahs, or the prepared manure may be packed in boxes any size, so long as they are deep enough to hold eight or nine inches of manure. Old bureau drawers serve capitally for this purpose—in fact, there is no limit to their cultivation in places that may be convenient or that ingenuity can suggest.

To have certain success, procure if possible the daily manure and sweepings from a stable, whatever quantities possible, forking out the long straw, if any, and add a third of good garden soil to the manure, mixing it thoroughly, turning daily to prevent it heating too much, adding to the pile fresh manure and soil as you procure them till you have sufficient to make a bed four or five feet in width as long as you have space for, and when packed down to be not less than eight inches in depth.

After the first rank heat has escaped, make the bed by placing the manure in layers, pounding it firmly. Pound it as you would pound the soil in setting posts; the more compact your bed is, the longer it retains the heat, and the spawn travels quicker through it.

In locating your bed, do not put it on a cold floor or where any water would be apt to raise and be absorbed by the bed; in such a possibility, raise your bed up four or five inches, and if made against a damp, cold wall, run some boards between.

When your bed is made put a thermometer in it and observe the temperature, which will rise up to a greater or lesser degree; but when you notice it going down and about ninety degrees, place your spawn in it by making holes four inches deep, fifteen inches apart,

and place the broken spawn in small pieces in the holes, covering the same.

A particular point in after-success is to wait after spawning for a week or ten days before you put the top covering of soil. Many growers are so impatient that they put the soil on too soon. The heating or fermentation going on in the new bed causes moisture or hot steam, and this must be allowed to escape, so that if the soil was put on before this occurred it would be retained in the bed and kill the spawn. This is the actual cause for the failure in nine out of ten cases of attempts to grow mushrooms, and too much stress cannot be laid on these two points in growing them: The first, being careful not to spawn the bed till the heat is receding and is about ninety degrees or eighty-five degrees, and the second, not to cover with the top two inches of soil till eight or nine days have passed after spawning. When putting on the top two inches of soil, pat it down firmly and smoothly and then place a layer of straw over your bed; though not actually necessary, it aids to keep the soil surface moist and prevents the air drying up the bed too quickly, and keeps a still temperature. The temperature to grow mushrooms should be fifty-eight and one-half degrees, and should not vary, but anywhere between fifty to sixty degrees will answer. I have succeeded in varying temperatures, but that is the proper—fifty-eight and one-half degrees—and that is why underground tunnels, sewers or caves are utilized, because the temperature can be kept so even.

Following out the foregoing instructions, you should have plenty of mushrooms. Be careful not to get the manure wet when preparing it, as this delays and hinders your bed; in fact, it is absolutely necessary to save it and prepare in some dry place. There is sufficient moisture in the manure itself during the process of heating, but if conditions occur in too dry a place and your bed needs water, warm it well before applying, say about roo degrees, an occasional sprinkling will keep it right. When preparing material for your bed, be careful to see there is no old iron, such as pieces of hoop iron, or nails. It is stated as a curious fact that iron will prevent any mushrooms. It is recorded that among rival mushroom growers in France care is taken of the beds to prevent any enemy from sticking nails into it, as this meant failure.

In about six weeks or two months, if the temperature keeps right, mushrooms should appear, and when gathering give the mushroom a slight twist so as not to disturb the little ones, and be care-

ful to fill up with good soil any holes made in the bed by removing. Never cut them off with a knife, as the stump remaining will decay and infect the surrounding growth.

After a bed has exhausted itself, which it should in about three weeks, a couple of inches of good soil applied on the top will renew the crop for a short while. I have found it efficacious to occasionally water it with liquid manure, which stimulates and increases the size of the mushrooms. When completely exhausted, remove the old material, which is just right for digging in flower beds or for bulb cultivation.

A good plan to have successive crops of mushrooms is to keep adding to your bed fresh manure treated as directed, removing the old portion as it throws off the crop. Mushrooms can be grown anywhere on shelves built for them in the cellar, making one above another, or you can have a bed in a barrel by filling the barrel, spawning it—having regard to the temperature—and then cutting holes in the sides of the barrel at various places, through which openings the mushrooms will appear. To sum up, the whole art of mushroom cultivation lies in observing these rules:

1. Get your manure fresh and keep from wet.
2. Turn daily and mix a third of good soil with it.
3. Make your bed, when pounded thoroughly firm, to be about eight inches in depth; any deeper would make it heat too much, and any thinner or shallower would not be enough.
4. Spawn it when the heat is receding from ninety degrees to eighty-five degrees, never more, as the heat would kill the spawn.
5. Wait ten days after bed is spawned before you put on top layer of soil, so as to allow excess heat and moisture to escape.
6. Do not water unless you have to and have it at blood heat.
7. Have the temperature near sixty degrees, no more.

As it takes six weeks to two months for the crop to grow, you can make the beds any time, so long as you avoid it cropping when flies abound. I would not advise making any beds in May. It is not necessary to grow mushrooms in dark places, but they will grow there as well as in the light.

The average vegetable garden near Toronto is from five to ten acres. Nearly all growers have one or more greenhouses, which are used in the winter for forcing lettuces, radishes, rhubarb, etc., and to get plants well started ready for spring work.

*Extract from an address read at a meeting of the Toronto Horticultural Society.

Intensive Gardening

Thos. Delworth, Weston, Ont.

In a well-kept vegetable garden in the month of July every square foot should be occupied with some growing crop. Above all things, avoid waste corners and bare patches. They nearly always mean weeds and a crop of weeds for next season. While it may be easier to weed a garden when there is no crop growing on it, in practice it generally goes weedy because the work does not appear so urgent and returns for the labor are not so apparent.

Again, land in the condition of tilth that a vegetable garden should be, is too valuable to be allowed to stand idle at this part of the season. As fast as crops of early potatoes, peas, spinach, radish, lettuce, Dutch sets, strawberries and so forth are removed, fill up the space again.

Quick heading varieties of cabbage, like all head or early summer, or cauliflower of the snowball or erfurt type will generally give a profitable crop if planted as late as July 15th or 16th. Pickling cucumbers or winter radish, where you have a market for them, may be sown any time this month or even later.

Butter beans or the green-podded Valentine or Refugee, if sown this month will often give a large crop of better quality than the early spring sowings. The writer harvested an excellent crop of Refugees last year that were sown on land from which a crop of strawberries had just been taken. The last picking of berries was made on the 15th, when the plants were ploughed under and the land thoroughly disked and harrowed and the seed sown on July 17th.

Diseases of Celery

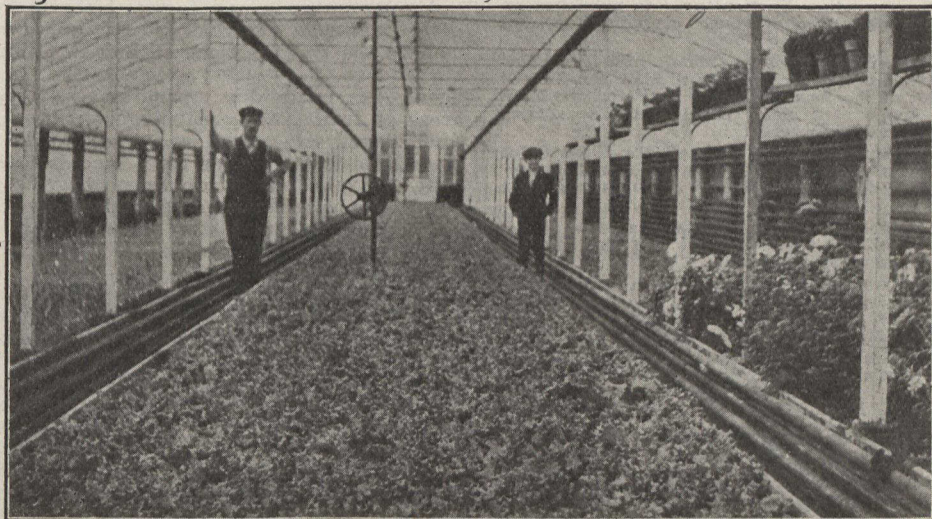
F. W. Hack, Norwood Grove, Man.

Main diseases of celery are blight, heart rot and rust. They are caused, in some cases by inherited tendencies, as in the case of poor seed, or they are brought on by weakness of the plants caused by a severe check or climatic conditions. The best preventive of disease is to keep the plants growing vigorously from the start and thorough and consistent cultivation. It is the plants that have had their vitality impaired by overcrowding, careless handling, or neglect of cultivation that are most damaged by disease. By using proper methods the loss in this way will not be great.

The natural rainfall is usually sufficient for a crop of celery. While the celery plant requires plenty of moisture it is very easily injured by excessive watering. Any sour, water-logged condition of the soil will prove fatal to a good crop. When it is necessary to supply water a good soaking should be given and as soon after as possible the surface should be

well stirred. Best results are generally on the side of natural soil moisture conserved by good cultivation.

While celery growing is not beset with difficulties to the experienced grower first attempts in this direction are usually failures. There seem to be facts in connection with celery growing, which though apparent to the experienced grower, cannot be readily communicated to the novice. They can be learned only by experience. It is well therefore to be content with small beginnings. Success will come with perseverance. There is no crop that will better repay the gardener for careful treatment than a good crop of celery.



The Interior of One of Smart Bros. Greenhouses

The illustration shows lettuce being grown on rather a large scale. This greenhouse is on a 140 acre market garden, one of the largest in Canada.

Seasonable Hints

The cold weather in the latter part of May and first few days of June has emphasized the fact that it is good practice to harden off plants before setting out in the open ground. Thousands of tomato plants are showing a bleached appearance of stem and the chances of a profitable crop from them are very much lessened in consequence.

In many cases the damage would have been much less had the plants been properly acclimated before setting out. It does not pay to set out tender plants from the greenhouse direct to the open field so early. A few days in a cold frame will toughen them to withstand the cold winds we so often get at that season.

This applies to almost all other plants. Onions, beets, lettuce and similar crops are usually transplanted to the open ground at that time of year.—Thos Delworth, Weston, Ont.

When cutting asparagus for market, use a short bladed sharp knife, cutting just under ground. Never allow the heads of the stalks to open or become seedy-looking.

A 140 Acre Market Garden

The market gardening establishment of Smart Bros., Collingwood, Ont., comprises over 140 acres. For the most part it is devoted to general garden truck. Strawberries, blackberries, and other small bush fruit are grown extensively. Large areas are devoted to carrots, beets, onions, and cabbage. The crops were all looking well, and the whole place was in a fine state of cultivation when visited recently by an editorial representative of THE CANADIAN HORTICULTURIST.

The record of Smart Bros. in building up their business is somewhat remarkable. They were formerly bakers.

Owing to the confinement of inside work, their health was not of the best. They decided to make a venture at outside work, and they took up market gardening. They started in a small way owing to lack of experience and lack of capital. The business grew. They kept adding to it year by year, putting on new lines as they acquired the experience and capital.

This year Smart Bros. are going in for flowers, having experimented a little with this line last year. The greenhouses on the place afford an indication of the growth of the business. As the business was extended, the old houses were added to and new ones built. This summer, Smart Bros. anticipate building an additional greenhouse, equal to their best, an illustration of which appears herewith. Now that the truck is all outside, the space in the greenhouse is given over to cucumbers.

The cucumber vines are trained on wires, and were just beginning to bear at the time of inspection. The most recent addition to the business is that of a sauer-kraut plant, the machinery for which Smart Bros. have on the ground ready to set up for the work next fall.

The Canadian Horticulturist

Published by The Horticultural Publishing Company, Limited

PETERBORO, ONTARIO



The Only Horticultural Magazine in the Dominion

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

H. BRONSON COWAN, Managing Director

EDITORIAL

A BOOM IN ONTARIO FRUIT LANDS

At last the fruit land in the Niagara district of Ontario is beginning to be appreciated at something like its true value. What might almost be termed a "land boom" is in progress. The whole district from Queenston around the end of the lake to within a few miles of Toronto, where it has been shown that tender fruit can be grown successfully, is affected. Land is being held at higher values than ever before. Private persons as well as companies have been purchasing land and holding it for an advance in values.

A comparatively new factor, hitherto but little known in the district although common to the fruit sections of British Columbia and in the United States, the land agent, has made his appearance. Large areas of fruit lands are being bought, subdivided and sold off in small lots. While it is possible that in some cases land is being held at figures out of proportion to its true value, the possibilities of good land in this section are so great, the present boom is well justified. The wonder is that it did not occur long ago.

This evidence that the people of Ontario are beginning to appreciate their opportunities is full of encouragement and promise. The new elements that are entering the situation mean that the possibilities of the tender fruit districts of Ontario will be more and better advertised from now on than ever before.

It is the land agents largely who have made the splendid possibilities of the fruit districts of British Columbia so widely known. Land equally as good as the best in British Columbia and with larger markets nearer at hand, and better shipping facilities, is abundant and is to be found in several of the lake sections of Ontario. This land can stand booming. It needs it. Only a comparatively small portion of the Niagara district that is suitable for fruit culture is under cultivation. The possibilities of this section are enormous.

The tremendous tide of emigration Canada is now experiencing will grow greater year by year. Not only is our great West being settled, but within a few years hundreds of thousands of settlers will locate in the vast clay belt of New Ontario. No matter how rapidly plantations may be set up in the fruit sections of old Ontario, the markets are destined to grow even more rapidly. No wonder our fruit growers are optimistic. They have every reason for being so.

THE SAN JOSE SCALE ACT

While it is true that the Ontario government has succeeded in confining the San Jose scale to those districts where it first secured its start, it would be only foolishness to pretend that the scale is not spreading in those districts—in some of them rapidly. There are various reasons for this, one of the principal of which is the fact that the Act of the Ontario Legislature relating to San Jose scale is very defective. Although this Act, with its various amendments, has been one of the most discussed acts ever passed by the Legislature, both the former Liberal government and the present Conservative government apparently have feared to grapple with the situation in the thorough and effective manner that the seriousness of the situation has called for.

The present provincial inspector has but little power over the local inspectors appointed by the various municipalities. In some cases, at present, the local inspectors are defying the provincial inspector to make them enforce the Act.

Recent legislation relating to sanitary inspection in cheese factories and creameries and also to law enforcement, proves that the government is aware that laws drafted on the basis of the one pertaining to the San Jose scale Act are more often than not a failure when their enforcement is left largely in the hands of local officials. The San Jose scale Act in Ontario needs to be revised so that the onus for its proper enforcement will rest entirely with the provincial government. This change cannot be made too soon. A vigorous agitation for such an amendment to the Act should be started.

SHIPPING EXPERIMENTS NEEDED

The Fruit and Cold Storage Divisions of the Dominion Department of Agriculture should test on a large scale and in a thorough manner the possibilities of shipping, not only peaches to Great Britain, but other perishable products, such as pears and tomatoes, as well. Experimental shipments that have already been made, for the most part by private individuals, indicate that there are great possibilities for an expansion of trade in this direction.

The responsibility for conducting this work rests with the Dominion government. The government will fall short of what the public expects from it if it does not conduct these experiments this year on a scale that will insure the work being done in a manner that will warrant the results obtained, being looked upon as a safe indication of the possibilities of this line of trade. The experiments may show that improvements in the existing cold storage facilities are needed. Time will be required to effect these. In the meantime, however, no time should be lost in ascertaining the possibilities of our present facilities.

MOTHER'S DAY

Reports received by THE CANADIAN HORTICULTURIST show that the observance of Mother's Day in May was more general throughout Ontario than ever before. The sentiment that is promoting the observance of this day met with such general approval this year as to show that there is an opening for an extension of this movement.

As previously explained in these columns, the object of this movement is to afford everyone an opportunity to manifest their love for their mother. The plan is to induce all persons to send boxes of flowers to their mothers or to wear a white flower in her memory on a certain day in May. The sentiment is a commendable one. There is room here for good work by such organizations as the Ontario Horticultural Association and the various horticultural societies of the province. The object of these societies is to encourage a love for the beautiful. This is one way in which it can be done.

The informal announcement that Mr. W. T. Macoun of the Central Experimental Farm, Ottawa, has been promoted and that hereafter he will have charge of the horticultural work on the various experimental farms operated by the Dominion Government throughout the Dominion, is a welcome one. No man is better fitted for this work or more deserving the appointment than Mr. Macoun. He is known and respected by fruit growers from the Atlantic

1. The Canadian Horticulturist is published on the 25th day of the month preceding date of issue.

2. Subscription price in Canada and Great Britain, 60 cents a year; two years, \$1.00. For United States and local subscriptions in Peterboro, (not called for at the Post Office) 25 cents extra a year, including postage.

3. Remittances should be made by Post Office or Express Money Order, or Registered Letter. Postage Stamps accepted for amounts less than \$1.00.

4. Change of Address.—When a change of address is ordered, both the old and the new addresses must be given.

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.

The following is a sworn statement of the net paid circulation of The Canadian Horticulturist for the year ending with December, 1909. The figures given are exclusive of samples and spoiled copies, and of papers sent to advertisers. Most months, including the sample copies, from 11,000 to 12,000 copies of The Canadian Horticulturist are mailed to people known to be interested in the growing of fruits, 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	April, 1910.....	9,410
May, 1909.....	9,172	May, 1910.....	9,505
June, 1909.....	8,891	June, 1910.....	9,723
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.

to the Pacific. Under his direction it should be possible to carry on experiments on all the farms, which while having in view the greatest possible promotion of local interests, will also aim to be of practical value throughout the Dominion. Under Mr. Macoun's direction we may expect to see a great increase in the value of the horticultural work conducted on the Dominion experimental farms.

It is four years since the first Dominion Fruit Conference was held in Ottawa. At that time it was generally understood that another conference would be held within the next two or three years. In fact, Hon. Sydney Fisher announced that such would be the case. There is need that another such conference should be held. The fruit growers of the Dominion of Canada have been expecting Hon. Mr. Fisher to call such a conference. Arrangements for it should be commenced without further delay.

PUBLISHERS' DESK

The illustration on our front cover shows the garden of Mr. A. E. Guay, Ville-Marie, Que., on the north side of the Quebec water shed.

Are you watching the steady manner in which the circulation of THE CANADIAN HORTICULTURIST is increasing? Where it was less than 9,000 at the beginning of the year, by March it had passed the 9,000 mark, by May it exceeded 9,500, and now it is within less than 300 of 10,000. We expect to pass the 10,000 mark within the next two months.

Won't you help us to do so? Tell your friends who are interested in horticulture about THE CANADIAN HORTICULTURIST. Show them that it is the only paper in Canada which will keep them posted in regard to matters pertaining to all branches of horticulture. They will be glad to see a copy of the paper.

In spite of the fact that we thought that we had made ample provision for the usual steady monthly increase in the circulation of THE CANADIAN HORTICULTURIST, the demand for copies of the April issue was such that our supply of copies of that issue is now sadly depleted. In fact, even the copies that we had reserved for binding purposes have been encroached upon. If, therefore, you can spare us your copy of the April issue, we will appreciate it very much if you will be kind enough to do so, and in return we will extend your subscription accordingly.

Last month we received word of the death of one of our old friends, Mr. S. P. Morse of Lowville, Ontario, whose photograph was published in the April issue of THE CANADIAN HORTICULTURIST. Mr. Morse had been a reader of THE CANADIAN HORTICULTURIST from its birth, some 33 years ago. Although in his 91st year, his interest in horticulture was keen until the very close of his long career. As late as the 10th of May Mr. Morse manifested his interest in THE CANADIAN HORTICULTURIST by sending us a new subscription. During the past five years Mr. Morse had sent us over 60 new subscriptions. In forwarding these subscriptions Mr. Morse made it clear that his object was to arouse a greater interest in others in horticultural matters. Canada can ill spare such horticultural enthusiasts. Their loss is always felt.

Advertise Persistently

"We have been very much pleased with the results of our advertisements in THE CANADIAN HORTICULTURIST. We consider it by far the most valuable advertising medium which we use."—The Canadian Nursery Co., Ltd., Montreal, Que.

The foregoing extract from a letter received from one of our advertisers is a sample of what other advertisers tell us. It did not merely "happen." Also it came unsolicited. In this case, this voluntary testimonial of the value of THE CANADIAN HORTICULTURIST as an advertising medium was not written until after the paper had been given a thorough trial. The Canadian Nursery Company have had a quarter page advertisement in every issue of THE CANADIAN HORTICULTURIST for the past eight months, and so can speak from experience. It is regular, persistent advertising such as this firm is doing which pays the best. It is impossible to judge of the true merits of a publication as an advertising medium when only an occasional advertisement is run. Such advertising often brings big returns. At other times, under almost precisely the same conditions, the returns are disappointing. This is true of all publications and of all advertisements of this nature. When, however, an advertiser keeps his name constantly before the readers of a publication, they soon begin to feel acquainted with him. He stamps his name and the nature of his goods upon their minds. Finally they think of him whenever such goods are mentioned or thought about. They know that he is in the business to stay, and, being thinking men and women, they invariably give him the preference over the spasmodic advertiser, whom they are apt to feel that they know but little about. Therefore, advertise regularly and persistently.

Visitors Welcome

Call at our Nurseries while plants are in bloom and make selection for fall planting.

Magnificent display of
Paeonies

200 Varieties of Hardy Perennials,
100 Varieties of Flowering Shrubs.

SOMETHING ALWAYS IN FLOWER

Canadian Nursery Co.
LIMITED

10 PHILLIPS PLACE
MONTREAL

Nurseries at Pointe Claire, P. Q.

FRUIT BOXES OF EVERY DESCRIPTION

APPLE BOXES A SPECIALTY

Up-to-Date Fruit Packers
Use Our Goods

MADE UP AND IN SHOOKS

WRITE US

The Firstbrook Box Company
Limited
TORONTO

Fruit Growers Profiting Through Co-operation

A MEETING of the Co-operative Fruit Growers of Ontario was held in Toronto on June 14. This organization represents the various co-operative fruit growers' associations of the province. The meeting was not as well attended as the one held in 1909. A late season and consequent rush of work accounted for this difference, as was evidenced by the letters sent by those who could not attend.

The supplies committee reported that the Association had handled this year approximately \$4,000 worth of such goods as spray pumps, hose, copper sulphate, arsenate of lead, sulphur, lime concentrated lime sulphur, packages, fertilizers, etc. Eighteen of the local associations purchased more or less of these goods, and considering that this was the first year that the central organization had handled the supplies direct, those of the members present were much pleased with the result. The associations were not only able to secure the goods at the lowest possible price, but in every case the materials were of the very best quality. A choice was always given in any of the materials where there were two or three kinds of practically the same quality, and the local associations could choose between them if there was any difference in price. It was felt that with all of the local associations in the province purchasing their supplies through the Provincial Association an enormous business could be worked up in this way. The managers present reported that the supply business proved to be one of the most attractive features to the members of their local associations. A vote of thanks was passed to the committee having this matter in charge.

It was decided to again issue a pamphlet giving the names of the various co-operative shipping associations with their secretaries or managers, and their probable output for the present year. Such a circular has been issued for the past three years and has been widely distributed throughout the West, in Great Britain and locally in Ontario, and is of marked assistance in attracting buyers. The pamphlet will be increased in size so as to give additional information which will be of value to prospective buyers of fruit.

WILL INCORPORATE.

The meeting decided to seek incorporation under the provincial laws for the carrying on of the general business with the local associations in all kinds of supplies and also for the sale, if found necessary, of the fruit of those associations that desire to place this matter with the Provincial Association. In many parts of the country there are fruit growers who would willingly co-operate for the packing of their apples and other fruits if the selling end of the business was arranged for them. It was recognized that a start should be made along these lines, and a circular will be issued to the local associations asking how many there are who will place all or part of their fruit with the Central Association for sale, if an efficient manager can be engaged and arrangements satisfactorily concluded for the financial end of the business to be left in the hands of the local secretary or manager.

In connection with the incorporation of the Co-operative Fruit Growers, it was decided to ask each local association to take five shares of \$10.00 each, ten per cent. of the amount to be paid down now, all local associations purchasing from \$100 to \$500 of supplies to be given a discount of two per cent. in payment for the same, from \$500 up to \$1,000 and over, three per cent., all associations placing apples for sale with

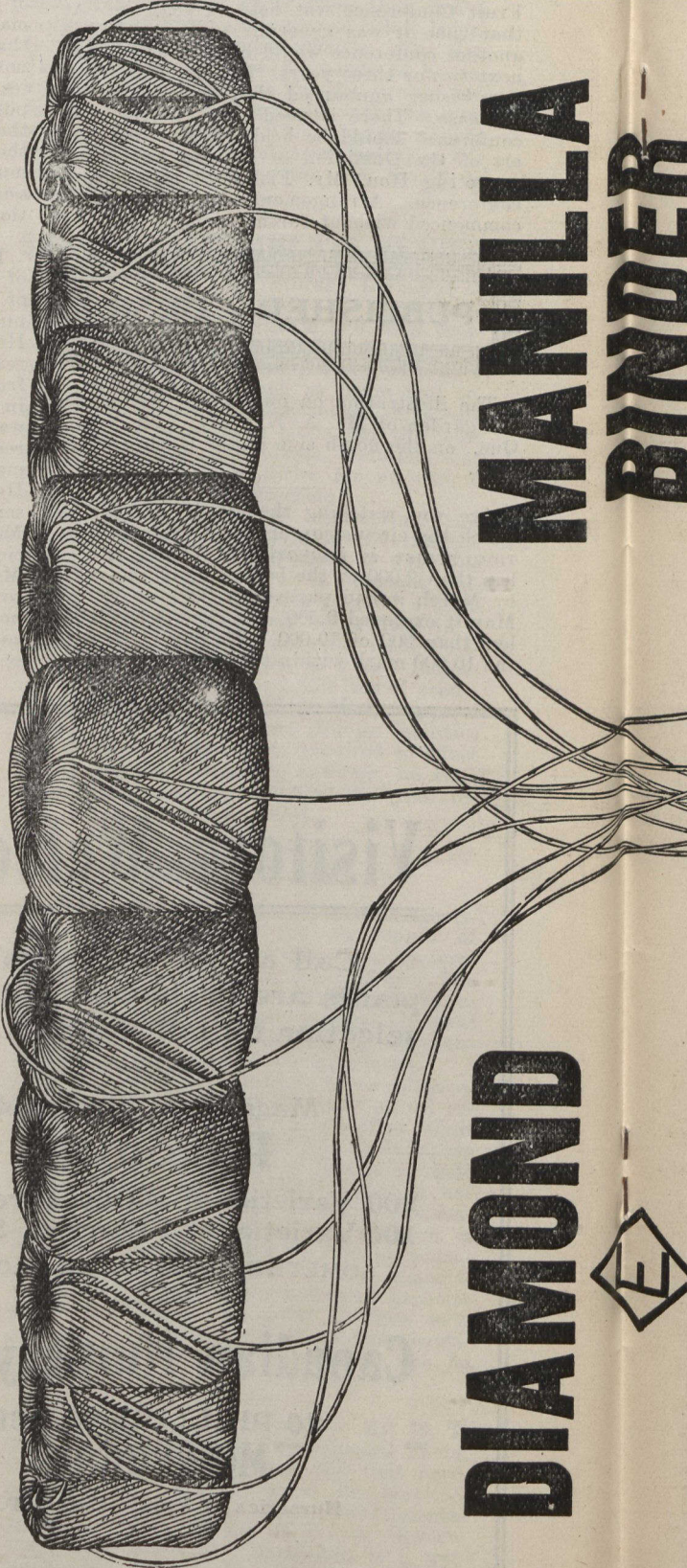
the Central organization to pay ten cents per barrel up to 1,000 barrels, nine cents from 1,000 to 2,000, eight cents from 2,000 to 5,000 and seven cents from 5,000 to 10,000 or more. Prior to the securing of the charter and the issuing of the stock, the previous arrangement whereby each associa-

tion paid a yearly fee of \$5.00 will be continued. This, of course, entitles each association to the special rates on supplies and the weekly crop reports which are sent out from the Central office.

Mr. McNeill, the Chief of the Fruit Division, Department of Agriculture, Ottawa, spoke on the requirements that would be necessary where the Central Association sold fruit for the locals. He stated that strict


EATON'S

GUARANTEE PROMPT SHIPMENT



MANILLA
BINDER

DIAMOND



inspection would be made by the Government and urged all of the associations to be very careful as to the quality. He stated further that the Co-operative Association should be specially careful of their pack, as they were counting on establishing a reputation for their fruit which would sell the same for many years to come. Most of the associations had an exceptional opportunity to put out good fruit, as the packing was done by

one lot of men under the manager's supervision and in many cases put through the one packing house.

Those of the officers present were enthusiastic as to the future of the co-operative movement in Ontario. The outlook for the present year seems specially favorable. Indications for a good crop of fruit seem to be general. It was thought that if a high quality of fruit was packed there would

be very little trouble in shipping all of it at a fair price, not only to the growers but also to the consumer.—P. W. Hodgetts, Secretary.

I like THE CANADIAN HORTICULTURIST very much, and derive from its perusal many valuable hints, of great use in the different branches of gardening.—I. G. Walker, Nanaimo Co., B. C.

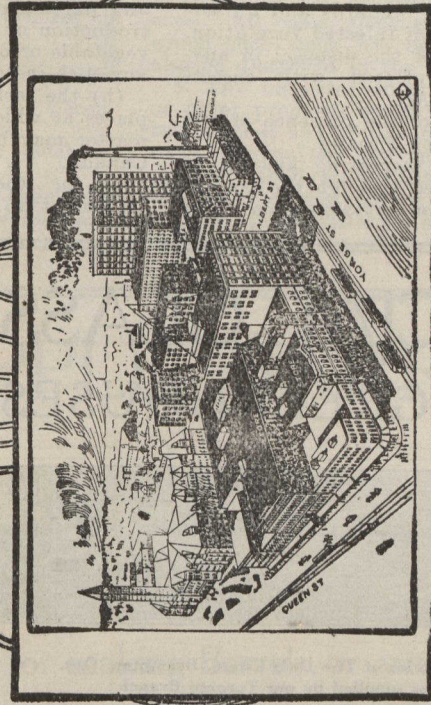
BINDER TWINE

8⁵⁰ FOR 100 LBS.

**DELIVERED TO YOUR
NEAREST RAILROAD
STATION IN
QUEBEC OR MARITIME
PROVINCES**

**OUR GUARANTEE
ABSOLUTELY
PROTECTS YOU**

Try our Binder Twine, and if it doesn't fill every requirement perfectly, if you are not satisfied with it in every way, or if you do not consider it the best binder twine value you ever obtained in your life, send it back to us at once, and we will refund your money in full and pay all transportation charges. Furthermore, we will not charge you one cent for the ball you used while making the test. Send us your order to-day.



BRAND

8⁰⁰ FOR 100 LBS.

**DELIVERED TO YOUR
NEAREST RAILROAD
STATION IN ONTARIO**

**THE QUALITY IS
AS GOOD
AS THE BEST**

There is nothing better made—it matters not where you buy it or what you pay for it. Diamond Brand is made from first quality Manila and the choicest long fibre sisal, by one of the best manufacturers in America. It is of uniform evenness, smoothness and strength; will test 135 lbs., and is proof against destruction by insects of all kinds. Every ball weighs full 5 lbs., and they are put up in 5-lb. bales covered with canvas and lashed with 22 feet of good laid rope.

TAKE ADVANTAGE
OF THIS
WONDERFUL VALUE
TO-DAY

THE T. EATON CO
LIMITED
CANADA

FARM IMPLEMENTS
LISTED
IN OUR GENERAL
CATALOGUE

TORONTO

New Destructive Insect and Pest Act for the Dominion

C. Gordon Hewitt, Dominion Entomologist, Ottawa

THE following is the text of the new Destructive Insects and Pests Act and the regulations issued in connection with the same. By the passing of this Act the San Jose Scale Act is repealed. It will be seen that the new Act and regulations are of a wider character and of a far greater protective value to the fruit grower and nurseryman. The fumigation regulations instituted under the Act have been incorporated in the new regulations with certain alterations. Under the new fumigation regulations conifers will be fumigated. It is hoped that this will assist in preventing the introduction into nurseries of several species of woolly plant lice which infest nursery stock and which are carried in the same.

In addition to the fumigation regulations, provision is made now for:

1. The inspection at the points of destination of European nursery stock (which is still exempt from fumigation) and such other stock as it may be deemed necessary to inspect.

2. The destruction of infested stock and packages, etc., containing the same and compensation for such matter as may be destroyed.

3. The inspection of orchards and nurseries and the treatment of infested vegetation.

4. The prohibition of the disposal in any way of vegetation infested with insects scheduled under the Act.

5. The notification of the presence of any of the insects, pests or diseases.

In view of the increasing amount of nursery stock imported through the port of Niagara Falls, the importation season for

that port has been extended and stock may now be imported between October 1st and May 1st.

The attention of importers of nursery stock is called particularly to the regulation under which notification must be given of the importation of nursery stock. All nursery stock, including European and such stock as is exempt from fumigation may be imported only during the periods specified under Regulation 3.

PROVISIONS OF THE ACT.

An Act to prevent the introduction or spreading of insects, pests and diseases destructive to vegetation.

(Note.—In what follows certain formal and unimportant clauses have been omitted. The number of each clause or regulation is the same as in the Act.—Editor.)

1. This Act may be cited as *The Destructive Insects and Pests' Act*.

3. The Governor in Council may make such regulations as are deemed expedient to prevent the introduction or admission into Canada, or the spreading therein, of any insect, pest or disease destructive to vegetation.

4. Such regulations may provide—

(a) for the prohibition generally, or from any particular country or place, of the introduction or admission into Canada of any vegetable or other matter likely to introduce any such insect, pest or disease.

(b) the terms or conditions upon, and the places at which any such vegetable or other matter may be introduced or admitted into Canada.

(c) for the treatment and manner of treatment to be given to any vegetation,

vegetable matter or premises in order to prevent the spreading of any such insect, pest or disease, and may prescribe whether such treatment shall be given by the owner or by a person appointed for that purpose.

(d) for the destruction of any crop, tree, bush or other vegetable matter or vegetation, or containers thereof, infested with or suspected to be infested with any such insect, pest or disease.

(e) for the granting of compensation for any such crop, tree, bush or other vegetation or containers thereof so destroyed, such compensation not to exceed two-thirds of the value of the matter destroyed and to be granted only by the Governor in Council upon the recommendation of the Minister.

(f) for the prohibition of the sale of any vegetable matter infested with any such insect, pest or disease.

(g) that the occupier of the premises on which is discovered any such insect, pest or disease shall forthwith notify the Minister of Agriculture and shall also send specimens of such insect, pest or disease.

(h) for the confiscation of any vegetable matter and the container thereof, if any, in respect of which a breach of this Act or any regulation made thereunder, is committed, and generally for any other purpose which may be deemed expedient for carrying out this Act, whether such other regulations are of the kind enumerated in this section or not.

5. The Minister may appoint inspectors or other officers for carrying out this Act and the regulations made thereunder.

6. Any inspector or other officer so appointed may enter any place or premises in

SPECIAL GLASS FOR GREENHOUSES



Conservatories of The Dale Estate, Brampton, Ont.
Glass supplied by our Toronto Branch.

GOOD QUALITY, FLAT, EVEN THICKNESS, AND WELL CUT

We make a specialty of supplying Glass for vegetable forcing houses

PILKINGTON BROS.

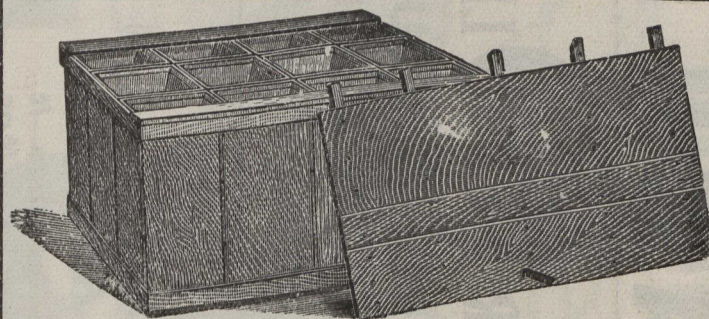
Limited

Toronto, Montreal, Winnipeg, Vancouver

Mention The Canadian Horticulturist when writing

BASKETS

We are Headquarters for all kinds of Splint Baskets



Veneer 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

which he has reason to believe there exists any such insect, pest or disease, and may take specimens thereof and also of any vegetable matter infested or suspected of being infested therewith.

7. The Minister, upon the report of any inspector setting forth a reasonable belief of the existence of any such insect, pest or disease in any area defined in such report, may prohibit the removal from such area or the movement therein of any vegetation, vegetable or other matter which, in his opinion is likely to result in the spread of such insect, pest or disease.

8. Every person who contravenes any provision of this Act or any regulation made thereunder, shall be liable, upon summary conviction, to a fine not exceeding \$100 or to imprisonment for a term not exceeding six months, or to both fine and imprisonment. Any vegetable or other matter imported or brought into Canada contrary to this Act, or to any regulation made thereunder, shall be forfeited to the Crown.

9. The San Jose Scale Act is repealed.

REGULATIONS UNDER THE FOREGOING ACT.

1. "Inspector" means a person appointed for carrying out the provisions of the Destructive Insects and Pests' Act and the regulations made thereunder.

2. No tree, plant or other vegetation or vegetable matter infested with any of the insects, pests or diseases to which this Act applies, shall be imported into Canada except as hereinafter provided.

3. Nursery stock, including trees, shrubs, plants, vines, grafts, scions, currings or buds entering Canada shall be imported only through the ports and during the periods respectively hereinafter mentioned, that is to say:

Vancouver, B. C., and Niagara Falls, Ont.
—From October 1st to May 1st.
Winnipeg, Man., and St. John. N. B.—

From March 15th to May 15th, and from September 26th to December 7th.

At these points of entry the importations shall be fumigated in the fumigation houses provided for that purpose, and a certificate of fumigation will be issued, without which no stock may be taken out of bond. Importations by mail shall be subject to the same regulations.

Provided, however, that the following vegetation shall be exempt from fumigation:

- (a) Greenhouse plants with the exception of roses and other woody plants.
- (b) Herbaceous perennials (the stems of

(c) Nursery stock originating in Europe. Cottonwood or Necklace poplar (*Populus deltoides*) when shipped from and grown in Dakota or Minnesota, two of the United States of America, may be admitted at the customs ports of Brandon or Winnipeg, Man., and without fumigation.

4. The port by which it is intended that the nursery stock shall enter shall be clearly stated on each package, and all shipments made in accordance with these regulations will be entirely at the risk of the shippers or consignees, the Government assuming no responsibility whatever.

5. All persons importing nursery stock into Canada shall give notice to the Minister within five days of despatching the order for the same, and they shall again notify the Minister on the arrival of the shipment in Canada.

6. European nursery stock, and such other imported vegetation or vegetable matter as the Minister may determine, entering Canada may be allowed to proceed and shall be inspected at the point of destination, but must not be unpacked except in the presence of an Inspector.

7. If, on inspection, nursery stock or other vegetation or vegetable matter is found to be infested with any of the insects, pests or diseases hereinafter specified, it shall be destroyed to the extent deemed necessary by the inspector and in his presence. All cases, packages and packing in which such stock has been contained shall also be destroyed in the same manner.

8. Any inspector entering lands, nursery or other premises where there is reason to believe that any of the insects, pests or diseases hereinafter specified are or may be present, shall give instructions for the treatment or destruction of any tree, bush, crop or other vegetation or vegetable matter or the containers thereof, which may be

Sold Everything

"My aster advertisement in THE CANADIAN HORTICULTURIST was a success. I sold all the plants I had and received enquiries for about ten thousand more than I could spare."—C. M. Bezzo, Berlin, Ont.

The advertisement mentioned occupied one inch space in the May and June issues. This shows the value of THE CANADIAN HORTICULTURIST for advertising of this nature. If you have seeds, plants, bulbs or any kind of nursery stock for sale, you will find an advertisement in THE CANADIAN HORTICULTURIST will do the work for you. Try it.

which die down in winter) such as perennial phlox, peonies, sunflowers, etc.

(c) Herbaceous bedding plants (such as geraniums, verbenas, pansies, etc.).

(d) Bulbs and tubers (such as hyacinths, lilies, narcissi and other true bulbs, and also the tubers of dahlias, irises, etc.).

GOOD CROPS

ARE OBTAINED BY USING

THE BEST MANURE

AS SUPPLIED TO
NURSERIES, FRUIT GROWERS AND
GARDENERS

SURE GROWTH COMPOST

makes poor land fertile, and keeps fertile land most productive. Supplied by

S. W. MARCHMENT

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Mention The Canadian Horticulturist when writing.

APPLE BARRELS

WE can furnish you with Staves, Hoops and Heading of the best quality for making Barrels, or arrange with our cooper friends to supply you with the Barrels ready for packing. ¶ All our stock is standard grade, warranted up to the requirements of the Fruit Department.

The Sutherland-Innes Co.

LIMITED

CHATHAM

ONTARIO

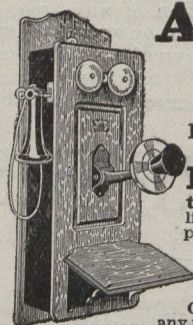
The Genius of the Builder enters into every part of a

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1 Gallon makes 100 Gallons of Weedkiller.

Per Quart, 50 cents, of all Seedsmen

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found or suspected to be infested with any of the insects, pests or diseases hereinafter specified, and such instructions shall be carried out by the owner or the lessee of the infested or suspected vegetation, vegetable matter or containers thereof, and such remedial treatment shall be carried out and continued until the insect, pest or disease shall be deemed by the inspector to have been exterminated.

9. Compensation not exceeding two-thirds of the value as assessed by the inspector, of the vegetation or vegetable matter or containers thereof, destroyed by the instructions of an inspector, shall be granted by the Governor in Council upon the recommendation of the Minister.

10. It shall be illegal to sell, offer for sale or in any way dispose of or receive any trees, shrubs or other plants, vegetable matter or portions of the same, if the same are infested with any of the insects, pests or diseases hereinafter specified.

11. The owner, occupier or lessee of any premises or place where any of the insects, pests or diseases specified herein shall be found, shall immediately notify the Minister and shall also send to him specimens of such insects pests or diseases.

12. The destructive insects, pests and diseases to which the said Act shall apply include the following:

The San Jose Scale (*Aspidiotus perniciosus*).

The Brown-tail Moth (*Euproctis chrysorrhoea*).

The Woolly Aphis (*Schozoneura lanigera*).

The West Indian Peach Scale (*Aulacaspis pentagona*).

The Gypsy Moth (*Porthetria dispar*).

Potato Canker (*Chrysophlyctis endobiotica*).

Parasitic diseases affecting potatoes externally or internally.

Branch or stem Canker (*Nectria ditissima*).

Gooseberry Mildew (*Sphaerotheca nours-uvae*).

White Pine Blister Rust (*Peridermium Strobi*).

13. The importation of potatoes into Canada from Newfoundland or the islands of St. Pierre or Miquelon, is prohibited.

14. The Minister may, upon special request to that effect, authorize the importation into Canada of any insect, pest or disease herein specified, but for scientific purposes only.

15. The regulations made under the San Jose Scale Act are repealed.

A Guide for Apple Growers

We are in receipt of a copy of The Canadian Apple Growers' Guide, by Linus Woolverton, M.A. Mr. Woolverton was editor of THE CANADIAN HORTICULTURIST and Secretary of the Ontario Fruit Growers' Association from 1886 to 1903, in which capacities he gained a thorough insight into methods of apple growing, to say nothing of the practical experience he gained on his own large fruit farm.

The book is divided into three parts. The first part is a complete guide to the planting, culture, harvesting and marketing of apples. The second part is devoted to a description of the apples of Canada illustrated from specimens of varieties grown in the Dominion. Part three contains a list of varieties of apples recommended for planting in the various apple districts. The book is handsomely bound and profusely illustrated. It is a credit to the author and to the publishers and will be found of interest not only by beginners but by experts as well. It is being sold by Wm. Briggs, Toronto.

NOTES FROM THE PROVINCES

Annapolis Valley West, N. S.

R. J. Messenger

The lime-sulphur idea in spraying has struck the people very forcibly. Some are using the home boiled, some the commercially prepared, and some both. We are all after the best thing and we expect to find it generally in the new thing.

To some last season's prices for apples are fairly satisfactory, while others are grumbling. The middle man and the English broker has each, in many cases, had his underhand quiet steal from the producer. It's the same old question of a few cents here and a few cents there—a "London clause" or a "forwarding charge," or a few barrels in each lot "slack and wasty." It would be a pleasant change if the guilty brokers would exhibit brains enough to invent some new terms to cover their petty thieving. The co-operative associations are having matters easier and we hope their object lessons may bring more.

Annapolis Valley East, N. S.

Ennice Watts, A.H.H.S.

Up to the time of writing, the month of June has been a cold one of continuous rains and in some sections disastrous frosts. On June 5 a severe frost cut down the potatoes, cucumbers, asparagus, corn, nasturtiums, Virginia creepers and the like; even young turnip leaves were frosted. The greatest loss has occurred in low lying orchards and cranberry bogs, while the mountains and elevated lands have escaped. Had it not been for this frost it would have been a banner year for strawberries. Plantations are in splendid condition however, the rains have kept the beds moist. The second blossoms have opened, which still promise a good crop.

A still earlier frost damaged the soft fruits, killing not only the flower buds, but the young green leaves which surrounded them. These are now brown and falling off. In some orchards where the trees escaped the first frost, the latter one completed the damage. It is early yet to say what are the prospects of the apple crop as many of the best orchards have escaped injury. A few years ago, when the June frost nipped the apples, the prices were high and results satisfactory.

Seeds have germinated quickly and showers are making them grow rapidly. Blackberry, raspberry, blueberry and other small fruits promise a good harvest.

Forest tent caterpillars have appeared, but owing to sprays keeping them out of the orchards they have turned their attention to ornamentals, especially oak trees.

Cut worms are numerous; where cabbages are grown in a small garden, paper collars put round the stems of the plants prove effective; in fields poisoned bran is used. Potato beetles and flea beetles are attacking tomato plants. Owing to tomatoes being more tender than potatoes, care must be taken not to burn the foliage by spraying. Often the beetles can be kept under by hand picking, as they are usually not as numerous as in potato fields.

The planting of spruce hedges seems to be very popular this year, and home grounds are improving every month.

Norfolk County, Ont.

The middle of June cherries generally were very light, real early cherries not more than half a crop, strawberries a good crop; apples in general are fairly good; Greenings good in some orchards, in others none; Spys not very good; Baldwins, Kings, Russets and fall varieties a good crop. Peaches well loaded, the curl leaf being completely combated by lime and sulphur.

The Norfolk Fruit Growers' Association has 300 members this year, and great quantities of spraying material have been used. The spraying has been well done and the association expects a better quality of apples than ever this coming season.

Good success has attended the use of lime and sulphur, both the home boiled and the home-made concentrated.—W. W

Niagara District, Ont.

In the Winona and Grimsby sections early strawberries have been scarce and in great demand. Buyers have been paying \$2.75 to \$3.50 a crate. On Hamilton market they have been bringing 17 to 20 cents a box. Up to June 21 they ripened slowly, but the bright, warm weather now is bringing them on fast, and they will come in with a rush. Williams—the main shipping berry grown here—is looking magnificent. There will be a great crop of these of extra fine quality. Raspberries, red and black currants and gooseberries are heavily laden, and unless scorching hot, dry weather intervenes, will be a great crop.

Blackberries are blossoming freely and promise well. Cherries are not more than half a crop. Early white are pretty good, but blacks are light, and sour cherries, such as early Richmond and Montmorency, are light in many orchards.

Plums are not fulfilling their early promise of a heavy crop. Japanese are light and Europeans not much over half a crop.

Pears are good, all varieties but Duchess being well loaded.

Peaches will not be much over half a crop. Where not sprayed early and thoroughly with lime and sulphur they suffered desperately from curl leaf.

Apples look well. Early varieties, such as Astrachan and Duchess, have set a heavy crop. Greenings are good, generally speaking. Other winter varieties are about an average except Baldwins and Spys, which are inclined to be light.

Mr. Joseph Tweedle of Stoney Creek reports prospects of a crop of almost 2,000 barrels from his celebrated orchard at Woodburn, which bore such a splendid crop last year.

Grapes are looking exceedingly well and are now in full bloom. They are making a very vigorous growth. Most of the growers, however, do not expect a very heavy crop this year. Mr. E. D. Smith and the Randal Grape Juice Company both report a good sale for their unfermented grape juice.

Tomatoes suffered badly from the cold, wet weather, and cold nights, and a good many early planted ones had to be re-set. The bright warm weather of the past week, however, has brought them on wonderfully.

Spraying generally has been well attended to in this part of the Niagara district. Apple orchards in particular have been more carefully sprayed than usual. The curculio and codling moth were somewhat later than usual in making their appearance, the cold, wet weather being unfavorable to their development.

Mr. Tweedle of Stoney Creek reports excellent success in the use of lime and sulphur upon Flemish Beauty pears this season. They were first sprayed at winter strength, namely at a dilution of 1 to 10, then twice at a summer strength of 1 to 40. They are completely free from scab, whilst those untreated are very scabby.—W.W.

St. Catharines Section

Strawberries are a heavy crop around St. Catharines. Raspberries and other small fruits are very good; cherries not much over half a crop, both sweet and sour; peaches good on well sprayed orchards, on others almost a total failure; pears, generally well loaded; plums, Japanese light, European moderately good; apples, most varieties promise a good crop.

Tomatoes, melons, etc., were much injured by cold, damp weather. At one time many fields of late tomatoes were looking very badly, but the warm bright weather of the past week has helped them wonderfully. On the whole, the outlook is bright.

Canning and jam factories have been contracting at 4 to 4½ cents a box for raspberries.

Buyers have been offering \$1.25 an 11-quart basket for black currants.

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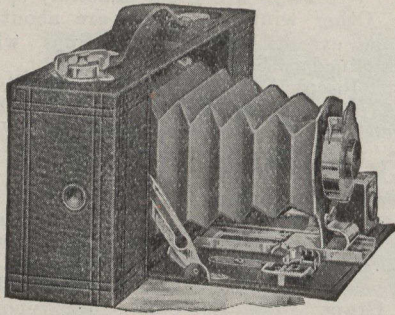
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This large Exhibition will be more popular than ever this year.
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At your dealer's or free from us by mail, explains in detail all about these little cameras and how they have made picture taking simple and inexpensive.

Brownie Cameras use the daylight loading film cartridges—just like a Kodak—are efficient, durable and practical little instruments. Anybody can make good pictures with a Brownie without previous experience.

The illustration shows the new No. 2A Folding Pocket Brownie, for 2½ by 4¼ pictures, price \$7.00. A box-form Brownie for pictures of the same size costs only \$3.00. But first get the book or ask the dealer to show you the line of Brownie Cameras from \$1.00 to \$12.00.

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AGENTS WANTED FOR
TERRITORY NOT TAKEN UP
THE W.A. FREEMAN CO. LIMITED
HAMILTON ONTARIO

Toronto, Ont.

The growth in the consumption of fruit in Toronto during the last ten years has been astonishing. Only a few years ago 8,000 baskets of peaches were all that were handled in a season. Now that much is sometimes handled in a day. Less than 10 years ago there were not more than 15 wagons employed in handling the wholesale fruit business. Now there are over 150. Ten years ago there was no importing done from California. Last season White & Co., alone brought in 52 carloads of peaches, pears, plums, grapes and apricots. This firm expects to handle 80 cars or so this summer.

The growth in the trade is causing an agitation to have a large fruit market established at a point central to the railroads and boats. A special committee of the city council has the matter in hand.

Unusually high prices have been paid for strawberries this season. Wholesale prices have ranged at 17c. to 20c. a box.

British Columbia

Last year Mr. J. C. Metcalfe, on behalf of British Columbia fruit growers, visited practically every town in Alberta and Saskatchewan as a special market commissioner to study the requirements of the markets at first hand. In his report to the members of the British Columbia Fruit Growers' Association Mr. Metcalfe has given his conclusions as follows:

I found the market for British Columbia fruit almost unlimited. The population of the prairies is increasing very rapidly, and the wealth, and consequently the fruit consumption, *per capita*, is increasing rapidly also. British Columbia is the natural fruit-producing country for this territory, and every effort should be made to supply it.

All over the prairies, the opinions of wholesalers and retailers of fruit were secured, particularly with regard to necessary improvements in methods of packing and grading, and comparison with American and Ontario fruit. In small fruits, the consensus of opinion was very favorable as to the quality, but grading and packing must be considerably improved. Uniformity of size of fruit is greatly prized, and strawberries, raspberries and blackberries, should be graded into large and small.

Cherries have not been regarded as favorably as the smaller fruits, chiefly from the custom of shipping coast fruit as far as Winnipeg. Our coast fruit should be shipped principally to Alberta and Saskatchewan markets by express. The same is true of plums from the Lower Mainland.

Peaches and pears from the Okanagan, and pears from the Lower Mainland and Vancouver Island also, compare favorably with American fruit as to flavor, color and packing.

British Columbia apples are highly esteemed. Much of the packing is equal to anything from the American side, while the color and flavor are quite as good as the best Ontario apples. In some districts, very much improvement must be made in spraying, pruning and thinning, in order to produce the best fruits.

British Columbia growers must increase their supply as rapidly as possible, aiming at carload lots from every shipping point. The grower should aim to grow the varieties best adapted to his district, and to his markets.

The fruit jobbing trade of the prairie provinces is to a very considerable extent in American hands. Despite this, they seemed to desire to handle British Columbia fruit whenever they could get a sufficient supply.



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"China-Lac" is one of the greatest money savers you can have in the house. A 15c. can of "China-Lac" is sufficient to make an old, scratched, scarred chair look as fresh and bright as new.

40c. invested in "China-Lac" will give you a new Desk, Bookcase or Dining Room Table. "China-Lac" is the home economist as well as the home beautifier.

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Windsor Table Salt

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We know that you will be charmed with the New Scale Williams Piano.

We know that you will be delighted with its elegance and refinement.

We know that you will revel in its glorious tone—its tender touch—its magnificent action.


This is why we will select a **New Scale Williams**

—and ship it to you direct from the factory—subject to your approval.

If, for any reason, the piano which we select does not give satisfaction, return it and we will pay the freight charges both ways.

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Kills Bone Spavin

Rich Valley, Alta, May 20th, 1909
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That tells the whole story. And hundreds of thousands have had the same experience in the past 40 years.

For Spavin, Ringbone, Curb, Splint, Swellings and all Lameness,

Kendall's Spavin Cure cures the trouble—makes the horse sound and well—and saves money for the owner because it removes the cause of the trouble.

Keep a bottle always at hand—\$1.06 for \$5. Good for man and beast. Ask your dealer for free copy of our book "A Treatise On The Horse" or write us.

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Canada's Leading Pot Manufacturers

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Mention The Canadian Horticulturist when writing



Along the Crows' Nest line, down to Medicine Hat, and north by Macleod to Calgary, is a market for small fruits, and for fruit generally, which can be taken care of by the Kootenay growers, and they should strain every nerve to increase their output to supply the demand in this territory.

British Columbia fruit is handled through one of two methods, either to the present jobbing houses or to the retailers direct, the latter principally for small fruits. It would be possible for British Columbia growers to establish their own jobbing houses, and sell to the retail trade, but this involves a tremendous amount of capital for distributing houses with cold storage at the various points, agents or travellers to solicit business, and we would have to handle early American fruits and all varieties of citrus fruits. On the whole, shipping to responsible jobbers is best at present, at least for the most of our fruit.

SUMMARY.

What is most necessary in British Columbia is a campaign of education along the lines of—

(1) Growing more fruit, both large and small; (2) growing better fruit; (3) growing the varieties of fruit most wanted; (4) better packing and grading with greater weight in packages; (5) care in loading cars; (6) co-operation in every line, including the growing of uniform varieties, co-operation as to information on prices between different districts and shippers, and in time, a general co-operation over the province to place fruit to the best advantage in the proper markets.

Okanagan Prospects

It is estimated by W. C. Ricardo, manager of the Coldstream Ranch, that this season all records for fruit production in the Okanagan Valley will be broken. There are indications that the valley will produce a 500-car crop of apples, plums, prunes and peaches, small fruits not being included. Should this estimate be fulfilled, the crop this year will exceed last year's by about 300 per cent., due largely to young trees coming into bearing for the first time.

Fruit prospects all through the valley are bright. The trees escaped frost and promise to bring to maturity a superior class of fruit.

Similkameen, B. C.

The fruit crop in the Similkameen Valley gives promise this year of an enormous yield. Around Keremeos, where over 18,000 trees have been planted within the past five years and are now in bearing, the fruit growers will have a busy summer thinning out the crop to prevent injury to the trees. The peach and apple crop in particular will be very large, no injury whatever being done by the early frosts to peaches.

I enjoy very much and greatly profit from the reading of THE CANADIAN HORTICULTURIST.—P. J. McLaren, Perth Co., Ont.

Last year I made the acquaintance of your most interesting and useful magazine. It is a great pleasure to introduce this good friend to anyone whom I think it might help as it has done me. We Canadians must try to know more of, and advertise better, such magazines as are devoted to the development of our magnificent country. When one has a pleasant synopsis of what is so very interesting and profitable to us, a people to whom Nature has given such a goodly heritage, surely we cannot do other than support such a periodical.—Miss Grace Harris, Carleton Co., Ont.

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Kills Greenfly, Psylla, Scale Insects
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Easy to Mix. Easy to Apply.

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Wm. COOPER & NEPHEWS, Toronto**HARDY PERENNIAL****SEEDS**Catalogue Sent Free on
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SEEDSMEN MONTREAL**AGENTS WANTED FOR
LYTLE'S****PURE ARSENATE
OF LEAD**

In 10, 50, and 100 lb. Kegs

**WEED-KILLERS
INSECTICIDES
SHEEP-DIPS, Etc.**

Full Particulars on Application

BOUNDARY CHEMICAL CO., LTD.
Cranmer St., LIVERPOOL, ENG.**Fruit Commissioner in the West**

Mr. J. C. Metcalfe is representing the fruit growers of British Columbia this summer on the western markets, and forwarding periodical reports of market conditions in the Prairie provinces to the Provincial Department of Agriculture. Mr. Metcalfe's first report was made from Moose Jaw under date of May 30th. It gave the views of wholesalers and retailers on the crop of various kinds of fruit in the American coast states. Descriptions were given of the condition in which fruit was reaching the markets from Tennessee, Missouri, Hood River and California, and the prices it realized.

British Columbia growers were warned that as the supply of fruit is likely to be plentiful they will have to exercise great care this year to see that their fruit is packed in the best possible manner and condition. While the good and finished product is likely to sell well, the poor and unfinished may prove a drug on the market. Mr. Metcalfe reported that a determined effort was being made by jobbers operating through their boards of trade to secure a reduction in the tariff on American fruits, and that the agitation is to be continued.

Year's Results for St. Catharines Shippers

The past year was one of the most successful in the history of the St. Catharines Cold Storage and Forwarding Company, the pioneer co-operative fruit growers' association in Ontario. The wonderful record was made of shipping 148 car loads of fruit to the west without its being necessary to settle a single claim on account of fruit arriving in bad condition.

STRAWBERRY SHIPMENTS.

Early in 1909 three large shipments of strawberries to Winnipeg were arranged to prove the possibility of opening up an outlet to relieve our eastern markets. The first shipment was made on June 26th, by ordinary refrigerator car freight service; the second on June 28th by ordinary express; the third by patent ventilated express car, and the results on the whole were such that the company intends to make further shipments. Early in the season the regular shipments comprised three cars weekly. These increased to a car daily, and in a few weeks from two to five cars daily were forwarded to the company's agent in Winnipeg, and as far west as Calgary and Edmonton.

IMPROVEMENTS.

This year the company will use a colored label with a printed brand name on all choice fruit, more especially those shipped to the west and to Toronto.

THE FINANCIAL YEAR.

The financial statement presented by Mr. W. C. McCalla, for the year ending April 1st showed the total earnings to have been \$109,105.22, against which were expenditures to the amount of \$107,957.59, leaving a balance of \$1,048.64.

Assets to the amount of \$13,891.74 were shown, with liabilities amounting to \$10,245.73, showing a balance of \$3,646.01.

Prof. W. Lochhead, of Macdonald College, Que., is absent on a trip in Europe, and will not be back until about the middle of August.

Mr. W. T. Macoun, who has recently been appointed Dominion Horticulturist, and placed in charge of the horticultural work on the various experimental farms of the Dominion Government throughout Canada, will leave Ottawa during the first week in July to visit all the western farms and note the horticultural work being done on them.

IMPORTANT AND USEFUL BOOK

**THE CANADIAN
APPLE GROWERS' GUIDE**

This is the latest and most up-to-date work on Apple Culture now before the public. It has been prepared by Linus Woolverton, so long secretary of the Ontario Fruit Growers' Association and Experiment Stations, from a lifelong experience in growing and shipping apples.

Profusely and beautifully illustrated, a book which should be in the hands of every person interested in Apple Growing. The best book on the subject ever issued.

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The only practical dry powder sprayer—no water required. With this sprayer, one pound of Paris Green will cover an acre of potato plants. Our patented device regulates the quantity of powder and prevents waste. Machine works up, down and sideways, so every part of the plant is reached and every bug killed. Children can keep vegetables and flowers free of insects, without trouble, when you have the Electric Insect Exterminator.

Illustrated catalogue of Sprayers, Seeders, Planters, Drills, Wagon Boxes, etc., sent free on application. The Eureka Planter Co., Limited, Woodstock, Ont.

The Pre-cooling of Fruit for Shipment*

J. A. Ruddick, Cold Storage Commissioner, Ottawa

The so-called pre-cooling of fruit, vegetables, or other produce, consists of an arrangement whereby the circulation of air which is chilled with a refrigerating machine, is directed through a loaded car by means of temporary and adjustable pipes or ducts. That is to say, the car is placed in the same relation to the refrigerating machine for the time being as an ordinary chamber in a cold storage warehouse.

My attention was first drawn to this system by the work of the bureau of plant industry of the United States Department of Agriculture in California where they experimented in connection with the shipment of citrus fruits and vegetables in conjunction with the Pacific Fruit Express Company, a subsidiary company of the Southern Pacific Railway system, and by correspondence with Mr. L. A. Roy, of Chicago, who is interested in the promotion of the idea.

Two years ago, I fitted up the necessary connections at the St. Catharines Cold Storage and Forwarding Company's warehouse, but we were never able to give it a fair trial on account of the small size of the plant. The partial cooling which was affected was undoubtedly of some benefit, but hardly worth the time and trouble. It would take too long with the six ton machine in use there. The pre-cooling of a car-load of warm fruit, in addition to the chilling of the car itself, which is a considerable item, takes about two tons of refrigeration and as it should be accomplished in about four hours, it is equal to a machine capacity of twelve tons in twenty-four hours. If two cars were to be cooled at one time, it would require a plant of at least twenty-five tons capacity. Further, in order to be effective, the cold blast should have a temperature of not more than twenty to twenty-five degrees and that precludes the possibility of using the same circulation in the warehouse where the temperature in the fruit rooms must not go below thirty-two degrees. As long as the fruit in the car is warm, the cold air blast can safely be reduced to several degrees below the freezing point, but this is not permissible in a warehouse where the contents are already reduced to the minimum of safety.

During the summer of 1909, I had an opportunity of inspecting the large plants which have been erected by the Southern Pacific Railway in California. They have spent \$1,500,000 on two plants, one at Roseville in northern California and the other at Colton in the southern part of the state.

These two plants are at interior points where the traffic converges for the overland journey. The one at Colton has 500 tons of refrigeration and can handle a whole train of cars at one time. In addition to the cooling facilities, there is a large equipment for making the ice with which to fill the bunkers of the cars.

You will observe that these cooling facilities are being provided in California by the railway company and I am of the opinion that it properly falls to them to do it. In the first place, they benefit by the saving of ice, and a plant erected by the railway can be made to serve a whole district at very less cost than the aggregate cost of erecting and operating a number of small plants. Moreover, it should be the business of the railways to carry the freight which is entrusted to them in the best possible manner and, if pre-cooling comes to be one

of the necessary aids to the transportation of Canadian fruit, it seems to me that it is up to the companies to furnish it.

I can see the possibility in the future, or I might say the practicability of operating a plant, say at Hamilton, to serve the district between Niagara and that city in connection with western shipments. With some system of prompt movement of the cars from loading points to the cooling centre, they would be started on their overland journey without serious delay and with the best possible chance of reaching their destination with the contents in good condition.

It will be evident from what I have said that pre-cooling does not differ in principle from the cooling which is effected by placing the goods in a cold storage warehouse, but if it is conceded, and it certainly may be, that immediate and rapid cooling is important in the handling of perishable produce, then it must be admitted that, under certain circumstances, pre-cooling has decided advantages. One advantage over cooling in a warehouse is that it saves handling the fruit and the consequent exposure to warm air while being transferred from warehouse to car, a thing to be avoided as much as possible. With proper equipment, a car-load of fruit may be cooled in this way as much in four or five hours as it

would be in two or three days with ice only in a refrigerator car. A more rapid circulation of air at a much lower temperature than can be secured with the use of ice removes the heat in a comparatively short time.

Perhaps no other single horse remedy has ever been so generally used or had so great a reputation as Dr. Kendall's Spavin Cure. Almost everyone who owns a horse has heard of it. As it has been in use for nearly half a century, it is evident that its popularity is the result of merit. Persons owning horses will be interested in a book entitled "A Treatise on the Horse and His Diseases," published by the manufacturers of Kendall's Spavin Cure. It may be obtained free at drug stores or by writing for it to the Dr. B. J. Kendall Co., Enosburg Falls, Vt.

Canadian National Apple Show

Although the British Columbia Government have refused to make a grant, arrangements are being pushed in British Columbia for the proposed first Canadian National Apple Show. Officers have been elected. The treasurer of the Board of Management is Geo. R. Baldwin, a controller in the city of Vancouver. In addition to the cash already in sight the committee

Keeps out large Animals—Keeps in the Chickens

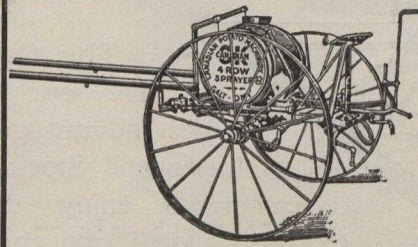
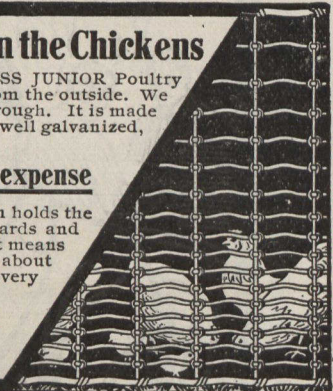
We've put strength and stiffness into the PEERLESS JUNIOR Poultry Fence so it can stand the attacks of restless animals from the outside. We have made it close enough so small fowl cannot get through. It is made of much heavier wire than the ordinary poultry fence, well galvanized, therefore much more durable.

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That heavy, No. 9, hard steel wire at top and bottom holds the fence taut and true without the necessity of fence boards and saving more than half the usual number of posts. That means considerable saving to you. Write for our printed matter about PEERLESS Fences. We make fences and gates for every purpose.

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O.K. Canadian 4 Row Sprayer

Sprays 4 rows while you drive, no hand pumping to do. Wheels and nozzles adjustable for wide and narrow rows. Can be adjusted to spray vines 6 inches to 2 1/2 feet high. Can be furnished with Broad Cast vineyard and tree spraying attachments

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FIRE PROOF SAFES AND VAULT DOORS

ALL SIZES

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Hamilton, Ont.

W. T. SHERWOOD, Representative

*Part of an address on "The Cold Storage of Fruits," delivered before Ontario Fruit Growers' Association at its last convention.

states that it will be necessary for the citizens of Vancouver to contribute about \$20,000, to insure the unqualified success of the enterprise.

The committee announces that it is not its intention to make the show a fixture in Vancouver, as he believes that its educational value will be enhanced if in future years the show is held in such cities as Halifax, Montreal and Toronto.

A Fruit Board at Orillia

With the object of developing the fruit prospects of Simcoe county, a fruit board has been organized in Orillia, Ont. The board was formed on the initiative of the Orillia Board of Trade. It is composed of representatives of the Board of Trade,

Farmers' Institute, Agricultural Society and Farmers' Clubs. Mr. C. L. Stephens has been elected chairman and Mr. C. H. Hare, secretary.

The Board is recommending the fruit growers of the section to specialize on four varieties of apples, the Duchess, Snow, McIntosh Red, and Pewaukee, all four varieties of which do well in that section. The Pewaukee apple was chosen as the best late apple, the greening and the Baldwin not being hardy around Orillia.

Experiments are to be conducted in the top-grafting of Spys. The Board has requested the county council to make a grant so that the county will be able to make a display of its fruit at the Ontario Horticultural Exhibition, Toronto, next November.

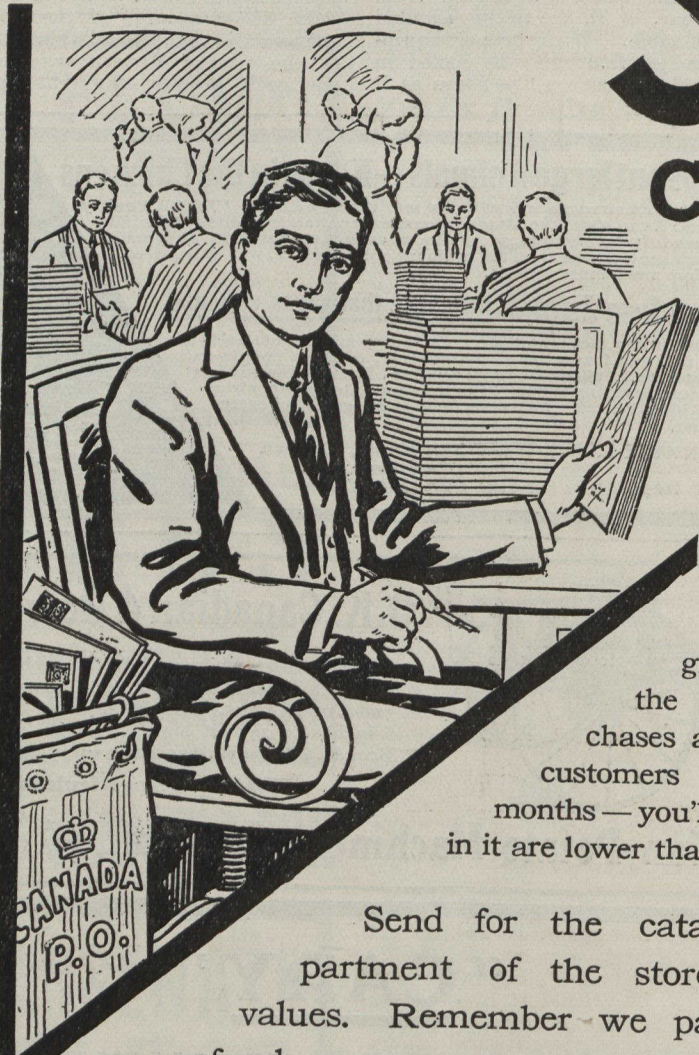
The Board is considering ways and means

of insuring the fruit trees bought by local growers being true to name, also the best methods of marketing the fruit of the section.

The Visit to England

The invitation to Canadian fruit growers to visit England that was received from the National Fruit Growers' Federation unfortunately did not meet with much response. It has been announced that our fruit growers felt it scarcely to their advantage to visit the fruit plantations of England, it being the marketing end of the industry that attracts their attention there. Some statements in the matter of expenses also have been given as a reason for not accepting. Another reason has been advanced in the statement that individuals

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can gather more exact information than by travelling in a body.

Answering some of these objections in the weekly report of the Department of Trade and Commerce for May 16, W. A. Mackinnon, the commercial agent at Birmingham, says: "Two points should be made clear: First, that the invitation from the National Federation of Fruit Growers does not limit their Canadian friends to any particular time or season, but makes them welcome at their convenience; and second, that even if an organized body visits the docks and fruit markets as suggested (for which purpose the months from October to March would be best), there is no reason why the

party should not frequently break up, and its members make individual visits for the purpose of securing personal information from quiet observation. The advantages to be obtained by the association of fruit growers together during the familiar intercourse of an ocean voyage, as also from the social and other functions sure to be arranged in honor of such a party, need not be dwelt upon, as they are quite apparent.

"Finally, without deprecating the value of an official delegation entrusted with a definite mission, and instructed to issue a formal report after their investigations, it should be remarked that such was not the plan originally suggested by this office. On

the contrary, it was hoped that there would be an informal excursion of a large number of well-to-do fruit growers of Canada, organized as it were spontaneously, though carried out systematically, and forming an ideal holiday in which pleasure, profit and actual business might take equal shares. Canadian manufacturers realized this ideal some years ago, and it is still thought that the fruit growers might be no less successful.

Garden Competitions

For several years Hiram Walker & Sons, Limited, acting sometimes in conjunction with the local Horticultural Society, have offered a number of very fine prizes for com-

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And Its FOUR Big Features

The "Hecla" has four exclusive features that have brought it steadily to the front as the perfect warm air furnace.

These improvements are so vital—they mean so much in comfort and health and economy—that every man who is going to put in a furnace this year, should study them in detail.

Fused Joints

are the only permanent joints between castiron and steel. By means of these joints, we prevent gas and smoke from getting in the Air-chamber and from there into the house.

Fused Joints are absolutely and permanently tight, and insure the warm air being fresh, pure and untainted by gas, smoke and dust.

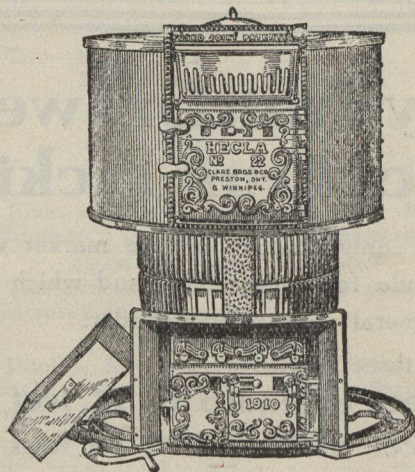
Steel Ribbed Firepot

has three times the radiating surface of any other.

It never becomes red-hot—will not burn out—and will save $\frac{1}{3}$ of your coal bill by actual test.

Our little book "Hecla Heated Homes" tells you a lot of things you ought to know about a furnace, besides the exclusive features mentioned above. Let us send you a copy. It's free. Write.

Send us rough plan of your house—and we will submit estimate of the cost of installing the proper size "Hecla" in your home.



Individual Grate Bars

Each bar can be shaken separately. Fire can be cleaned thoroughly without using a poker or shaking down good coal or live fire.

No clinkers to clog the grate in the case when bars are all together.

Of course, one bar is much easier to shake than four.

Castiron Combustion Chamber

We found out, by careful tests, that steel would not stand the intense heat of the furnace

fire. So we perfected the Castiron Combustion Chamber, which has proved its wonderful strength, service and durability.

Clare Bros. & Co. Limited, Preston, Ont.

petition by the citizens of Walkerville, Ont., to encourage the horticultural improvement of their homes and gardens. This year over \$200.00 will be offered in prizes. Prizes are given for collections of blooming plants, arranged in beds or borders; for flowering vines honeysuckle, clematis, etc.; for window, lawn or porch boxes seen from the street; for hedges bordering streets; for hanging baskets and so forth. The prizes are divided, one set being offered to property owners and the other to tenants.

Gardens entered in the competition have to be cultivated and cared for by the competitors, or members of their households. Winners of first prizes for two consecutive years are not eligible to compete in the same class a third year. Competitors are urged to place their flower beds as far as possible where they can be seen from the street, and to arrange them in keeping with the size of their yards. The judges will visit the gardens entered for competition four or five times during the season.

Horticultural Societies holding or planning to hold similar contests will be apt to find helpful suggestions in the prize list and rules as printed and distributed by this company.

Horticultural Society Notes

The members of the Guelph Horticultural Society held a lawn meeting on the grounds of the Agricultural College early in June. Prof. Hutt and Mr. Hunt were in charge and described the shrubs and flowers then in bloom.

The members of the Toronto Horticultural Society held an exhibition recently in the Allan Gardens, which achieved unusual success. Over six hundred vases of flowers were on view. Their beauty was supplemented by an array of ornamental greens

provided by the City Parks' Department, municipal institutions and professional florists. A beautiful specimen of the English hawthorn was greatly admired. Many different varieties of flowers were shown. Their quality was unusually high.

Items of Interest

Early this year Messrs. Parnell and Robt. Thompson, representing the Cold Storage & Forwarding Co., St. Catharines, Ont., visited the western provinces to examine market conditions and prospects. They found opposition to the system followed of auctioning fruit in the western markets, but could see no possibility of a change in the near future. In Calgary and some other western towns, Elberta peaches are unknown by that name and sell as Crawfords giving general satisfaction. In Winnipeg, however, the Elberta is known as a first-class peach.

Dairy and Cold Storage Commissioner, J. A. Ruddick, is spending a few weeks holidays in Prince Edward Island, this being the first real vacation he has had since entering the government service 20 years ago. Mr. Ruddick's department is arranging for trial shipments of peaches and other fruits to Great Britain this year.

Mr. Robt. Brodie of Notre Dame de Grace, Montreal, reports the sale of the old garden belonging to the late John Molson, at the corner of St. Lawrence Main and Sherbrooke streets, Montreal, in which was originated the St. Lawrence apple in 1878. The stump of the old tree was still there recently.

The British Columbia Fruit Growers' Association is preparing a list of wholesale and retail fruit dealers in the prairie provinces and British Columbia, which will be distributed to members.

Don'ts for Campers

1. Don't, when in the woods, throw down a lighted match, cigar stub or other flaming object; make sure that the flame has been thoroughly extinguished before throwing it away.

2. Don't build your campfire larger than is necessary.

3. Don't, under any circumstances, leave your fire unguarded, even for a comparatively short time; see that it is dead out before you go away.

4. Don't build your fire in leaves, rotten wood or other inflammable material.

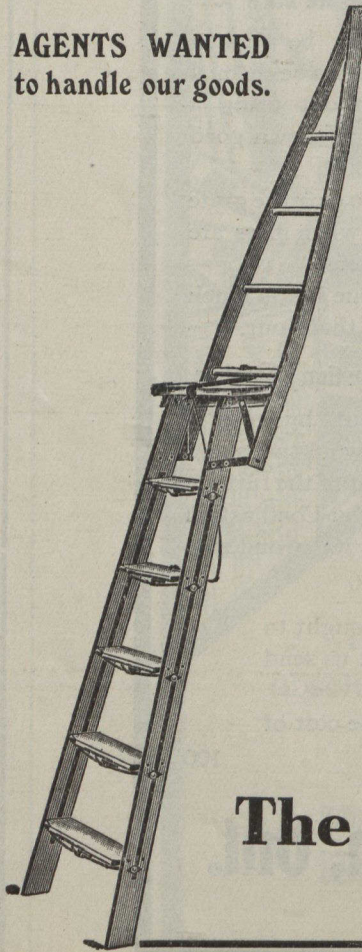
5. Don't build your fire against a large or hollow log, where it is hard to be sure when it has been entirely put out.

To these "don'ts" it may be added that, in windy weather or in a dangerous place, it is well to confine the fire in a hole dug clean down to the mineral soil. A fire may smoulder in the humus, or "duff," for days, only waiting for a strong breeze to fan it into a flame that may burn over miles of timber.

Summer tourists and campers unfortunately have a bad reputation among owners of timber as being often a cause of fires. Such fires could be prevented, almost without exception, by a little extra care on the part of the campers, who have been the unintentional cause of much forest destruction, and who have just as real an interest in the preservation of the forests as the owners of the timber themselves. The rules given above are the result of long experience and observation on the part of many woodsmen and lumbermen as to the origin of fires from this cause, and are earnestly commended to the attention of campers, sportsmen and others.

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Every Fruit Grower should use the Perfect Fruit Picking Step Ladder

It is [the only Ladder on the market which is purposely made for fruit picking and which can be used for a general purpose step ladder.

Made in three lengths—

6 feet extended to 11 feet

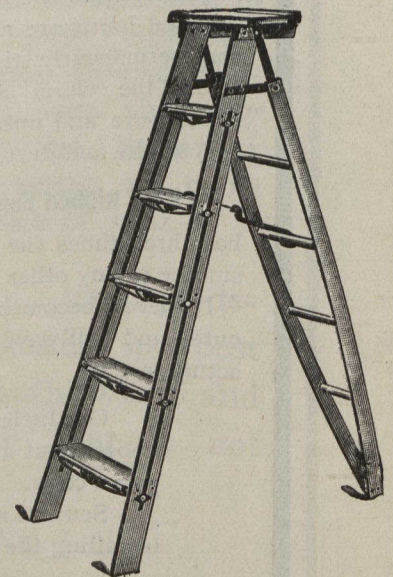
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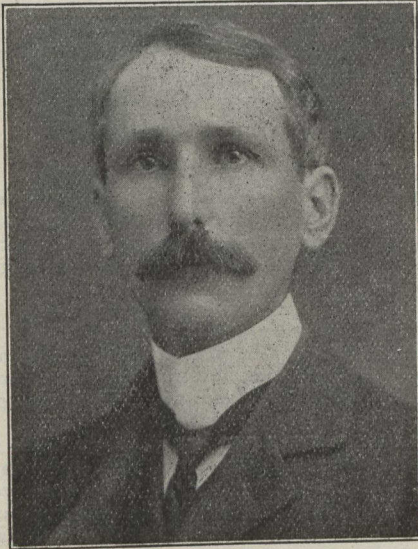
Box vs. Barrel for Apples*

Dr. S. W. Fletcher, Director Virginia Agricultural Station

In the past five years many of the eastern apple growers have tried the box pack. There have been more failures than successes. It is evident that the east is not yet ready for the box as a universal apple package; that under certain conditions the barrel is far preferable. Each grower must decide this matter for himself, having in mind the following points:

COMPARISON OF BOX AND BARREL.

1. It is probably true that the box is a more convenient quantity of fruit for the "ultimate consumer," who has recently received so much attention by tariff makers, than the barrel. Over 30 per cent. of our



W. T. Macoun, Dominion Horticulturist

The promotion is announced of Mr. W. T. Macoun, of the Central Experimental Farm, Ottawa, to be Dominion Horticulturist. Mr. Macoun hereafter will have supervision of the horticultural work at the various farms throughout Canada, conducted by the Dominion Government. Mr. Macoun has been given an assistant at Ottawa, in order that he may have more time to attend to his new duties. The promotion is well deserved. The principal bulletins published by Mr. Macoun have had a wide distribution. They deal with apples, plums, bush fruits, strawberries, potatoes, herbaceous perennials, and include a catalogue of the trees and shrubs in the arboretum at Ottawa.

population now live in cities, and the percentage of city dwellers is increasing with each census. A majority of the city and town people, constituting the main market for fruits, have no cool cellar in which fruit can be stored. Their storage facilities are limited to the refrigerator. They wish to buy only such a quantity of fruit as will keep, at the ordinary temperature of the house, while it is being used. Under such conditions the box is a more convenient package than the barrel. A large basket of the climax type holding about a peck, would be more convenient still, especially for summer and autumn apples.

On the other hand, there is a large demand for apples in bigger bulk,—not only because of the custom of years, but also for the winter supply of those who have a cool cellar, and for export. Certain varieties carry better across the water in barrels, than in boxes, because the latter packages permit the entrance of salt air.

COST OF PACKAGES.

2. On the Pacific coast, apple boxes cost from six to nine cents knocked down. As three boxes can be packed out of one barrel,

at that price the boxes are cheaper than the barrel. In the east we pay from eleven to twenty-one cents a box. In Virginia, boxes cost ten cents to twelve cents; in Minneapolis, Minn., fourteen cents; while Mr. Robert Brodie, of Montreal states that his boxes cost twenty-one cents. The price of barrels in the east this fall, ranges from thirty to forty-five cents, with an average of about thirty-five cents. Bought knocked down in car load lots, they have cost certain growers twenty-eight to twenty-nine cents. The inferior quality of some eastern made boxes, as noted previously, should also be considered. The comparative cost of barrels and boxes presents a local problem that each grower will have to solve for himself.

Prices of Fruit Supplies

By co-operating and purchasing their supplies in large quantities the fruit growers of British Columbia will be able to secure their supplies this year through their provincial association at the following prices:

Copper sulphate, English (limited supply) 112 lb. kegs	.....\$6 50
Sulphur, sublimed, 112 lb. kegs	..... 2 95
Whale oil soap, 5 gal. tins (net 35 lbs.)	2 10
Arsenate of lead, 1 and 2 lb. tins (gross) per lb.	..... 20
5lb. tins	..... 18
Arsenate of lead, 10 lb. kegs	..... 17
Arsenate of lead, 25 lb. kegs, per lb.	..... 16
Arsenate of lead, 50 lb. kegs, per lb.	..... 15
Arsenate of lead, 100 lb. kegs, per lb.	..... 14
Quassia chips (65 lb. bags) at 7c per lb	4 55
Quassia chips in less than bag lots, per lb.	..... 08
All above, ex-warehouse Victoria, cash with order.	

Lime sulphur solution (test 32.5 (Baume) barrels (minimum 20 gals.) per gal.\$0 20 (Barrel \$1.00 extra).

Tins—4 gal. Imperial, per tin	..... 1 20
1 gal. Imperial, per case of 6 gals.	..... 3 00
½ gal. Imperial, per case of 12 ½ gals.	..... 3 60
¼ gal. Imperial, per case of 24 ¼ gals.	..... 4 20

Lime sulphur f. o. b. Victoria. Prices subject to 5 per cent. discount for cash.

BLACK LEAF TOBACCO EXTRACT.

The association will quote low prices on this spray on application.

FRUIT PAPER.

Duplex, for wrapping apples, pears and peaches, also for plum crates. Standard sizes cut to order.

In small lots (minimum 100 lbs.), per lb.	.....6½c
5 tons and over, per lb.	.....6 c
10 tons and over, per lb.	.....5¾c
Car lots, per lb	.....5½c
White news, for lining boxes, per lb.	..4½c
Blue layers, per lb.	.....3¾c
F. o. b. Vancouver.	

Western Fair

The management of the Western Fair, London, Ontario, have been making active preparations for months for their exhibition, which takes place this year September 9 to 17. The prize list is printed and ready for distribution. A number of special prizes are being offered in the horticultural department. If space is required in any of the buildings, the secretary should be communicated with at once. Prize lists, entry forms and all information promptly given on application to A. M. Hunt, Secretary, London, Ont.

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The Home Journal
 Looking over The Home Journal, you can scarcely believe it is the same magazine that you knew a year ago. It has doubled in size—in quality—in attractiveness. The Home Journal of to-day is a forty page monthly—a magazine of which Canadian women can justly be proud.

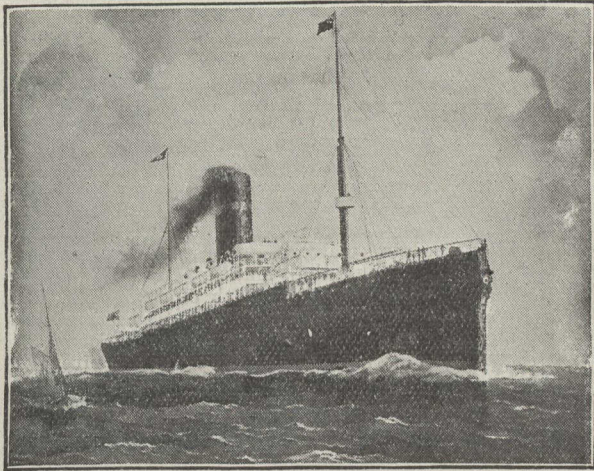
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The Home Journal 1.00
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The Canadian Horticulturist
 Peterboro, Ontario

A REMINDER

The September issue of The Canadian Horticulturist will be our National Exhibition Number. Advertisers will do well to reserve large space for that number. No increase in rates.

*A portion of a paper read at the conference of the American Pomological Society held at St. Cathar. Ont., last September.



DOMINION LINE

MONTREAL TO LIVERPOOL

S.S. Laurentic,	July 9th	S.S. Canada,	July 16th
S.S. Megantic	July 23rd	S.S. Dominion,	July 30th
S.S. Laurentic, Aug. 6th			

(All above Steamers carry passengers)

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S.S. Welshman,	July 16th	S.S. Cornishman,	July 30th
S.S. Manxman, Aug. 6th			

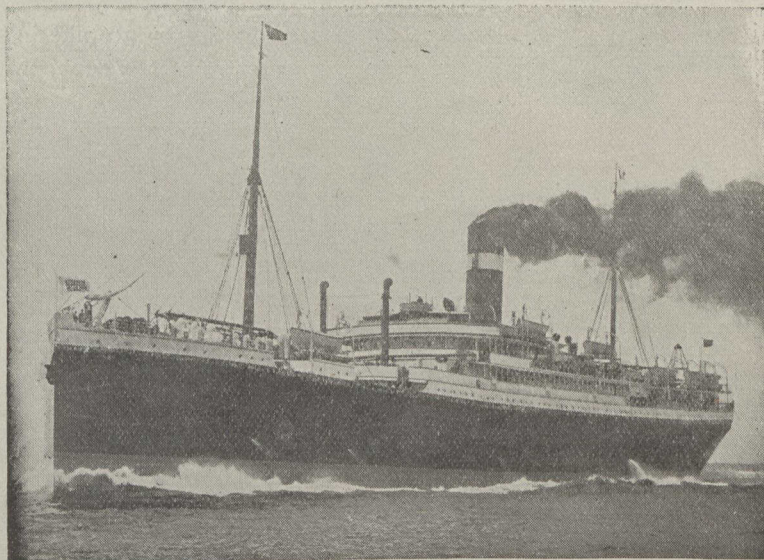
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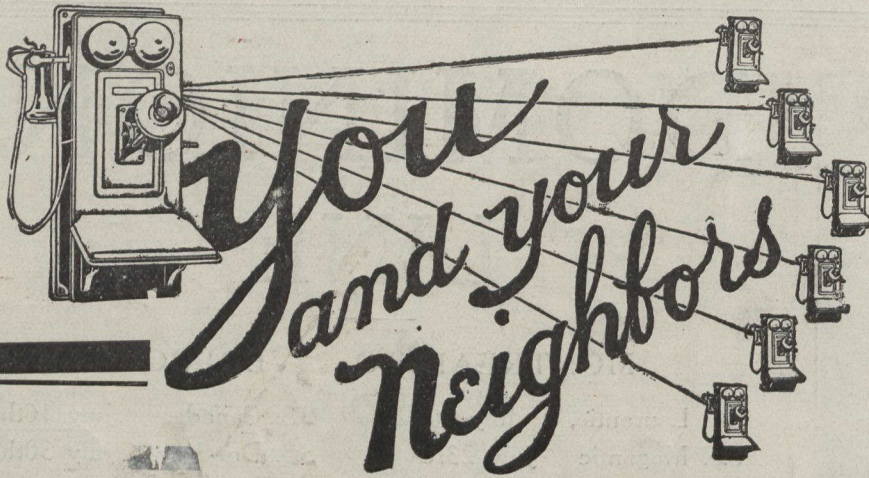
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THE telephone is in several respects unlike anything else in the civilized world to-day; it is at once a convenience and a necessity. In fact, so much so is this true that let its service be anything but absolutely perfect and its user feels its loss in a way he could never have believed possible in days before he realized what a telephone meant to him. When you remember that out of 259,000 phones in use in Canada to-day, all but 9,000 are our make you will realize the quality we must put into our instruments and begin to understand

What "Northern Electric" Service Means

WHILE "Northern Electric" telephones are as near perfection as brains backed by years of experience can make them, even yet are we trying to still further improve our instruments. Our newly designed No. 1317 Telephone Set—absolutely the most modern farm 'phone in the whole telephone world—represents years of study, an expenditure of \$10,000 in cash, and months of patient experiment and test before we have allowed it to go on the market.

We now pronounce it perfect—now, firmly convinced that it is all we have tried to make it, we offer it to you. Examine it for yourself—or if you are not sufficiently well posted on such matters, get your own electrical expert to give our No. 1317 the severest tests of which he knows.

Take it up point by point. There is the transmitter, for instance, the same, standard, long-distance type that is used on all standard long-distance 'phones. The general manager of the biggest telephone company in the world could have no letter on the private 'phone he uses on his own desk. There is no better made. And not only is ours the best transmitter, but it is also cheapest in point of maintenance; it requires less battery current than any transmitter on the market—as little as 1-7 of some of the others.

Then the receiver on No. 1317 is worthy of attention. Here the magnets demand consideration; made from a special grade of steel, they are permanent, retain their full strength indefinitely. And the bell pieces are made of special annealed Norway iron. This receiver is

so constructed that dust cannot accumulate on the back of the diaphragm nor can local noises disturb the listener and spoil transmission. Each part of the receiver on No. 1317 is the result of long and careful study—throughout, it is the best combination possible. Or look at the switch-hook—note how compact and self-contained it is—how all contact springs are vertically mounted as to afford no resting place for dust and other accumulations. Our standard self-contained switch-hook is equipped with platinum points—you can understand the efficiency for which that makes.

And so it goes throughout No. 1317 every part is the best and most perfect it is possible to devise. Never before has it been possible for any manufacturer—no, not even for us—to offer such an instrument to the Canadian farmer.



SEND FOR OUR FREE BOOK

THIS book, Bulletin No. 2216, we call it (and that's what you ask for), not only tells you all about our instruments, but also tells you all you need to know—every detail—about the steps necessary to take in the organization of a rural telephone company. It describes the simple procedure—goes into it minutely—tells about the very small amount of capital necessary, explains how to interest your neighbors and informs you how your own community can have just as efficient a telephone service as the largest city on the continent. Write for it, —learn why a telephone on your farm will actually save instead of costing you money. Send to-day.

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