

The Canadian Horticulturist

Bethune Rev C J SOAC

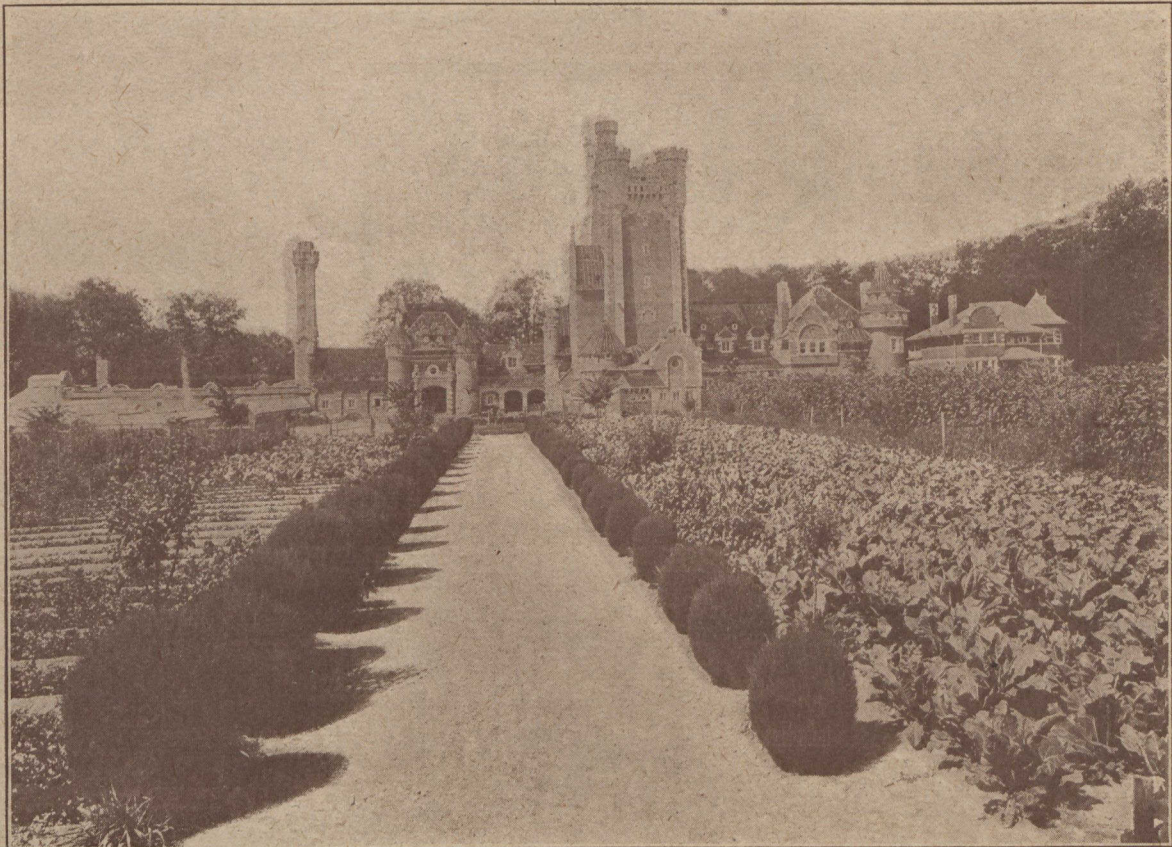
MARCH, 1909

Volume 32, No. 3

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A Vegetable Garden that is Beautiful as well as Useful—See page 56

THE ONLY HORTICULTURAL PUBLICATION IN CANADA

Issued Each Month

The Right Kind of a Roof



Long years before you could find a sign of wear-out about an "Oshawa"-shingled roof, any wood-shingled roof would be rotted to dust. Any ordinary metal-shingle roof would be pitted with thousands of rust holes. Any patent paper-and-tar roof would be ragged pulp. Even a slate roof would be dangerously out of repair—

Long, long before any "Oshawa"-shingled roof needed a single thing done to it.

Because, as you can easily see for yourself, there is simply nothing TO



wear out about a shingle of heavy (28-gauge) toughened steel, special galvanized to defy moisture—"Oshawa" Galvanized Steel Shingles are like that.

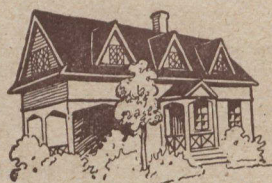
We are safe enough in guaranteeing these shingles for twenty-five years, as we do, in plain English, with a quarter-million dollars back of the written guarantee, which says:

If any roof that's "Oshawa"-shingled in 1908 leaks at all by 1934, we will put on a new roof for nothing.

Honestly, we believe an "Oshawa"-shingled roof will last a century, let alone twenty-five years. Why shouldn't it?

These heavy steel galvanized shingles lock underneath on all four sides in such a way that the whole roof is practically one sheer sheet of steel—without a crevice or a seam to catch moisture or to let wet get through.

You need never put a brushful of paint on an "Oshawa"-shingled roof, the special galvanizing makes paint entirely needless, and it won't wear off nor flake nor peel. Yet that roof will be Rain-proof, Snow-proof,



Wind-proof, Weather-TIGHT as long as the buildings stand.

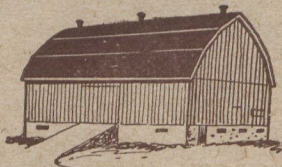
Fire-proof, of course. How could a seamless sheet of tough steel catch fire? That alone is worth the whole

"OSHAWA"
GALVANIZED STEEL
SHINGLES

A new roof for nothing
if they leak by 1934

price of these Oshawa Galvanized Steel Shingles. Count the saving in insurance rates (any company makes a lower rate on buildings so shingled). Count the freedom from anxiety, the safety of your houses and barns.

And, a most important fact to you,

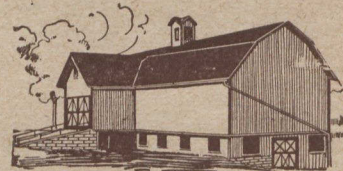


an "Oshawa"-shingled roof is LIGHTNING - proof! Positively proof against lightning—insulated far better than if it bristled with lightning rods.

Lasts a Century
Never Needs Painting
Can't Catch Fire
Makes Buildings
Lightning Proof

Half a million dollars doesn't cover the damage lightning did last year to Canadian farm buildings alone, and "Oshawa"-shingling would have saved all that loss.

Yet, with all these things to show you that an "Oshawa"-shingled roof is the RIGHT roof for you, "Oshawa" Galvanized Steel Shingles cost no more than wood shingles to start with. Let me tell you what it would cost to roof any building right. You need't figure the labor, for anyone who can use a hammer can put these



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Will you let me send you sample shingles, an estimate, and book that tells all about "Roofing Right"? It would pay you, I think, to read the book. It's free, of course.

Just address our nearest place. Use a postcard if you wish.

G. A. Pedlar

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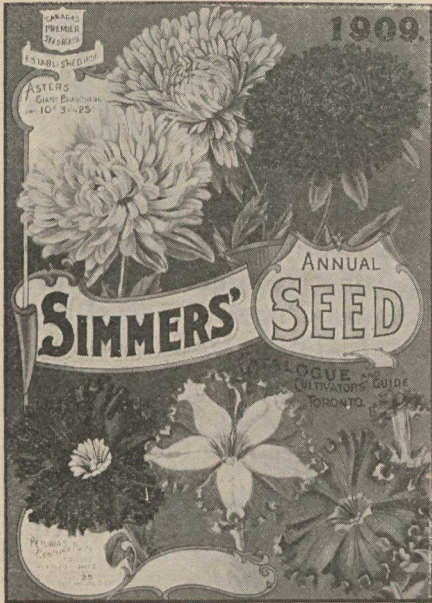
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Every seed planter, whether he may have a large or small garden, or farms hundreds of acres, should have this book. It tells of the best varieties of Seeds for all purposes—for the home garden, for market gardeners, for the lovers of beautiful flowers, for the farm and lawn.

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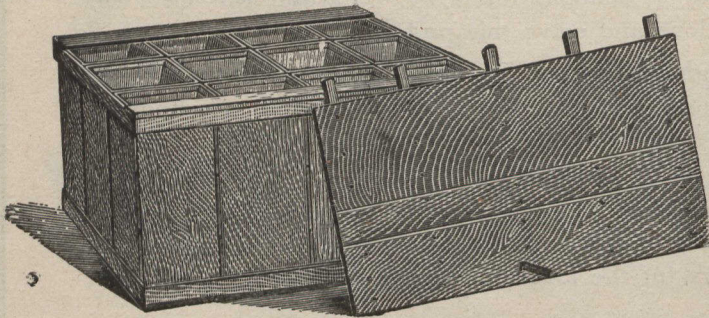
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In buying your plants from Ontario growers you save your duties and heavy express charges. I can assure you that you will get better plants than I ever got from the so-called pedigreed or thoroughbred plant growers, and I have heard many others of our Canadian growers express themselves likewise.

My price for any of the above varieties, is \$5.00 a Thousand, C. O. D. If the plants are not as represented your money will be refunded. You can depend upon getting the varieties asked for, as I DO NOT SUBSTITUTE.

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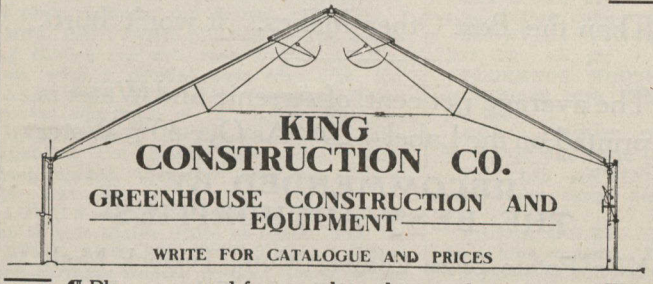
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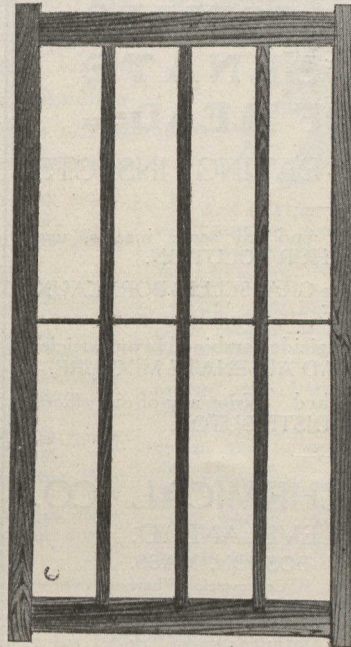
Write and tell us the kind of houses you desire to erect or ask for question blank and we will mail you our descriptive bulletin by return of mail.

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SURE GROWTH COMPOST

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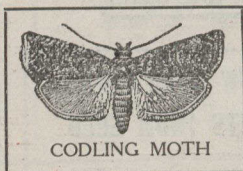
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The average per cent. of Arsenic and Water is printed on the Label—20% As_2O_5 - 40% Water

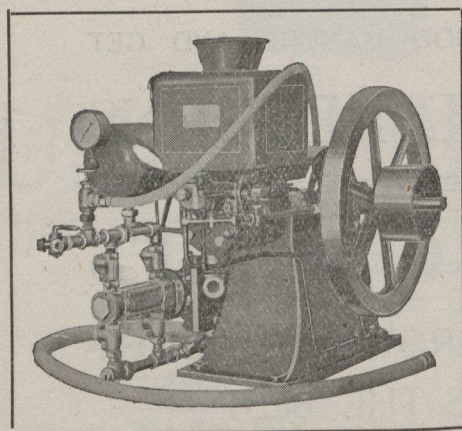
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A high grade, WATER-COOLED ENGINE without the objectionable cooling tank and appurtenances.

Wallace famous all-brass pump and connections.

Compact, strong, durable, and has all the **trouble, delays and after expensiveness left out.**

It will put up a 200 lbs. pressure on all the nozzles required. Your cash refunded if not found as represented.

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Since last fall, I have used it to run a large ensilage cutter, and it has given plenty of power and never missed a spark.

I do not think there is anything on the market to-day that is equal to it for spraying and other work on the farm where power is required.

Grimsby, Feb., /09.

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NOTE.—On this engine Mr. Bonham replaced its 6 ins. band wheel with an 18 ins., and put a 10 ins. wheel in place of the large band wheel on the ensilage cutter. This action more than doubled the demand on this engine which is rated at **only 2 h.p.** You can not get anything like such satisfactory results out of 9/10ths of the engines that are represented as capable of doing both your spraying and farm power work. The Wallace "NEW PEERLESS" **actually does it. Get one and be convinced and satisfied.**

I also supply all kinds and sizes of the famous Hardie hand pumps which are rapidly growing in favor wherever known. They are now being bought by many who have had enough of trouble and delay with other U.S. and Canadian makes. They are by far the least expensive in the long run.

A trial purchase will convince every unprejudiced orchardist.

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THE following are all the new Giant Flowered type of Sweet Peas. They are of most distinct and striking character, the colors embracing the most exquisite shades, and the mammoth size and waved or fluted appearance of the flowers marks the most important development in Sweet Peas; the blossoms frequently measure 2 inches across and are borne on long stiff stems, generally 4 to a stem; free bloomers



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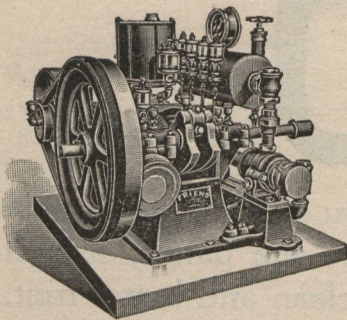
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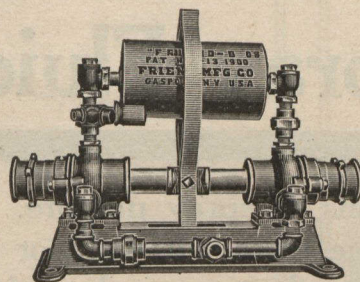
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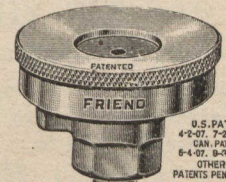
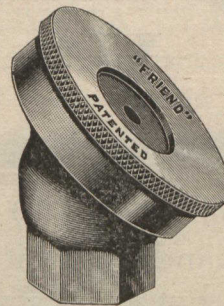


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Engine and Pump Combined
 The only one designed and built in one factory for spraying only. Talk, listen, think, write and read about others, but remember there is only one real "Friend." The first complete Power Sprayer made.
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Has put the name "FRIEND" into the hearts of hundreds of the most up-to-date fruit growers of the whole world. It bears all that the name implies. The easiest working Hand Pump on the market.
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 (No Duty)

Positively our own idea, and others like them are infringements. The original large Spray Nozzles doing away with the cluster. The only ones with the maker's name and the word PATENTED stamped upon them. No horns, hooks, nothing to catch, drip or clog. Makes the finest mist-like spray. Drives the spray farther into the trees than the cluster. The ANGLE sprays up under the leaves and down into the CALYX. The REGULAR is for ordinary work. State which is wanted. Satisfaction guaranteed.
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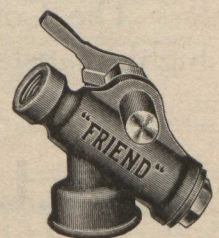
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Agents who would enjoy "Friendly" feelings with their customers, write for discounts. Deliveries on the complete line are now being made.

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Look at this picture and see the result of using V1 and V2.



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Fruit picked from adjacent trees.

For spraying before the buds open use

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One gallon will make 100 gallons of spray mixture. You have only to mix it with cold water and apply it to the trees. It will not injure the hands, it will not injure the trees, but it will invigorate the trees and produce clean and better fruit.

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The Canadian Horticulturist

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Scene on Estate of Sir H. M. Pellatt, Toronto . . . Cover

Photograph by Galbraith, Toronto

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We have been testing seeds for thirty-nine years and, as a result, we have proven that the seeds we offer as XXX seeds are the best. They combine all those qualities so necessary to ensure a satisfactory crop.



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GIVE SATISFACTORY RESULTS

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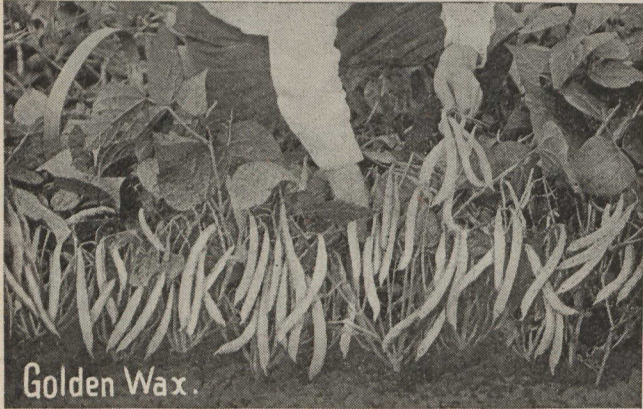
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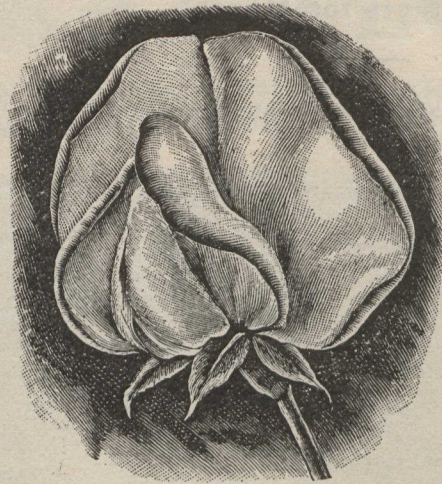
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Vol. XXXII

MARCH, 1909

No. 3

The Best Varieties of Fruits for our Orchards

ONCE more the season for planting is near at hand. To know what varieties of fruits are best to plant in our orchards often is a vexing question. Some varieties that have been profitable in the past are gradually dropping out of favor. The market to be filled and local conditions of climate and soil are the chief factors in determining the selection. Experienced orchardists in all parts of Canada have kindly sent to THE CANADIAN HORTICULTURIST lists that they recommend for their provinces and particularly for their own localities. In this issue, varieties suitable for planting in Ontario and eastern Canada will be mentioned; in the March issue, those suitable for the prairie provinces and British Columbia.

NOVA SCOTIA

For Nova Scotia, the following varieties are recommended for the Annapolis Valley by Mr. R. J. Messenger, of Bridgetown: Apples—Gravenstein, Ribston, King, Fallwater, Blenheim, Baldwin, Golden Russet, Spy, Nonpareil, Stark, Ben Davis (?); pears—Seckle, Artlett, Clapp's Favorite, Anjou, Louise Bonne, Bosc; plums—Red June, Coe's Golden Drop, Magnum Bonum, Lombard, Green Gage; peaches—Early Canada, Early Rivers, Elberta, (all very little grown); raspberries—Cuthbert, Herbert; gooseberries—Downing and other leading American varieties; currants—leading varieties; strawberries—standard sorts.

For the eastern part of the province, the following varieties are mentioned in the order of their popularity by Mr. Percy J. Shaw of the Agricultural College, Truro: Apples—Wolf River, Wealthy, La Rue (Baxter), Stark, Duchess, Scott's Winter, Transparent, Ben Davis.

NEW BRUNSWICK

For New Brunswick, the following varieties are mentioned by Mr. John Ferguson of Murches': Apples—Transparent, Duchess, Wealthy, Fameuse, Wolf River, McIntosh Red, Bishop Pippin, Scott's Winter, Bethel, Talman Sweet, Golden Russet; plums—Green Gage, Wheaton, Yellow Egg, Lombard; strawberries—Crescent, Sharpless, Splendid, Senator Dunlop, Williams, Glen Mary; red raspberries—Cuthbert, King; blackberries—Eldorado; gooseberries—

Downing; currants—Cherry, White Grape.

Mr. J. C. Gilman, of Fredericton, offers the following selection: Apples—Red Astrachan, Duchess, Dudley Winter or North Star, Wealthy, Alexander, Wolf River, Fameuse, McIntosh, Bishop Pippin or Yellow Bellflower, G. Russet; plums—Moore's Arctic, Golden Prolific, Lombard, Green Gage; cherries—Early Richmond; currants—Red Dutch, Fay, Versailles, Cherry, White Grape, Black Naples; strawberries—Crescent, Warfield, Senator Dunlop, Splendid, Glen Mary, Bubach, Sample; red raspberries—King, Herbert, Cuthbert, Golden Prolific; blackberries—Snyder, Taylor, Aga-

A Grand Paper

Editor, THE CANADIAN HORTICULTURIST:—You are to be congratulated on the excellence of THE CANADIAN HORTICULTURIST. You are developing a grand paper; in fact, the best one of its kind that I know of.—W. S. Blair, Professor of Horticulture, Macdonald College.

wam, Wachusett Thornless; gooseberries—Downing, Pearl Houghton.

PRINCE EDWARD ISLAND

For Prince Edward Island, standard sorts that do well in most parts of the province are given by Mr. John Johnston of Long River as follows: Apples—Crimson Beauty, Yellow Transparent, Red Astrachan, Duchess, Wealthy, Alexander, Wolf River, Stark; pears—Clapp's Favorite, Bartlett; plums—Saunders, Moore's Arctic, Victoria, Lombard, Damson; cherries—English Morello, blackberries—Snyder, Agawam; currant—Cherry; gooseberries—Downing, Houghton; strawberries—leading varieties.

QUEBEC

For Quebec, the following varieties are recommended by Mr. J. C. Chapais of St. Denis for his county, Kamouraska, which is one of the most northern points where fruits are grown in that province (north latitude 47 degrees 30 minutes): Apples—Early Strawberry, Yellow Transparent, Lowland Raspberry, Red Astrachan, Duchess, Alexander, Wolf River, Fameuse, Wealthy, Longfield; pears—Flemish Beauty, Vermont Beau-

ty; plums—Early Yellow, Saunders, Blue Damson, Reine Claude de Montmorency, Lombard, Geuii; cherries—Early Richmond, Montmorency, French cherry; gooseberries—Downing, Houghton, Columbus; currants—Fay's Prolific, La Versailles, White Grape, Black Champion, Black Naples; raspberries—Marlboro, Golden Queen, White French; strawberries—White Alpine, Lovett, Williams, Sharpless and other hardy standard varieties.

ONTARIO

For Ontario, the most satisfactory varieties for general planting, according to Mr. J. W. Crow, Ontario Agricultural College, Guelph, are as follows. Apples—Duchess, Alexander, Wealthy, Snow, R. I. Greening, Baldwin, Sp.; Ben Davis; pears—Clapp, Bartlett, Duchess, Kieffer; cherries—Richmond, Montmorency; peaches—St. John, Early Crawford, Fitzgerald, Elberta, Smock; plums—Burbank, Bradshaw, Shipper's Pride, Grand Duke, Reine Claude; grapes—Moore's Early, Delaware, Lindley, Concord, Niagara.

The standard varieties of small fruits recommended by Mr. Crow are, in blackberries—Agawam, Snyder; red raspberries—Marlboro, Herbert, Cuthbert; black raspberries—Hilborn, Gregg; purple raspberries—Columbian, Shaffer; black currants—Lee's Prolific, Naples, red currants—Cherry, Fay, Victoria, gooseberries—Pearl, Red Jacket, White Smith; strawberries—Van Deman, Bederwood, Splendid, Senator Dunlop, Sample, Williams.

A list of varieties more or less similar to the one recommended by Mr. Crow is the choice also of Mr. P. W. Hodgetts, secretary of the Ontario Fruit Growers' Association. A few additional sorts are mentioned by Mr. Hodgetts as follows: Apples—Gravenstein, McIntosh, Blenheim, King, Hubbardston, Stark; pears—Boussock, Howell, Bosc, Clairgeau, Anjou, Winter Nelis, Lawrence; cherries—Wood, Knight, Napoleon, Tartarian, English Morello; peaches—Brigdon, Reeves; plums—Red June, Geuii, Lombard, Monarch, Yellow Egg; grapes—Campbell's Early, Worden, Wilder, Agawam, Vergennes.

Do not have too many varieties in the commercial orchard.

The Apple Leaf Blister Mite*

Prof. W. Lochhead, Macdonald College

THE apple leaf blister mite is an old enemy under a new guise. It has been known for many years in Ontario as a pest of the pear, but it is only within the last few years that its injuries to the leaves of apples in Ontario have been observed and have become worthy of serious attention. In Europe, however, this pest has for a long time been observed on apple leaves.

The leaf blister-mite is not a true insect; it belongs to the group called *Acarina*, and is known to science as *Eriophyes pyri*. It is a very minute creature about 1-125 inch in length, hardly visible to the naked eye. It has four legs and a worm-like body divided into a large number of rings by fine lines, and provided with a few pairs of stiff hairs. For the main facts regarding its habits, I am indebted to Professor Parrott of the New York Agricultural Experiment Station, Geneva, N. Y., who has made a special study of this mite and many others of the same group; and who has very kindly given me the latest information he has obtained in his investigations of a different subject.

LIFE HISTORY

The leaf blister-mites feed by sucking the juices of the buds and leaves. They pass the winter under the scales of the buds, frequently in colonies. In spring, as the young leaves unfold the mites move out upon them, and soon burrow through the skin of the underside, and feed upon the juices of the soft tissues within. Through the irritation produced by these operations galls or blisters are formed. Within these galls eggs are deposited which hatch in a few days and the young mites feed on the juices of the leaf. When mature they pass out of the leaves through openings made on the wider surface and betake themselves to other leaves to repeat the same process. Throughout the growing season the production of mites continues, and not until October do they desert the leaves for the buds, where they hibernate.

NATURE OF INJURY TO LEAVES

As already stated, the main injuries are those done to the leaves, but the fruit-stems and fruit are often injured. The galls on pear leaves are at first greenish, then reddish, afterwards bright red, and finally, with the death of the affected tissues, brown or black, often most conspicuous on the sides of the midrib. When the mites are very numerous the injuries produce defoliation of the trees.

The color of the galls on apple leaves

*Since this paper was prepared and read at the last convention of the Ontario Fruit Growers' Association, the bulletin referred to in the concluding paragraph has been published. Extracts from it may be found on page 62 of this issue.

is much less striking than that on pear leaves. The galls are usually more abundant on the margins of the leaves and are at first greenish, soon becoming brownish, and only occasionally red. The coalescence or merging together of several of the galls produce irregular shaped dead areas, which often rupture at the margin. Parrott says: "About July 1st the most striking effects of the mites upon the leaves appear, especially if there is much yellowing of the foliage, as frequently occurs. Upon the upper surfaces of such leaves the mite-infested spots are of a light brown or of a dark green color, and are uniformly brown beneath. These spots are thickly massed, forming a dark broad band of irregular width along each side of the leaf, which contrasts conspicuously with the intervening light yellow area about the main rib. To one standing on the ground and viewing the leaves from beneath, this striping of the leaves is very suggestive of variegated foliage of certain ornamental plants."

REMEDIES

Cultural methods are of little value in dealing with this pest. Careful pruning will, of course, remove large numbers of the mites, but it will not exterminate them. I believe Professor Gillette, then of Michigan, first suggested in 1886 the use of strong soap suds, kerosene emulsion during the dormant season as a means of control on pears. In 1890 Professors Comstock and Slingerland of Cornell University, published (Bulletin No. 23, C. U. Agr. Exp. Sta.) the results of some experiments with kerosene emulsion in the control of the blister mite on pears. In 1893 Professor Slingerland published (Bulletin No. 61, C. U. Agr. Exp. Sta.) the results of successful experiments using kerosene emulsion. He said: "Our experiments strongly indicate that the pear leaf blister can be nearly exterminated in a badly infested orchard by a single thorough spraying of the trees in winter with kerosene emulsion diluted with from five to seven parts of water."

All these experiments had to do with the leaf blister-mite on pears. In the attempt to deal with the same pest on apple trees, however, it was found a more difficult task. The Geneva station has made many experiments. In Bulletin 283, published December, 1906, the following recommendations are given, based on spraying operations carried on for two years:

- (a) Whale oil soap solution not effective.
- (b) Miscible oil (one part to twenty of water) effective.
- (c) Kerosene emulsion (one part to

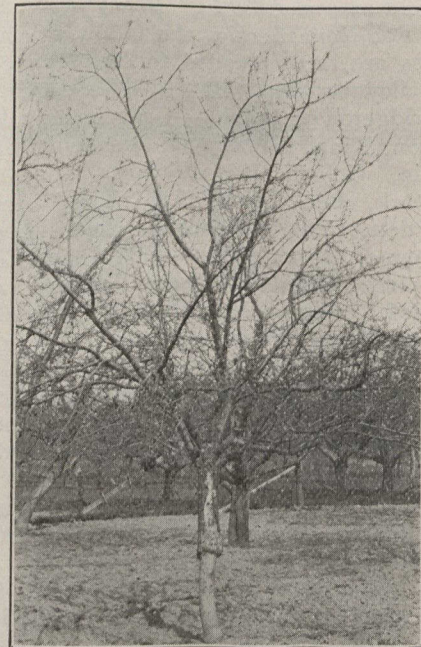
eight of water) effective. Two sprayings are better than one, but if only one is practicable, make the application in early fall as soon as possible after the leaves have fallen.

(d) Kerosene pure, effective, but fruit crop lost.

Since the publication of Bulletin No. 283 the experiments have been continued, and new ones added; and, as a result of two more years' work, Professor Parrott informs me in a letter dated October 22nd, 1908, that in a bulletin soon to be published, he will recommend strongly the lime-sulphur wash applied in the dormant season just before the buds burst.

A Lesson in Grafting

The accompanying illustration of a Pewaukee apple tree grafted on crab stock, teaches a lesson. It shows that vigorous growing varieties should not be grafted on slow growing stocks. The top will outgrow the stock and in time may break off. The tree illustrated measures five inches in diameter below the graft and eight inches above. The top in this case is not nearly so large



Pewaukee Apple Grafted on Crab Stock

as many others of the same variety in similar conditions.

This tree is in the orchard of Mr. A. E. Sherrington, of Walkerton, Ont. It has been in bearing about fourteen years and has produced yearly crops of first-class fruit.

Top-graft your apple trees in spring. The best time is when the leaves are pushing out. Wounds made then heal quickly, and the scions are more apt to live. If a large amount is to be done, it is necessary to start earlier.

Fungous Diseases of Ontario Orchards: Peach Yellows*

M. B. Waite, Pathologist in Charge, Investigations of Diseases of Fruits, U. S. Department of Agriculture

THE cause of the peach yellows is unknown but it behaves precisely like a parasitic disease. It is contagious, spreads through the orchard from colonies or from individual trees which become centers of infection and is distributed from tree to tree and orchard to orchard by natural methods unknown to investigators. In all respects, therefore, it acts like a parasitic contagious disease.

Up to the present time, all microscopic and bacteriological methods of investiga-

tion have failed to reveal any parasites. Investigations along these lines have been wholly negative although they have been pursued with great persistence and thoroughness. It seems almost certain that had it been an ordinary germ or bacillus, the methods employed would have revealed the same. It is hard for me to believe that the disease is not a parasitic disease, however, and that some day the parasitic organism will be found. The failure to find the cause of the disease or any definite parasite associated with it puts this discussion of peach yellows on a different plane from that of the ordinary fungous or bacterial diseases of plants. However, by comparison with definitely known germ diseases, such as pear blight, and with a general knowledge of physiology and pathology, we may be able to steer clear of false theories and make the most of the facts available.



Complete Spraying Outfit Suitable for Small Orchards and Garden Work

tree gradually dies from the top down, ordinarily becoming totally dead at four or five years from the appearance of the first visible symptom.

The leaves on trees affected by this disease usually turn yellow rather promptly. This results in the common name of the malady. However, frequently when the trees are first attacked and the fruit decidedly red spotted and premature, on the whole tree or on certain branches, the leaves, instead of yellowing, become even darker colored and larger than normal. That is to say, when the yellows first attacks strong vigorous trees, it sometimes stimulates the tree, both fruit and foliage, before it begins to weaken it. This may even hold true the second year in some cases. The twig growth is shorter on such trees. They behave like trees on which summer pinching of terminal buds is practised. Ordinarily, however, especially on trees under average cultivation, the yellowing of the inside leaves begins as soon as the premature fruit appears. Sometimes these leaves are distinctly rolled upward toward the mid-rib and droop and curve inward by the bending of the leaf stem and mid-vein. This symptom is more or less variable just as the presence of the yellows sprouts may or may not be prominent.

OTHER CAUSES OF YELLOWS

Many other causes produce yellowing or discoloration of foliage. These other yellow effects need have no relation whatever to the yellows and, of course, occur on most all trees and plants, whether they are affected by the yellows or not. Some of the principal causes of yellowing of the foliage of peach trees, in addition to borers and frost girdling, are starvation or poverty of the soil, particularly nitrogen starvation, the fungous root rot, sour soil, root aphid, the root knot or eel worm disease, root winter killing and various other root troubles. These diseases, except the fungous root rot, are all more or less curable and non-conta-

gious and, of course, should never be confused with the true yellows. A yellow peach tree, therefore, does not necessarily mean a tree affected by peach yellows.

RELATED DISEASES OF YELLOWS GROUP

Two other diseases should be mentioned in this connection as they belong to the same general group as the yellows. They are the "little peach" of the northern states and peach rosette of the south.

(To be continued in next issue.)

Use a Manure Spreader

Editor, THE CANADIAN HORTICULTURIST: Regarding the use of manure spreaders in orchards and vineyards, I would say that before purchasing a spreader we found it a very laborious task shaking manure from a wagon. On considering the time used and the present high price of labor, we decided to purchase a spreader. We considered the matter over and decided that a forty-bushel capacity was plenty large enough for two horses to handle, as three horses could not be worked among trees in a vineyard very well. This size of a machine being shorter in the gear, was more convenient to turn at the ends of the rows than a larger machine. We are well satisfied with our choice.

We find that our manure goes a great deal further, besides being pulverized finely and spread evenly, also being easily worked into the soil without plowing it in. I consider this a great advantage and saving of fertility, as you may quickly dispose of your manure before it has time to dry out or evaporate in the sun. I also consider that the manure being applied in this manner, that is, spread finely all over the ground so that the numerous feeders of trees and vines may readily avail themselves of it, is the correct way to apply manure.

If a man has, say, sixty loads of manure or over every year, a manure spreader is a good investment, and as much necessary an implement as any on the farm. It would also be a good investment for two growers or farmers living close together and not having such a large quantity of manure to handle. A manure spreader properly housed when not in use and used intelligently should last almost as long as a wagon.—WILLIAM H. Secord, Homer, Ont.

In spraying, the more distant the tree or plant to be treated, the coarser must be the spray.

As all good spray machinery is expensive, only careless operators will neglect its proper care.

*The fourth instalment of Mr. Waite's address on "Fungous Diseases of Ontario Orchards," given at the last convention of the Ontario Fruit Growers' Association.

Window Boxes, Hanging Baskets and Rustic Stands*

William Hunt, Ontario Agricultural College, Guelph

ANY aspect rather than a direct south aspect is best for a window box, a north or east aspect being the best. If the windows face the south, the box should be shaded by an awning for a few hours in the hottest part of the day. In a window facing the south and fully exposed to the direct and concentrated heat of the sun against the building the greater part of the day, it is impossible to have complete success with a window box, even if filled with the hardiest sun-resisting decorative plants.

POT PLANTS IN BOXES

Plant lovers, especially in cities and towns, are often at a loss to know what best to do with house and window plants in summer, having no space out-of-doors perhaps to stand the plants in the shade for a change and rest. By placing the box outside of an east, north or west window, standing the pots in the box (arranging the plants properly for effect) and packing moss around them, almost all house and window plants can be very much improved in appearance, with but little care and attention. The moss prevents a too rapid evaporation and keeps the roots of the plants cool and moist. Common moss from the bush or sphagnum moss can be used for this purpose. This is a much better plan than standing the pots on window sills and exposed verandahs, where the sun and wind compels constant and copious waterings, the plants oftentimes suffering badly even when attended to regularly, in the matter of watering.

VERANDAH BOXES

Verandah boxes are made in a similar manner to window boxes, differing possibly in shape, so as to suit the requirements of the position they are to occupy. If used on the floor of the verandah, it is well to set the boxes in large trays or pans made of galvanized iron, to prevent rotting the floor, as well as for cleanliness.

HANGING BASKETS

The ordinary earthenware hanging basket should have the bottom constructed so as to form a saucer, in order to avoid the troublesome, unpleasant, and dangerous operation of either lifting the basket down, or of flooding and damaging the floor of the verandah every time they are watered. Several potteries have adopted the style of having a saucer as part of the basket, but in most specimens that I have seen, the saucer is rather too narrow and shallow to be of the best possible use. The holes through the bottom of the basket into the saucer

placed there for drainage purposes, are also often too small and too few in number to fully serve the purpose for which they are intended.

For a lawn and exposed position, I prefer hanging baskets made of wire. As a rule, the ordinary wire baskets sold are not deep enough to be serviceable. The wire basket should be lined at time of filling with thick wads of moss placed round the basket with green side outward. The soil and plants can then be filled in the same as when using an earthenware basket. The moss helps to conserve the moisture in the soil and prevents a too rapid evaporation. Plants succeed better in wire baskets than in earthenware ones and should be more



Rustic Stand for Plants and Flowers

Bottom of an apple barrel, fifteen inches deep, covered with native bark

used than they are, if only for this reason.

RUSTIC STANDS

Rustic stands are one of the most effective and easily obtained features of lawn decoration. A rustic stand can be made of the crudest and commonest materials, if a little artistic and original taste is made use of in connection with their make up. A tub part of a barrel or a box of suitable strength and size can be transformed into a really pretty and effective rustic adornment with a few pieces of common lichen or moss-covered pieces of bark from our native trees nailed around them; or can be covered with cork bark, if something more uncommon or elaborate is required. Small pieces of cedar saplings split in two with the tops pointed so as to represent a rustic picket fence and nailed on the

tubs also makes a pleasing and effective stand for the lawn.

One of these rustic tubs or boxes placed on a piece of round timber of pine or any native tree, with the bark left on so as to look as natural as possible, will make a very effective and pleasing object placed around the lawn or grass plot, when filled with flowers and trailing plants. The piece of timber used should be sunk into the ground a little, if not large enough to stand firmly of itself. The box or tub also would be better if fastened down to the stand with a piece of wire in two or three places to prevent it being blown or pushed over.

Fossil stones, or large rough stones, can be used very effectively as stands for above purpose. An old hollow trunk or pollard of a basswood or other tree, about two feet six inches in height, also makes an effective rustic adornment when filled with good soil and plants. One of these last named filled with scarlet salvia and trailing plants makes a most conspicuous and pleasing object on the lawn in summer time.

Rustic stands can be purchased at most of our large feed stores in several designs. The ordinary wire stands are not very ornamental and not suited for pot plants out-of-doors, especially in an exposed sunny position, as the plants dry out too rapidly in them. If these stands were constructed so that moss could be packed around the pots, they would at least have the merit of being useful, if not ornamental.

IRON VASES OR STANDS

Many of the iron urns or stands one sees on lawns are of themselves quite ornamental, but are expensive and not at all adapted to grow plants in successfully. The basin or urn is usually too shallow to allow of sufficient soil to grow plants in. Iron also being a conductor of heat, the soil dries out very rapidly. A deeper basin, eight to ten inches in depth—according to size of urn—and the sides made perpendicular instead of sloping, and more holes in bottom of basin for drainage, are desirable points to make iron lawn vases a success for growing plants in. The basin could have a temporary lining of thin wood fitted around inside. This would prevent to a great extent the rapid drying out of the soil and be very beneficial to the plants.

CEMENT VASES

Lawn vases made of cement with pieces of stone or fancy pebbles placed all over the surface—so as to present a rough, natural-looking surface, also make a very effective lawn decoration filled with plants.

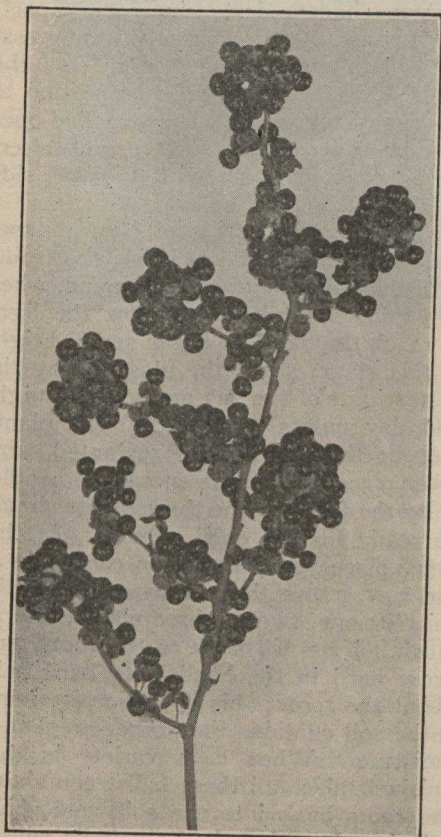
*A continuation of Mr. Hunt's article that appeared in the February issue. The best plants for filling window boxes, etc., will be dealt with next time.

Planting for Winter Effect in the North*

George Edward McClure, Buffalo

ONE of the chief delights of a winter garden is the effect of the berried shrubs and trees, and of course we always think of the berried plants in relation to Christmas, and very naturally of the holly that is so extensively used at that time. The northerner is denied the use of this most regal plant, but whenever evergreen leaves and red berries can be combined, it is regarded as the highest perfection of winter effect.

A few years ago I conceived the idea of using the winter berry, or leafless holly (*Ilex verticillata*), which is far more profuse with its berries than the southern holly, along with the English privet (*Ligustrum vulgare*), mixing the two kinds and planting in masses. The privet retains part of its green leaves until January and has splendid trusses of brilliant black berries, and the effect of these black berries and green leaves, with the dense masses of red berries of the leafless holly, give the effect that is obtained in English gardens by the famous holly plant. The ilex is vigorous, as also is the privet, and the whole in time becomes a tangled mass and the effect glorious. Sometimes the leafless holly is planted along with the mountain laurel, but as the laurel is low and the ilex high, the green leaves and berries



Celastrus Orbiculatus

*The first installment of this article appeared in the February issue. It will be concluded in April.

are not together, and the effect not as good. Even though it is not always possible to secure a background of green for berried plants in the winter, it is not always desirable as the snow itself is a sufficient background for many berried plants.

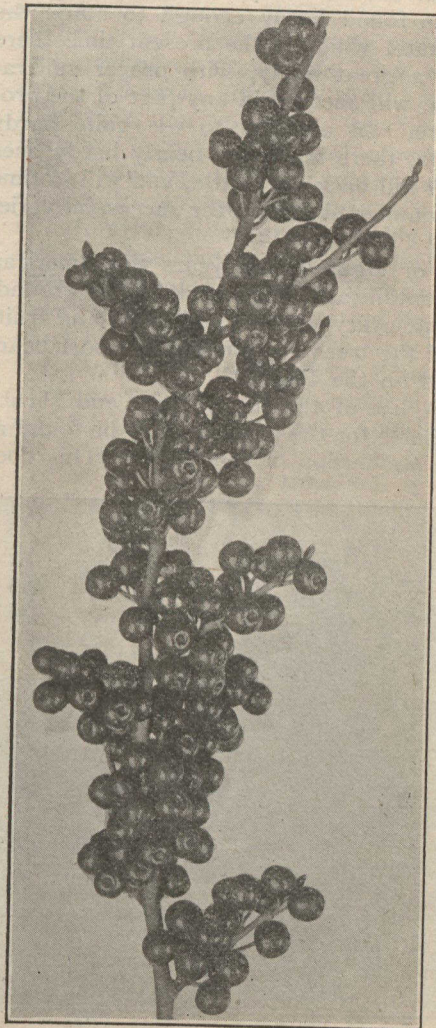
Among the most common and best of our berried plants are, the common barberry (*Berberis vulgaris*), with its racemes of brilliant berries which remain well into the winter, and the Japanese barberry (*Berberis Thunbergii*), with its single yet thickly borne berries of as brilliant a hue. The high bush cranberry (*Viburnum opulus*), whose bright and large trusses of berries last until the new leaves are formed in the spring and are very striking. Many of the endless number of forms of crataegas are useful for winter effect, and though their fruit are not persistent during the entire winter season, yet many are glorious in the early winter. The sea buckthorn (*Hippophae rhamnoides*) is also attractive in winter because of its yellow black dotted fruit, which is very persistent.

Many of the roses are extremely beautiful, as their fruits are often large. One of the best is the Japanese rose (*Rosa rugosa*), whose large haws or berries are highly colored and remain long on the plant to brighten up the landscape. *Rosa multiflora*, whose fruits although smaller, are borne in large clusters and last all winter. *Rosa lutescens* has the largest fruit, some of which are one inch long, and are borne in clusters of four. *Rosa blanda* is also useful.

The privets, both the common (*L. vulgare*), and the Japanese (*L. Itoya*), have large clusters of shining black berries, and are very striking with a background of the snow. The snow-berry (*Symphoricarpos racemosus*), with its profuse masses of white berries, and the coral berry (*S. vulgaris*), are both splendid species for effective winter planting. When planted in masses in richly prepared borders, they produce riotous masses of fruit. The European buckthorn (*Rhamnus cathartica*), so often used for a windbreak, has attractive black fruits, as has also *Rhodotypos herrioides*. The stag horn sumach (*Rhus typhina*) produces a marked effect in a winter landscape with its antler-like dense clusters of berries. The smooth sumach (*R. glabra*) is also useful as a winter fruited plant.

The European mountain ash (*Sorbus Aucuparia*), with its bright red berries in large clusters, is especially useful for winter effect, and the yellow berried form is also useful for variety. With an evergreen background they are especially attractive. Among the vines for

winter effect nothing can surpass the bitter-sweet (*Celastrus scandens*), with its winter array of orange berries, when the



Elaeagnus Umbellata

vine is allowed to grow as a shrub, forming an uneven mass of twining stems, covered with attractive fruits it is particularly fine. *C. orbiculatus* is also a splendid berried vine similar to the bitter-sweet. *Vitis Heterophylla*, whose grape-like clusters of whitish-blue berries offer a variety in berry color, is also interesting from the standpoint of winter effect.

Simplicity and dignity should be the key-note of all landscape gardening.

Take a series of photographs of your garden from planting time until fall and send them for publication in THE CANADIAN HORTICULTURIST.

Wooden labels may be preserved by soaking them in a strong solution of copperas (sulphate of iron) and laying them, after they are dry, in lime water. By this process, a very insoluble salt, sulphate of lime, is formed in the wood.

Trees and Shrubs for Saskatchewan*

Angus MacKay, Superintendent, Experimental Farm, Indian Head

IN the early years of the Indian Head Experimental Farm, very few trees or shrubs except the native varieties were found hardy enough to stand the climate, while at the present time there are a great many, with proper cultivation, will succeed in any part of the province. In addition to the quite hardy sorts, there are many nearly hardy ones that kill back very little, and will in time be numbered among the successful varieties.

For eight or ten years the American mountain ash killed back to the ground. Now, every year they blossom and fruit, and the trees are among the most beautiful on the Farm.

A list of the hardy trees and shrubs suitable for the province may be found at the conclusion of this paper. This does

the best trees, however, and the one that will in time win the most favor.

Cottonwood, which is chiefly obtained from river bottoms in the Dakotas, but which can be propagated from seed or cuttings, is found better adapted to the dry climate than many of the other varieties of poplar, and as a quick grower is unsurpassed.

The Siberian poplar is one of the best of the Russian varieties. Like the cottonwood, it is a quick grower.

Willows are not sought after except for hedges or windbreaks, for which they are well adapted.

So far little has been done in growing the birch tree. The native variety is easily grown and is a beautiful tree when a few years old. Among all the trees on the Farm, none can compare in beauty with the cut-leaved birch which has stood for years in the arboretum.

The mountain ash is grown from seed, of which it produces large quantities, and as already stated, is one of the most beautiful on the Farm; in fact, in this respect, it is only surpassed by the cut-leaved birch.

In the conifers, all those mentioned have done exceedingly well, but are not being grown throughout the province on account of the difficulty of propagation and the slow growth for several years, as well as the great loss in transplanting.

Among the most successful are balsam fir, Scotch pine, white, Norway and Rocky Mountain spruce, and the larch or tamarac. The cedars are exceedingly slow growers.

SHRUBS

Among the hardy shrubs, caragana, honeysuckle and lilac are having the largest distribution. In the three families, a good many varieties are found, especially in the lilacs.

Caragana arborescens is the most useful sort in the caragana list on account of being better suited for hedge purposes, and flowering equally with the others when planted singly.

The Tartarian honeysuckle when in bloom is one of the most beautiful shrubs imaginable and, as it fruits abundantly and is quickly and easily grown from seed, it should be on every homestead in the province.

While caragana and honeysuckle should be in every garden, the place is not complete without the lilacs, of which there are varieties almost without number. In addition to being a beautiful shrub, the lilac makes a hedge unsurpassed by any other plant for the length of time it is in leaf during the year, it being out the earliest in the spring and the last in the fall to lose its leaves. Cornus or dogwood, cotoneaster, flowering currant, spiraea, and high-bush cranberry (native) are well worthy a place alongside the caragana, honeysuckle and lilac.

Sowing Seeds of Annuals

Roderick Cameron, Toronto

If it is desired to sow seeds of annual flowers in a hot-bed to get the plants early, prepare the manure at once; it should be turned over twice before making the bed. Do not make the bed high. A foot of manure is plenty, and it should be ready by the first of April, then place in it from four to six inches of good friable soil. Put on the sash, but give plenty of air until April tenth, when the weed seeds will be all started. Stir the soil now so as to kill the weeds.

Open shallow drills six inches apart, north and south across the bed, by pressing a lath on the soil. Here sow the seeds desired and cover in proportion to the size of the seeds. The very fine ones may be sown on the surface, and afterwards pressed down with the flat side of a board.

There may be strips of brown paper stretched over the rows inside the frame until the seeds show above ground, when they must be taken away for the light to reach the plants. If the sun is bright at this stage, shade the glass during the hottest part of the day and give air night and day unless very cold. The plants may be thinned out and replanted some other place when large enough to handle.

By the first of June these plants should be ready for the open ground. At this time, place your fingers on each side of the row, press them down through the soil, lift one, two or three plants, and as much soil as will stick to the roots, and press hard in the hands into hard balls about the roots; this operation is simple if the soil contains the proper amount of moisture. When each variety is thus finished, place all these balls, containing the roots back into the soil, and shade a little. In a few days the balls will be matted together with roots, and they can be handled the same as if they were grown in pots, and will make better plants, and there will be no wilting.



A Winter Scene in Saskatchewan

not include the half-hardy, which number nearly as many. [NOTE.—This list will be published in a later issue of THE CANADIAN HORTICULTURIST.—Editor.]

TREES

Among the trees that are being most extensively grown throughout the province are, box elder (native maple), ash, elm and cottonwood. Box elder is grown chiefly on account of its being easily propagated, and not from any good quality in appearance or usefulness except for windbreaks. Ash is also easily propagated from seed, but has the advantage over the maple in giving little trouble after planting, and in making a useful tree in time.

Elm is more difficult to grow than maple or ash, from the fact of the seed being smaller and more subject to injury from various causes. It is one of

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

What Amateurs Can Do in March

MAKE preparation for next season's work. A good start means a good finish. Order seeds and have them ready when sowing-time comes.

Prune late flowering shrubs but leave the early flowering ones until they have bloomed. Hardy roses may be pruned towards the end of the month.

If not protected now, cover the border plants and bulbs. The greatest danger is from alternate thawing and freezing in spring. If the ground is still frozen, cover with some straw manure held in place by branches of trees. Remove the covering as soon as danger of severe frosts is past.

FLOWERS INDOORS

If you are growing your own bedding plants, their propagation and potting will



A Day-Blooming Cereus

At residence of Mr. J. T. Rose, Brantford, Ont.

now be occupying your time. Strike in sand, cuts of fuchsias, geraniums, verbenas and so forth.

Sow seeds of nasturtiums for window boxes. A few pots or boxes of petunias, verbenas, cosmos, salvia and lobelia may also be sown. Towards the end of the month sow antirrhinum, scabiosa and aster. Six to eight weeks before it is time to start plants in the open is about the right time to sow most seeds inside.

Divide your cannas and pot them or place on benches to start them into growth. They will be fairly well advanced for planting out-doors about the first of June.

Bring hydrangeas, oleanders and similar plants to the light. Re-pot geraniums, cyperus, ferns and other plants required for summer decoration. Give the

flowering bulbs plenty of water. The soil must not be allowed to dry out.

THE KITCHEN GARDEN

It is time to start the hot-bed. If your sashes and frames are not in good order make repairs at once. Read the article on page 58 of this issue.

You may have rhubarb earlier than usual by placing a barrel or box, from which the top and bottom have been removed, over a clump of rhubarb in the garden.

WITH THE FRUITS

This is the best time of the year to graft fruit trees. Make the trees that are now yielding poor fruit, produce the variety that you most desire.

Prune fruit bushes. Thin out all kinds of fruit trees and head back the peach, plum and pear. Prune and train the grape vines.

If you are not certain of the best thing to do in regard to any garden operation, take advantage of the question and answer department of THE CANADIAN HORTICULTURIST. Enquiries are welcomed.

Root Killing

W. T. Macoun, Central Experimental Farm, Ottawa

Root killing is caused by the exposure of roots to severe frost and by the alternate thawing and freezing of the roots. It is most prevalent in winters when there is little or no snow. It is of very uncommon occurrence in Manitoba and the north-west provinces and in the states of Nebraska, Iowa, Minnesota and Dakota. Roots are in many cases tenderer than the tops and are killed when the tops remain uninjured. As the soil in the province of Quebec is usually moist in the autumn and further drying out is usually prevented by a covering of snow, root-killing does not often occur, there having only been three times during the past twelve years when there was such injury. This infrequency of root-killing is, however, liable to make fruit growers careless, and a time comes when an orchard is just in its prime when the trees are swept out by root-killing to the owner's great disappointment and discouragement. What, then are the preventives of root-killing?

At the Central Experimental Farm, Ottawa, many trees were root-killed in the winter of 1895-6, a winter when there was little snow. At that time cover crops were not used to any extent and the soil at the farm was bare. Since that time great care has been taken to have a cover crop in the orchard before winter sets in. This cover crop in itself protects the roots of the trees from drying-out and helps to hold the snow for further protection. While the roots of trees in sod are protected by this sod and may not be killed when those under

cultivation are, it may happen that in same cases the soil is so dry under the sod that if there is no snow the roots may yet be killed. The mulching of the ground about trees with straw or manure will also protect the roots from injury.

Another reason why we have not been troubled with root-killing during the past twelve years at Ottawa is that practically all our trees have been since that time grafted on crab apple roots, not on *Pyrus baccata*, although some are on this stock, but on the seedlings of Martha, Transcendent, and other cultivated varieties. The apple seedlings used by nurserymen for stock vary much in hardiness. Every tree probably differs more or less and some are undoubtedly quite tender. The result is that varieties otherwise hardy, when grafted on these roots fail. Seedlings of the crab apples are much more likely to be hardy. If some nurseryman would make a specialty of growing the apples suitable for the province of Quebec on crab apple stocks, he would in time sell a large number of these trees. The advantage of crab apple roots has been very marked in the north-western states where trees on ordinary apple stocks have been killed out, while those in crab roots were uninjured.

The Culture of Orchids

For the private gardener, the use of baskets for orchids would give better results than earthen pots or pans. The baskets allow the air to circulate freely about the roots and prevents an overabundance of moisture. The most essential quality in orchid culture is an abundance of fresh air.

If the private greenhouse has ample top ventilation, the ventilators should be kept open at most all times in the summer months. Side ventilation may be used, but top ventilation is preferable. The former seems more apt to absorb the moisture in the house which is a decided requisite to the orchid.

Orchids should receive an abundance of light, but the strong rays directly upon the plants might prove injurious. For shade, some growers use shade rollers on the outside of the glass or cheesecloth beneath the glass. If the outside of the glass is whitened with a combination of white lead and kerosene oil, the strong light will be prevented from striking the plants and at the same time they will receive sufficient good light.

Orchids should be watered with care. They require an abundance of water during the growing period, but too much should not be applied at one time as it would tend to rot the roots. Readers of THE CANADIAN HORTICULTURIST are asked to tell their experiences in the culture of this beautiful flower.

Make a water garden this spring.

The Twelve Best Hardy Shrubs

J. McPherson Ross, Toronto

IF I were confined to the choice of but one shrub to plant, I should select *Hydrangea paniculata*, as it blooms at the season of the year when all the other shrubs are out of bloom and then it is so hardy, so easily grown, and gives such a wealth of lustrous cherry white plumes of flowers from August to November. Were my choice extended to two, the other would be *Spiraea Van Houttei*, so lovely and abundant is its snow white mantle that hardly a leaf can be seen through the flowers, and its habit is so graceful. My third shrub would be the Japanese golden bell (*Forsythia suspensa*), which is one of the earliest

garden. The eighth choice is *Cydonia Japonica*, whose vivid blossoms have given it the name of the burning bush. This shrub stands clipping well and is useful to make a hedge. Its foliage is glossy green and its scarlet blossoms in May always make it a garden favorite.

The ninth choice is the beautiful deutzia, either *D. scabra* or *D. arenata*. These are lovely shrubs and no collection is complete without some of them. For small places or cemetery plots, *Deutzia gracilis* is a charming free flowering small shrub. My tenth shrub is the purple berberry which is most effective in the bloom of its foliage with

consideration, this selection will cover it pretty well with a sufficient divergence of growth, foliage and flower to make them of value in any collection. A further selection will be mentioned in a later issue of THE CANADIAN HORTICULTURIST.

The Mock Cypress

T. McVittie, Toronto.

The illustration on the front cover of this issue of THE CANADIAN HORTICULTURIST, is a view of the centre walk in Sir H. M. Pellatt's vegetable garden, Toronto, with the stables, coach-house, automobile shed, and so forth, in the background, built after the old Norman style of architecture, and when completed will be one of the finest on the American continent.

On each side of the walk is planted a row of mock cypress (*Kochia scoparia*.) This pretty, half-hardy annual was transplanted from self-sown seed. Many of the plants were over three feet in height and five feet in circumference, forming compact bushes which make a very effective and ornamental hedge. The small feathery light green foliage changes as the summer advances to a deep green and to a crimson hue in the fall. The beauty of the kochia is very often destroyed by overcrowding when planting.

To grow for pot culture, the seed may be sown in March, giving the same treatment as for balsam or other similar annuals. They should be given good drainage, if intended for pots, as they are sometimes very slow in germinating.

For outdoor culture, the seed may be sown in April, and the seedlings planted out about three feet apart by the end of May, taking care to keep well watered until established in the ground where they are to remain for the summer.

To have a good lawn, the ground must be rich and well-prepared.

Division of the root is the only way to perpetuate any particular variety of columbine with certainty.

Do not attempt to manage a garden that is beyond your time and means. Better a small garden and a good one than a larger one, half-kept.

A corm differs from a bulb in that it is solid throughout while the latter may be composed of narrow and mostly loose scales, as in the lily, or of more or less continuous or close-fitting layers or plates, as in the onion. The gladiolus and crocus are familiar examples of corms.



A Variety of Shrubs that Grace the Grounds of an Estate near Niagara Falls

shrubs to flower, the blossoms appearing before the foliage. The proper situation for it is by the gate or entrance path, although it is a beautiful object wherever planted. My fourth shrub would be *Wiegelia rosea*, an old favorite, neat and graceful in habit and a profuse bloomer of rosy pink bell-like blossoms.

My fifth choice is the althea or rose of Sharon and, although it is sometimes killed in winter, yet by planting it in rather poor soil so that it ripens its wood well before frost, it usually blooms sufficiently to give satisfaction. It blooms in August. My next shrub is the Persian lilac. My seventh is the garland syringa, a well-known hardy favorite whose fragrant showy white blossoms with their strong orange perfume scents the

charming panicles of yellow small blossoms in spring followed by dark crimson clusters of berries. My eleventh choice is the purple fringe or smoke tree. This is quite an unique shrub in many ways. The foliage is glossy and rather singular in shape while the bloom is in panicles of cream bronze tint of feathery or misty character, sometimes called Jacob's beard. When in full bloom it is very attractive. To complete the dozen, and for the sake of its fragrance and yellow bloom, I select the flowering currant (*Ribes aurea*), an old-time hardy favorite that will flourish in any situation or out-of-the-way corner.

The foregoing twelve hardy shrubs might not be the choice of every one but taking the flowering season into

How an Amateur Grows Asters

W. Norman, Elmira, Ontario

THE aster is one of the grandest flowers and one that is largely grown.

In its culture, one great fault with amateur gardeners is that, as soon as the first warm days of spring arrive, they get the gardening fever and begin to sow seeds in pots or boxes in the house. There is nothing gained by this, except perhaps a few days earlier bloom. In the majority of cases, the result is poor, weakling plants with only a few mediocre flowers. Our aim should be to strive for the best.

About the last week in April or the first week in May, choose some spot close to a south wall, and fine the soil well. Obtain a box, say, eight inches high, and knock out both the top and bottom leaving the sides. Sink this in the soil, one inch at the back and three inches in front to form a slope. Cover the top with factory cotton to protect from winds and sun. Sow your seed thinly in this and when up an inch high thin the plants out to stand three inches

apart every way. You will then have strong sturdy plants that will be a delight to handle.

To transplant, make a hole with a pointed stick, fill the hole with water and when this has soaked in, put in your plant, bed it in firmly and then cover with dry soil around the stem leaving no sign of moisture. Do not water again. It is one of the amateur's greatest mistakes to use too much water. Leave the result to nature. Keep the surface soil loose and again do not water. When your plants are about three parts grown, it is well to mulch around and between the plants with some well-rotted manure. Trim off a few of the side shoots and your bed will be a delight to you and will show what the aster is capable of doing if properly handled. If you desire to show for exhibition, leave only three or four of the finest buds on each plant.

If a plant seems sickly and you have

no other to replace it, take it up carefully, shake the soil off the roots, and you will probably find the latter covered with a small white maggot. Get some boiling water and dip the roots in and out as quickly as possible, fill the hole with boiling water and when cool replace your plant. Step it in firmly, shade for a day or two and it will probably be all right again.

If you desire to own the best asters in your neighborhood, save your own seed. Select the very best bloom, then strip off the plant all other blooms and buds, thus sending all the strength of the plant into the flower selected. You will have noticed that from a package of seed with the same soil and treatment you get good, bad and indifferent plants. The reason is that commercial growers grow aster seed like flax, and so forth, by the acre, consequently what can you expect? Pick off all flowers as they fade. This will prolong the flowering life of the branches.

Irrigation for Vegetables and Small Fruits

IN almost any season there are periods when if water could be applied to growing crops of vegetables or small fruits it would improve them. Whether or not it will pay to irrigate in Ontario and eastern Canada, depends largely upon the availability of the water supply, the kinds of crops being grown, and the nature of the soil and of the season. In recent issues of THE CANADIAN HORTICULTURIST were published extracts from Mr. W. T. Macoun's excellent address on this subject given at the last convention of the Ontario Vegetable Growers' Association. In the course of the address, Mr. Macoun said: "I leave the question of whether it is practicable to irrigate or not with our vegetable growers, who are intelligent enough to know when and where it will pay them." The following interesting letters sent to Mr. Macoun may aid in answering the question:

AT LEAMINGTON

From Mr. J. L. Hilborn, Leamington, Ont., Nov. 3, 1908: "There has never been any irrigation practised here. I am the only person who has used water to any extent outside, and I have done it only in a small way. For about ten years I have had a 200-barrel tank elevated about twenty-five feet; have pipes laid through greenhouses and two leading out twenty rods or so where I grow chiefly cucumbers, but we pour the water on through an inch hose, using about twenty barrels an hour for three or four

hours, say, three times a week, and in that way getting once over them each week. We have to do it in this way to get best results as we do not like to begin until about five o'clock p.m. I use a windmill chiefly; when necessary, I attach a gasoline engine.

"One of my neighbors uses a gasoline engine to raise water from the lake, for use chiefly in greenhouse and cold frames. We have both tried applying it with the hose on strawberries, which is very satisfactory in a small way."

GUELPH AND BURLINGTON

Mr. A. McMeans, O. A. C., Guelph, Oct. 31, 1908: "No one in this locality practises irrigation. We have given some thought to the subject and are planning to install one-quarter to one-half an acre next year with the Skinner system.

"When in Ohio this summer, I visited Storr-Warner Co., at Lodi, where they grow 100 acres of celery on muck land, tile drained into a creek that runs along one side of the celery field. If the weather is dry they dam the creek and the water backs up the tiles, thus using the tiles for sub-irrigation in dry weather and for drainage in wet weather; it is giving excellent results.

"Mr. H. R. Rowsome, of Burlington, Ont., this year irrigated two acres of celery, with a two-horse power gasoline engine, drawing water from the lake, a distance of 400 feet, with a lift of twenty-one feet, applying 30,000 gal-

lons in fifteen hours in one application. Mr. Rowsome says he has two acres of extra good celery; whereas, if he had not irrigated, his crop would have been practically worthless. He figures that he has paid for his pumping plant in the results that he has secured this season."

MONTREAL ISLAND

Mr. R. Brodie, Westmount, Que., Nov. 2, 1908: "I had a talk with an Italian (my neighbor) on Saturday and gained the following information: He has about \$100 invested in rubber hose that is used for his plants in hotbeds, as well as for his melons and cucumbers. He paid fifteen cents per 1000 gallons for water; altogether \$38. I allow \$8 for plants, and \$30 for melons, about two acres of melons; one man ten weeks' steady watering at \$10 a week; that would be: Labor, \$100; water, \$30; wear and tear on hose, with interest, \$10; total, \$140, for two acres."

NEAR TORONTO

Mr. Thomas Delworth, Weston, Ont., Nov. 7, 1908: "Very little has been attempted around Toronto. Mr. John MacNamara, of Bracondale, north of Toronto, adjoining the city limits, tried it some years ago. An artificial lake had to be made by a land company to boom villa sites just north of his property on higher ground. He got his supply from the lake by a pipe let into the dam. He told me at the time that it was successful with strawberries. I

understand that he has since discontinued it. I do not know why. I have been delaying this letter hoping to see him about the matter, but press of business has prevented me so far.

"A neighbor of my own some years ago irrigated several acres of onions and potatoes by damming a trout brook that crossed his property and flooding the patch. He got a large crop of very fine

onions, but it did not seem to agree with the potatoes. We supposed it was because the water was too cold. He continued it for several years with practically the same results. Subsequent tenants of the property have not used it. These are the only cases that I know of where it has been attempted systematically.

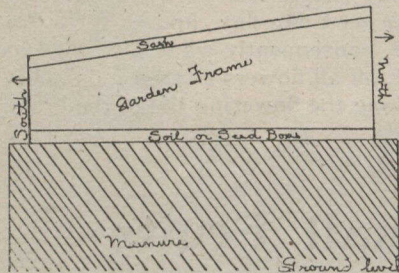
"The general impression seems to be

that it is 'no good.' My own opinion is that very much depends on the nature of the soil, particularly the sub-soil. If that be open and porous and an abundant supply of water easily obtainable at small cost, all right. A small quantity carelessly applied will, I think, do more harm than good, and a large quantity 'ditto,' unless you have proper means of removing the surplus."

The Preparation and Care of Hotbeds

A. V. Main, Pinehurst, Almonte, Ontario

OF whatever dimensions a garden may be, whether the extensive one of a market grower or the humble back-yard of a horticultural enthusiast in the town, the use of a hotbed is a necessity. Its uses are a hundredfold—to raise



Build a Hotbed Like This

various sorts of flower and vegetable seeds and the propagation of many plants with all the modern equipages of glass-houses and artificial heating, the common old-fashioned hotbed is yet considered the best mode of seed raising, the steady and moist temperature of several weeks' duration, acting as the first success to a high percentage of seed germination. To the novice in gardening, the making of a hotbed looks impossible. Limited quarters, time, expense and necessary knowledge mean with many amateur gardeners "no hotbed."

The first days of March is generally early enough to commence preparing a hotbed to be ready for seeds by March 15th. It is early enough for tomato, cabbage, cauliflower, onion, and flower seeds or whatever you purpose to grow. The following simple directions are offered for the benefit of beginners and for those who have been unsuccessful.

THE MATERIAL

Hotbed material consists of good, clean stable manure; that is, straw and horse droppings two or three months old. It does not matter how new the material, but old or wet and heavy material is almost useless and wood clippings and other rubbish which often is found in manure is of similar value.

The real worth of a hotbed is the length of time that it will give off warmth and that should be six to eight weeks. Beds are built too often of no depth and

with the manure improperly mixed, resulting in a sharp heat for a week, consequently the seedlings damp off. The failure does not end here for the seedsman is finally accused of selling worthless seeds.

It is a good idea to have a lot of leaves stored in the fall, to incorporate with the manure, to give a more lasting heat. Two good loads of manure will make a fine, useful and handy bed, nine feet square, adapted for a garden frame with two lights or sashes. Always make the bed twelve inches larger all around the frame, whatever size it may be. The glass repaired in old storm windows make a substitute in hard times.

MIXING THE MANURE

Mix the manure well and often. Have it under cover in an open shed if possible, but it is not necessary. With a fork turn over the manure into a cone-shaped heap. Every forkful must be well shaken out and thrown on to the top of the heap, where it will spread out when in a cone-shape. When nearing the finish, clean all the strawy material around the heap and place in the centre with the small manure over it. Turn the manure three times, every alternate day, such as Tuesday, Thursday, and Saturday. Insert a stake into the heap; by withdrawing it occasionally, you can ascertain how it is heating. Generally at the third turning, it will commence to heat and throw off a rank steam. Another turning will be necessary on, say, Monday, purposely to relieve this noxious steam, which is so detrimental to tender seedlings. At the eighth or ninth day, we can build our beds.

Select a sunny aspect sheltered from the north and open to the south to catch all the sun that is going at this date. Two feet six inches is good depth and convenient for working the frame, although three feet gives longer satisfaction if the manure is available. The bed should be marked off with a stake at each corner. Build the manure up in thin layers and tramp it well with the feet, finishing the job neatly, firmly and level. Lift the frame on and put on the lights, partially tilted up with a block of wood to allow superfluous moisture to

escape for a couple of days. A very reliable guide when this moisture is not harmful and the bed ready for seed sowing, is when the drops of moisture are quite clear and transparent.

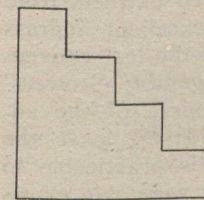
I have made no reference to sprinkling the manure at the outset with water. At this time of the year, if the manure is obtained from a reliable place, it is sufficiently moist, and experience teaches that by adding water to dry, fusty manure, results are not satisfactory.

Sand or finely sifted soil makes a fine level covering inside the frame. I am not in favor of sowing seed in patches or in lines on the top of a hotbed, unless for lettuce or early vegetables that will remain there until exhausted. All flower seeds, tomatoes, melons, and so forth, are best sown in pots or boxes, and are thus convenient to transplant or move as their growth demands.

A secondary frame comes in useful, where boxes of seedlings can be put, to become hardy and to procure light, space and air in more abundance, once they have germinated in the proper hotbed.

In the middle of favorable days, a little air is advisable for two or three hours.

As the sun strengthens, some shading material is best put on the sashes and at night a covering is also essential for warmth and frost protection. Canvas or sacking or old carpets would do. Make one to fit each sash and nine inches



A Handy Device

A simple ventilating block for hotbeds may be made by cutting a piece of inch board in this shape. By its use air may be admitted in any quantity desired.

longer than the sash at each end. Take a piece of wood and tack it on at each end. This facilitates the work of rolling it up when required. The piece hanging over breaks the current of air when applying ventilation. This material then can be employed for mid-day sun, also at night and there is no fear of wind blowing it off. Judgment with ventilation, using tepid water for the seedlings, and applying it early in the day are prominent factors of success.

QUESTION AND ANSWER DEPARTMENT

Transplanting Peach Trees

I wish to transplant about sixty young peach trees which have been in the ground for two or three years, but which have not made much growth owing to being planted in unsuitable land and to lack of cultivation and moisture. I desire to transfer them to a gravelly soil and would like to know if this is advisable and practicable and also the best manner of going about it, so as not to destroy too many roots. Are the trees too old to move successfully?—W. G., Okanagan Valley, B. C.

While you cannot expect the same success in transplanting trees that have been established for two or three years as with young trees from the nursery, the operation can be done satisfactorily. The loss of a few roots will do little or no permanent damage. Prune back partially both roots and top. Transplant in early spring. A gravelly soil will grow peaches, if sandy, deep and well drained.

Best Spraying Machine

There are so many spraying machines on the market, I do not know which to purchase. Kindly state which is best.—R. N., Yarmouth Co., N. S.

We have no preference. Consult the advertising columns of this issue. Only reliable firms are permitted to advertise in THE CANADIAN HORTICULTURIST.

Judging at Royal Show

Can you explain the judging of the colonial fruit exhibits at the Royal Horticultural Society's Exhibition, London, England? If by points I should like to know the scale. Are fruits sampled and points given for flavor and firmness?—A. W. W., Yale-Cariboo, B. C.

This question is answered fairly fully in a letter by Mr. T. B. Revett that appears on another page of this issue. The secretary of the society has been asked for further particulars.

Trouble with Begonia

I am sending a begonia leaf. Kindly tell me what is wrong with it. The leaves appear to be healthy but when they reach the size of the one sent, drop off. How can I treat the plant to avoid this?—Mrs. A. E. C., Huron Co., Ont.

I am of opinion that the trouble is caused by lack of drainage at the roots of the plant or poor soil. Gas fumes will also cause the leaves of this plant to drop. Give the plant a season of partial rest for a few weeks by giving it sufficient water only to keep the soil moist, and keep it in a temperature of about fifty degrees. In about eight or ten weeks the plant should be repotted. In doing this remove a portion of the old soil, repot the plant into soil, one part

sand, one of leaf or black mould and about four parts of good potting soil, with plenty of drainage at the roots, using the same sized pot. Avoid over-watering the plant. Begonias are not good house plants, especially where the atmosphere is very dry or gas fumes prevail.—Wm. Hunt, Ontario Agricultural College.

Primulas, Begonias, Carnations

What should be done with primulas, flowering begonias and carnations after blooming in winter?—A. S., Thunder Bay District, Ont.

The Chinese primrose (*Primula sinensis*) is scarcely worth keeping over the second season. It is best to raise young plants from seed. Seeds should be sown in March or April in light, well drained soil. The seedling plants should be kept well shaded. Old plants of *Primula obconica* can be kept over and divided for the next season's flowering. Even these are better raised from seed every year.

Flowering begonias that have flowered all winter should be kept moderately dry and in a cool temperature of about fifty degrees until about the end of June, when they can be stood out-of-doors in partial shade, if temperature does not go below fifty degrees. They should be repotted about the end of August and brought indoors before chilly or cold weather commences.

Carnation plants are scarcely worth keeping over for the second season. Young plants rooted from cuttings in January or February, planted out in the open garden in June and potted in August before the severe frosts, give the best results for the following winter season. Old plants can be kept by keeping them in a cool place and planting them out in the ground as recommended for the young plants. The top growth of carnations should be kept pinched out or shortened until about the middle of July for winter flowering.—Wm. Hunt, Ontario Agricultural College.

Celery on Sod Land

Would it be advisable to plant celery on an old sod that was plowed last fall? Would there be danger from wireworms?—A. W. N., Wentworth Co., Ont.

There would be little or no danger from wire worms on celery. There may be trouble, however, in working the sod for celery, if it has not been properly rotted, and in getting the plants to take root. Mr. George Syme, Jr., of West Toronto, one of the best celery growers of the province, said that he has seen

some good crops of celery grown in the way that you suggest but that the crop is likely to be "patchy."

Separating Tomato Seed

What is the best way to separate the seed from the pulp of tomatoes?—A. C., York Co., Ont.

For small quantities, mix inner pulp of the tomatoes with sand, rubbing them together until most of the moisture is absorbed. It is not necessary to separate the seed from the sand. Sow both when the time comes. For large quantities, remove the skin and break up the pulp. Wash with water. The separation may be performed immediately but, if the pulp adheres to the seed, allow the mass to stand until fermentation liberates the seeds. Most of the pulp will then rise, leaving the seeds at the bottom. To liberate the seeds more quickly, place a stick of caustic potash in each pail of water. In the course of an hour or so, the seeds can be rubbed out easily.

Asparagus Beetles

Give treatment for asparagus beetles.—W. A. C., Wentworth Co., Ont.

There are various ways of handling these pests: 1. If practicable, allow poultry to run over the beds. 2. During cutting season leave scattered shoots to grow as traps. Apply insecticides or cut down and burn. 3. After cutting season apply Paris green or arsenate of lead; repeat whenever larvæ appear. Dusting with fresh, dry-slacked lime when dew is on, is also practised. 4. If plants are shaken during hottest weather many larvæ will die on the ground. 5. Against twelve-spotted beetle, pick off the young berries and burn.

Low-Heading of Trees

Editor, THE CANADIAN HORTICULTURIST:—As a student of horticulture since 1846, I heartily agree with Mr. W. J. Kerr, of Ottawa, whose letter appeared in the February issue, that the low-heading of fruit trees is best. His reasons are clearly given, are ample and most practicable.

I would buy buds one year old and thus form the head to suit myself. When trees are two years from the bud many limbs have been cut off for budding other stock so that one cannot head his trees as perfectly as he can if he plants early in the fall or early in the spring one-year-old buds.—Frances Wayland Glen, Brooklyn, N. Y.

The Canadian Horticulturist

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The Only Horticultural Magazine in the Dominion

OFFICIAL ORGAN OF BRITISH COLUMBIA, ONTARIO, QUE-
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FRUIT GROWERS' ASSOCIATIONS

H. BRONSON COWAN,

Managing Editor and Business Manager

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6. Articles and Illustrations for publication will be thankfully received by the editor.

CIRCULATION STATEMENT

Since the subscription price of The Canadian Horticulturist was reduced from \$1.00 to 60 cents a year, the circulation has grown rapidly. The following is a sworn statement of the net paid circulation of The Canadian Horticulturist for the year ending with Dec., 1907. The figures given are exclusive of samples and spoiled copies, and of papers sent to advertisers. Some months, including the sample copies, from 10,000 to 12,000 copies of The Canadian Horticulturist are mailed to people known to be interested in the growing of fruit, flowers or vegetables.

Circulation Statement

January, 1908.....7,650	January, 1909.....9,456
February, 1908.....7,824	February, 1909.....9,310
March, 1908.....8,056	
April, 1908.....8,250	
May, 1908.....8,573	
June, 1908.....8,840	
July, 1908.....9,015	
August, 1908.....9,070	
September, 1908.....9,121	
October, 1908.....9,215	
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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 benefits 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.

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THE CANADIAN HORTICULTURIST,

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EDITORIAL

BIOLOGICAL DIVISION NEEDED

Under the heading, "Should Not Separate Work," on another page of this issue, appears a letter from Prof. John Craig, of Cornell University, that criticizes our editorial remarks on the work in biology at Ottawa. The professor agrees with the changes that we proposed, with the exception of the one that would place the new division under the direct control of the Minister of Agriculture, instead of the Director of the Experimental Farm. Even if a separation were made the laboratories could be located at the farm, where facilities for the investigation of insects and fungous diseases of the greenhouse, orchard and farm are all that can be desired. The main advantage in separation lies in the directness of approach to the minister. As it is now, the head of an investigation department confers with the director, and the director with the minister. As a result, the head has two persons to convince as to the necessity or wisdom of any given line of procedure, and the natural outcome is that delays are frequent, vexatious and tedious.

Furthermore, there would be a great advantage in having a biological division that would, in virtue of its greater initiative freedom, better serve the divisions of Dairy and Fruit and Seed. It is conceded by many persons that the officers of these divisions, who have travelled extensively over the Dominion, are even more conversant with the needs of the people reached through their respective divisions than the director himself. As these divisions are at present constituted, they are more than purely administrative departments. Their work is partly of an investigational nature (sometimes overlapping and supplementing that of the Farm), relating to problems that arise for solution in carrying out the measures of the Government.

This system of organisation of the expert forces of the Department of Agriculture has worked well at Washington, and no country in the world is doing so much valuable work in agriculture as the United States. A separation of the biological division from the Central Experimental Farm would be in the interests of the agricultural progress of Canada.

QUEEN VICTORIA PARK

Elsewhere in this issue appears a letter, signed "A Citizen," that refers to editorials about the management of Queen Victoria Park, Niagara Falls, Ont., that have appeared in recent issues of THE CANADIAN HORTICULTURIST. Our correspondent implies that our editorials have been inspired by an ex-employee of the park and that we are not personally acquainted with conditions at the park. Last summer an editorial representative of THE CANADIAN HORTICULTURIST visited Queen Victoria Park. He was furnished information about the management of the park by one of the foremost citizens of the United States, a man who has visited the park every summer for years, who is in no way interested in its management and who knows the situation there as few do. Further investigation by our representative on the spot convinced us that it was necessary that the attention of the government and of the public should be drawn to the matter in order that improvement might be effected.

Since our editorials have appeared, one of the employees, whose appointment we felt had not been necessary, has been discharged, thus effecting a measure of im-

provement. One of the more important positions was created on Mr. Wilson's recommendation but Mr. Wilson, although he was the superintendent, was not consulted in regard to who should be appointed to fill that position, although it is one of the most important positions in the park. The man appointed to the position lacks the training and ability that the position requires.

The fact that the park last summer did not reveal to the casual observer the result of the incompetence of the management was because the main work of preparation had been accomplished by the former park officials. The present year will show a marked impairment of the appearance and value of the park unless the work of improvement that has been started since the publication of our first editorial is pressed vigorously.

THE CONTROL OF NURSERIES

Last month, we directed attention to a defect in the bill respecting the control of nursery stock that the Ontario Fruit Growers' Association desires to have made law by the Ontario Legislature. As stated on page 39, the association had in view, when drawing up the bill, the control of nurserymen who are careless or dishonest or both. Not only is it against this class that some protection is needed, but also against irresponsible dealers and agents, against whom fruit growers have the greatest grievance. These are not covered by the proposed bill to an effective extent.

According to the wording of the proposed bill, any men of this class could apply for a license and take up their stand for one year in one place and, after getting in their fine work, clear out and start business in some other part of the country under some other name. How much better off will the fruit grower be, who places his order with this class of dealer because his prices are a few cents cheaper than those of the bonafide nurserymen, than he is at the present time? Dealers of this kind are allowed by the bill as it now stands to take out a license and no bond or guarantee is required to say that they are responsible for damages should any arise.

The bill should be changed so as to include this class of men. As it stands, it is going to be a great injustice to the bonafide and reliable nursery concerns. Neither will it protect the fruit grower against that class of men against whom he has the most complaint. Irresponsible dealers and agents harm both the reliable nurserymen and the fruit growers. They should be stamped out.

It was also stated in our editorial last month that the nurserymen will have to charge more for their stock when this bill becomes law. Prices must inevitably be higher as the bill will necessitate each of the larger and reliable firms providing for unavoidable losses due to errors made by employees. These losses will have to be met by setting by an insurance fund.

OUR EXHIBITS AT ROYAL SHOW

There has been a misunderstanding in the minds of most of our fruit growers in respect to the manner of judging fruit at the Royal Horticultural Society's Shows in London, England. During the past two years, British Columbia was widely advertized for her good fortune in winning gold medals for general collections of fruit and she deserved the credit. The impression, however, that British Columbia won her gold medals by defeating the other provinces and colonies was unfair to them.

As is pointed out in an article elsewhere in this issue, there is no competition between provinces or colonies. Each one

stands alone and on its own merits and receives awards accordingly. Because British Columbia won gold medals does not mean that that province won them over the others, nor does it say that Ontario and Nova Scotia won gold medals last November for better displays than that of British Columbia, or of any other colonial exhibitor. It means that these exhibits were each worthy of the honors conferred and that they received equal recognition because equally worthy. Let it be remembered that our provincial exhibits at London are sent not for inter-provincial competition but for advertising to the world the great fruit growing possibilities of our Dominion.

Can some of our subscribers forward to this office copies of the February, 1908, or October, 1908, issues of THE CANADIAN HORTICULTURIST. We desire to secure the same for our files, and would much appreciate the receipt of one or both of these issues.

Should Not Separate Work

Editor, THE CANADIAN HORTICULTURIST:—I am interested in your editorial in the January issue of THE CANADIAN HORTICULTURIST under the caption, "A Biological Division Needed." It seems to me that this is an excellent suggestion. Your proposed method of organization, however, does not appeal to me. You say very truly that all biological work related to the farmer and the farm has been carried on at the central station of the Dominion farm system during the past twenty years. This work has been conducted by the departments interested. You now propose to separate this vital investigational work from the institution which has been specifically established for the purpose of dealing with just such problems, and give it to another and entirely distinct division of this department of public service.

The experimental farms of Canada were organized expressly for the purpose of dealing with biological life problems. The inside service was organized, as I understand it, for administrative work. Would it not be just as logical to recommend the affiliation of a legislative service with the Ottawa farm, as a biological division with the administrative branch? Each has its own facilities for carrying out its own type of work. The disarrangement of these would mean at any rate the unnecessary duplication of equipment and facilities. It seems to me that it would be both illogical and unwise.

These remarks are prompted not by a mere desire to take part in a discussion, but by virtue of the interest which arises out of former association with the Dominion Experimental Farm system, and a somewhat extended knowledge of organization methods in relation to public service for agriculture in the United States.—John Craig, Professor of Horticulture, Cornell University, Ithaca, N. Y.

THE CANADIAN HORTICULTURIST stands for everything that will tend to develop the great horticultural resources of this great Dominion.

I have taken THE CANADIAN HORTICULTURIST for 20 years, and have gained a great deal of useful information from it. I could not get along without it.—James Wittup, Yale-Cariboo, B. C.

Another big apple show will be held in Spokane, Wash., this year. Orchardists in all parts of the world will be invited to compete and it is expected that the prize list will represent more than \$50,000, in addition to trophies, cups and special awards.

Judging Fruit at Royal Horticultural Show

AMONG most Canadian fruit growers, there has been a misconception in respect to the manner in which fruit is judged at the Royal Horticultural Society's Shows in London, England. Letters asking for information on this point have been received from various sources by THE CANADIAN HORTICULTURIST. These requests were submitted to two gentlemen who had charge of Canadian exhibits at the Royal show last November.

Mr. R. M. Palmer, Deputy Minister of Agriculture for British Columbia, replied as follows:

"I regret that I am unable to furnish the information requested. Permit me to suggest that you could, no doubt, obtain the information desired on application to the secretary of the Royal Horticultural Society, Vincent Square, London. I may, perhaps, state that at the Royal Horticultural Society's colonial fruit shows, exhibits of British Columbia fruit have been awarded medals for merit. These medals are of various grades, from the gold medal of the Royal Horticultural Society, which I understand, is the highest award given, to silver gilt, silver and bronze medals." The secretary of the Royal Horticultural Society has been asked by THE CANADIAN HORTICULTURIST to furnish the desired information.

their awards accordingly. It is my opinion that in doing this they saddled themselves with the exceedingly hard problem of satisfying all exhibitors and governments.

"For instance, at the last exhibition held in November, they had at the exhibition all the different islands of the British West Indies and Canada was represented by Ontario, Nova Scotia, and British Columbia. The exhibits from the other provinces were made up of private exhibits from the different growers, while those from Ontario were shown by the Department of Agriculture for the province. We entered in seven different classes and in an interview with the assistant-secretary of the society, who by the way, has practically complete control, I was told that the exhibits were not competitive and given to understand that it was unnecessary to divide our exhibit into its component parts. However, we divided it as nearly as possible showing a table of dessert varieties, a table of vegetables, one of preserves and one of canned goods.

"After the awards of the prizes were made Ontario was given a gold medal. British Columbia and Nova Scotia also received one, together with the additional medals awarded to the individual exhibits; i.e., these two provinces' exhibits consisted of exhibits sent by growers all of whom re-



Part of Ontario's Exhibit Which Won a Gold Medal at Royal Horticultural Society's Show Last November

His reply will be published in the issue following its arrival.

Mr. T. B. Revett of the Ontario Department of Agriculture gives some valuable information in the following letter:

"The Royal Horticultural Society inaugurated three colonial exhibitions and their chief object was to bring before the British public the horticultural products of the different colonies. They were confronted with two great problems: First, to get the colonial growers and governments interested; and second, to attract the attention of the British public. Owing to these obstacles they have had to abandon two of these exhibitions and will continue the show in November another year in order to give it another opportunity to prove itself of value.

"It will be easily understood that the primary consideration of the society was to obtain the exhibits and co-operation of the growers and governments of the colonies, and they naturally gave any obstacle which would tend to cause any bad feeling amongst the different exhibitors a very wide berth and, acting under this influence, they decided that the wisest plan was to make the exhibits non-competitive and to judge them by a standard of excellence, giving

received a medal, then a gold medal was awarded to the government for these exhibits as a whole or virtually for the assistance given in sending over and looking after the exhibits.

"If Ontario had entered her exhibits under different names she would have received the same treatment, but according to the constitution or minute book of the society, an exhibitor, having received the maximum reward in the shape of a gold medal for one of his exhibits could not receive another award, except he had entered the exhibits under another name. You will see by this that there was practically no judging, no separation or classes and awards were apparently given to all exhibitors. There were not a few varieties improperly named and in one instance the fruit was not even first-class fruit.

"The Royal Horticultural Society is a very strong and highly respected organization in England and, as previously explained, their object is to bring the products of the colonies before the British public, and those receiving the highest award from them establishes a reputation among the English horticulturists.

"The show itself was an excellent one.

British Columbia had an excellent position and displayed to advantage two varieties of apples,—Grimes' Golden and Jonathan, both were very extremely colored and afforded contrast with the other varieties shown. Nova Scotia had a very fine show, exhibiting a splendid collection of varieties. Ontario showed about 70 varieties of apples, 15 varieties of pears, eight of grapes, a few peaches and Reine Claude plums, a full collection of the best varieties of vegetables, and also a splendid collection of preserved and canned fruits and also canned vegetables."

To Control the Blister Mite

Experiments designed to control the leaf blister mite in apple orchards have been conducted by the Agricultural Experiment Station at Geneva, N. Y. The results are mentioned by Professor Lochhead on page 50 of this issue. Bulletin No. 306, recently received gives the following conclusions in regard to the work with lime-sulphur sprays:

"In the experiments with the sulphur sprays, comparative tests were made of the common lime-sulphur wash, a home-made concentrated mixture, and two commercial concentrated preparations of the lime-sulphur wash. Very satisfactory results were obtained in every orchard in which they were employed, and there was apparently no appreciable difference in the effectiveness of the various preparations on the mite when they were used under similar conditions. The measure of protection actually obtained showed, as would naturally be expected, some slight variations in the various orchards, which were probably due, largely, to differences in the standards of spraying of the fruit growers.

"In every test all trees that were thoroughly treated with a sulphur spray showed, in comparison with the checks, a marked diminution in the numbers of the mites, which in several instances resulted in almost complete destruction. The results show very plainly that one application during the dormant season, or as buds are bursting, affords efficient protection to the trees, and that the mite is not ever likely to be of importance in orchards that are annually sprayed with the lime-sulphur wash, a practice now common in many localities where the scale threatens."

An Attractive Offer.—Messrs. Dupuy & Ferguson, seedsmen, of Montreal, are making an attractive premium offer to those who purchase their spring supply of bulbs and garden seeds from them. By taking advantage of this offer, customers of the above firm are enabled to secure free subscriptions to THE CANADIAN HORTICULTURIST as a premium on orders given. The spring issues of THE CANADIAN HORTICULTURIST will tell you how and when to plant, and will give many useful suggestions on making your garden. If you are not already taking THE CANADIAN HORTICULTURIST, write to the above mentioned firm, asking for particulars regarding their special premium offer of free subscriptions to THE CANADIAN HORTICULTURIST. Mention this offer to your friends who intend having a flower garden next summer.

Change of Address.—Owing to the large increase in their business, Messrs. Wm. Cooper & Nephews have found it necessary to take a warehouse, and wish to notify the public and their customers that their new address will be Peterkin Building, 152 Bay Street, Toronto, where all communications should be addressed.

Judging Plate Fruit*

W. T. Macoun, Horticulturist, Central Experimental Farm, Ottawa

THERE should be some agreement as to just how fruit should be judged in the maritime provinces. You have quite a number of judges coming to your exhibitions and to meetings of this kind and each one seems to have a different idea of how fruit should be judged. One judge has one idea, and another, another idea. You never know how to put up fruit to be judged at an exhibition. It seems to me that at Truro, at the Agricultural College, an agreement could be made with the other provinces, on some methods of judging fruit on plates and also in boxes. A circular could be printed and published telling of the agreement as to how fruit should be judged at these exhibitions. I am simply giving you my idea and I hope we may have others who will give theirs also.

It seems to me that a plate of fruit should be judged largely from that standpoint and for that reason. I think that uniformity is one of the chief requisites, also freedom from blemishes, high color and thorough maturity. Large size is not so important as these.

FREEDOM FROM BLEMISH

When we sit down to dinner or breakfast, if we see some dirt on the tablecloth or some specks here or there we do not relish our dinner quite the same. The same thing suggests itself to me, when I look at a plate of fruit. We want an apple with no spots or holes in it and the stems should be left on every specimen, if it is possible to leave them on.

UNIFORMITY

The next thing is uniformity. If we have a plate of fruit with every specimen a different shape, it is not nearly as impressive nor as pleasant to look upon as a plate of fruit where the apples are all about the same size.

Professor Ross.—Why is so much importance attached to having the stems on the apples?

Ans.—I do not consider that of so very great importance; yet, in order to have the plate of fruit free from blemish, they should be left on.

Professor Ross.—Why not have a piece of the branch as well as the stem?

Ans.—That is rather a difficult question. I consider an apple looks better and keeps better with the stem on.

D. J. Stewart.—It is not one of the points of identification?

Ans.—Yes; it helps to identify apples. Some have short stems and others have long, slender stems.

Mr. Annear.—The stems might be all right for exhibition purposes but for ordinary use it would not be of any consequence.

COLOR

Mr. Macoun.—Now, the question of color is one of the important requisites in a plate of fruit and it is just a point for the judge to decide whether a rather poorly colored plate of fruit which is perfectly uniform would be better than a highly colored plate of fruit which were not uniform. These are points which the judge has to use his own discretion in deciding on.

SIZE

With regard to the size, it would only count about half as much as color, uniformity and freedom from blemishes. There is a limit to size. For instance, here is a

plate of highly colored fruit but it is too small for the variety, therefore, a plate of this size (of good size for the variety), not quite so highly colored takes the second prize, when this (illustrates with a plate of small specimens) does not take a prize at all. This is a point the judge has to decide. A good size for the variety (illustrates); that, to my mind, is a perfect plate of Kings. The color and form are good, and it is perfectly uniform. It takes first prize. We had considerable difficulty in judging the Kings, and the reason that these Kings got second prize is that they were not quite so highly colored and not quite so uniform as these apples.

MATURITY

Then, there is the question of finish or maturity (illustrates). Here is a plate that does not look matured, as if the apple had been picked a little too soon, or too green (illustrates). There is a plate of apples which got first prize where the skin has a slight yellowish tinge; at the same time, that is an apple which will keep and is a highly colored fruit, uniform and quite large enough for the variety.

POLISHING

Rubbing brightens the color but the judge should not take that into consideration because, if necessary, the judge can polish them himself and make both plates the same as regards the polish. You can tell whether they are polished or not. The judge would prefer not having the fruit polished because he is inclined to think that the man who polishes his fruit is trying to make it better than it really is.

A Burning Success for 20 Years.—In our churches, schools and residences, the special and patented construction of "Kelsey Warm Air Generators" makes it possible to have economical warming with proper ventilation. "The Kelsey System" means the supplying of large volumes of pure, fresh, warm air; not scorched, burnt, and vitiated air from which every vestige of moisture has been removed. The Kelsey fire pot and combustion chamber, being formed of long, hollow, corrugated sections, gives three times as great an area of heating surface and three times as much air circulation as that of the ordinary furnace with the same grate surface. All Kelsey users say that it is absolutely gas and dust proof, and that there is no radiation of heat in the cellar. The James Smart Mfg. Co., of Brockville, are the exclusive makers for Canada and employ heating engineers who furnish plans and estimates for the warming and ventilating of any kind of building. We draw your attention to their adv. in this issue. Any one having an apparatus that is not giving good satisfaction or who is contemplating the purchase of a heater cannot afford to decide without first investigating this remarkable system.

Show this copy of THE CANADIAN HORTICULTURIST to a friend and secure his subscription. We will extend your own subscription for six months for securing one new subscription, or for a year for securing two new subscriptions.

At the annual meeting of the Niagara Township Fruit Growers' Association, the election of officers resulted as follows: Pres., Wm. Armstrong; 1st vice-pres., H. C. Bradley; secy., W. O. Burgess; treas., Melvin Minthorn. On Feb. 5th this association held a reunion and oyster supper.

*From an address given by Mr. Macoun, at the last annual meeting of the P. E. I. Fruit Growers' Association. A discussion on this subject is invited. Send expressions of opinion to The Canadian Horticulturist.

Re Queen Victoria Park

Editor, THE CANADIAN HORTICULTURIST:—I notice in your January number in the editorial columns a severe criticism on the management of the Queen Victoria Niagara Falls Park, which I think deserves some attention, not wishing to cast any reflections on the management of the above park while under ex-superintendent Wilson, which I believe was satisfactory to those best acquainted with the facts. It seems to me it would have been better on your part to have enquired more carefully into the present management of the park and its requirements, before publishing such an article as above referred to, apparently on the *ipse dixit* of an ex-employee of the park.

I notice the following, "some positions have been created to furnish situations for party heelers." Allow me to state for the benefit of your readers that there is not a position in the park to-day that was not created and filled by the old board and after the written report of ex-superintendent Wilson, recommending such position to be filled. Mr. Wilson fully realized the increased area of the park extending as it does from lake to lake causing greatly increased responsibilities and work for the office staff; consequently, he recommended over three years since, the appointment of an assistant, which appointment was made by the board, and I am pleased to notice that you are the first person so far heard from questioning the wisdom of his (Mr. Wilson's) recommendation and pronouncing it unnecessary.

Your reflection on the present holder of the position of assistant-superintendent as only a "farmer" does not do credit to the publisher of a horticultural publication, and as for him having been a defeated candidate for the legislature only goes to show the respect and confidence in his ability,

entertained by a large portion of the residents of the county of Welland who placed him in the position. Your judgment pronounced upon the qualifications of the chief gardener is quite as uncalled-for and unworthy, as the contents of the green-houses and flower beds in season amply prove.

Another, "there is need for improvement in the personnel of the officials." I will

lar." I am quite safe in saying that you cannot find a disinterested person on either side of Niagara River who is or has been a frequenter at the park who will agree with you in that remark. On the contrary, scores of compliments have been showered on the staff for the excellent and in many places improved appearance of the park during the past season and that by men competent to judge.—A Citizen.

Better Results Every Year

Editor, THE CANADIAN HORTICULTURIST:—I consider THE CANADIAN HORTICULTURIST the very best advertising medium for anyone who has anything to sell to those interested in purely horticultural pursuits. Other mediums may secure business from a few local customers, but THE CANADIAN HORTICULTURIST has brought me orders from prominent fruit growers in all parts of Canada, from Cape Breton, N. S., to the Okanagan Valley, B. C. I have used your advertising pages for years, each succeeding year with greater and more gratifying results.—W. H. Vandenburg, grower of choice strawberry plants, Poplar Hill, Ont.

venture to say you have not the slightest acquaintance with a single park official, their qualifications or duties, except perhaps that heard from the aforesaid ex-employee who apparently is not noted for veracity.

Still another, "the rapid deterioration that has taken place in the appearance and character of the park in general, and of many plants, trees and shrubs in particu-

Queen Victoria Park Again

Editor, THE CANADIAN HORTICULTURIST:—Let me add a few words of appreciation to the stand you have taken about Messrs. Cameron and Wilson. I knew the latter but slightly, but paid Mr. Cameron several memorable visits at the park. From the first time he showed me over the park I realized that Canada had a beauty spot there and also a horticultural paradise, for Mr. Cameron was growing shrubs and trees there, hardy no where else in Canada (but the Pacific coast), and not reliably hardy south of Niagara for the breadth of a couple of states—a place to be developed to its utmost—for the education and enjoyment of Canadians.

Mr. Cameron had all that at heart, and was full of enthusiasm for the possibilities of his park. He filled his position dutifully and with competence. Whatever be the reasons for his dismissal, stand for it that his successor is in no way a lesser light.—B. C.

This magazine costs only 60 cents a year. Subscribe now.

If there is anything about this issue of THE CANADIAN HORTICULTURIST that you do not like, tell us about it. Suggestions are welcomed.

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New Horticultural Societies

Through the efforts of Mr J. H. Hare, the district representative of the Ontario Department of Agriculture at Whitby, new horticultural societies have been organized at Oshawa and Whitby. At the organization of the Oshawa society, Mr. A. Barber, of Bowmanville, introduced horticultural

society work to the members and at the Whitby organization, Mr. J. Lockie Wilson, Superintendent of Horticultural Societies, Toronto, pointed out the good that such a society might do its members, and also to the community in which it is located.

Officers for the Oshawa society were elected as follows: Pres., Mr. W. H. Tonkin; 1st vice-pres., Mr. R. J. Cowan; 2nd

vice-pres., Mrs. L. C. Smith; and a board of nine directors. The Whitby officers are as follows: Pres., Mr. E. Edmund Starr; 1st vice-pres., Dr. A. Adams; 2nd vice-pres., Mr. G. H. Hogarth; sec.-treas., Mr. W. A. Wilcox; auditors, Messrs. Jos. White and Geo. Robb; and a board of eight directors.



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Short Course At Guelph

A. J. Logsdail, Ontario Agricultural College

The short course in fruit growing given at the Ontario Agricultural College, Jan. 26 to Feb. 5, was replete with valuable information. Those in attendance were greatly pleased with the manner in which it was carried out, credit for which was due largely to Mr. J. W. Crow, of the college.

In an address on "Locations, Sites and Soils for Fruit Orchards," Mr. Harold Jones, of Maitland, brought out valuable points. Climatic conditions are modulated by the proximity of large bodies of water, deep water having a greater effect than shallow water. This modulating effect might extend from one to five miles inland, or to a height of some 200 feet above water level. Orchards should not be set on low ground where the cold air from surrounding areas would collect and settle at night, such places being always more susceptible to late spring frosts than higher ground. For apple trees a clayey or sandy loam, naturally drained, is the most suitable, but if the soil should indicate that it is in the least bit incapable of self drainage, artificial methods should be made use of, preferably before planting the trees. The old idea of planting on a N. or N.W. slope to avoid sunscald, is now being disregarded, because the lower headed trees are less susceptible to this form of injury. By a S. or S.W. slope a greater amount of direct sunlight is obtained and the effect of cold north winds is guarded against. Light soils freeze deeper than heavy soils; therefore, the roots of trees on such soils should be protected by either cover crops or a supply of humus in the form of some kind of litter.

Mr. W. H. Day, of the physics department of the college, gave an interesting lecture upon drainage and another upon the conservation of moisture in soils. In concluding he referred to several practical examples where farms in Ontario had greatly increased their annual output; in one instance, the resulting increase in crop paying for the drainage operations the same season.

Mr. W. T. Macoun, of the C. E. F., Ottawa, gave an interesting address upon the propagation of fruit trees and plants. He considered the newer method of low-headed trees to be a distinct improvement on the older system of high-heading, low-headed trees being more easily sprayed and pruned, the crop more easily and economically gathered, and the trunks and main branches of such trees being less likely to suffer from sunscald or splitting in stormy weather. He also stated that nurserymen would grow a number of trees in any particular way desired for their customers, if the orders were placed sufficiently early (say two years or even three) before the trees were required. Mr. Macoun emphasized the fact that many fruit men might, with but little trouble, raise their own stock, by which method they would know their young trees were true to name and taken from parent stock of good quality.

A short lecture upon the "Selection of Nursery Stock," was given by Mr. J. W. Crow. He emphasized the necessity for growers to know just what they were buying, and that to be led away by substituted stock, which was "just as good," often meant failure to the grower. Only a few varieties are suitable for any one locality

and to grow other than the varieties of the locality is a risky speculation.

An interesting talk on "Growing Strawberries for the Canning Factory," was given by Mr. S. H. Rittenhouse, of Jordan Harbor. He stated that about 90 per cent. of the strawberries sent to canning factories in his district were of the Williams variety. Its advantage to the grower is that it is a fruit of good size, fair quality, good color except for its characteristic green tip; it is a heavy cropper and a good shipper; the canning man likes it because of its color and because the fruit will preserve without breaking up.

Mr. Rittenhouse estimated the cost of growing an acre of strawberries to amount to about \$50, which includes rent of land, manure, cultivation, and so on. From each strawberry patch he takes two crops. He follows a system of selection when choosing plants for new ground, the new ground having been thoroughly prepared some time previously. Mr. Rittenhouse considers that the secret of success in growing crops for the canning factory is to grow what they ask for, and only try to grow the best, then they will offer top prices. Combination among several growers to grow the same crop is also a sure way of attracting the best buyers to a locality.

An address upon the subject of "Judging Fruit," was given by Mr. Macoun. He deplored the lack of a general system of judging fruit in Ontario. The adoption of such a system would do away with much of the general dissatisfaction now met with in many small shows and exhibitions throughout the province. Such a system is now being arranged in the maritime provinces. Ontario fruit growers should write and appoint a committee of reliable men to draw up a system of judging, a score card, or some such guide as similar as possible to

that in the maritime provinces for conscience sake, and have it circulated widely throughout the province, so that all growers would know what was required of them at exhibitions. He also contended that apples from widely separated localities should not be entered in one class, even if of the same variety, the differences often being so great as to handicap exhibitors from certain sections. He contended each section ought to exhibit only those varieties most suited to it.

Mr. Macoun considered that only one judge should be called upon to judge any class of exhibits. All responsibility would then fall on him and him alone. If he were a capable and competent man, he would be able to explain the reason of any action he might have taken. Throughout this lecture many valuable hints were thrown out, which caused an interesting discussion.

Mr. H. S. Peart, of the Jordan Experiment Station, gave a most interesting and comprehensive talk upon the best methods of cultivation and general attention for young orchards. He gave much useful information about the methods adopted by growers in sections that he had visited.

A part of the proceedings is reported herewith. The other features will be mentioned in the next issue.

Peach Trees on Plum Roots

A. M. Smith, St. Catharines, Ont.

The destruction of peach orchards for several years in the Essex peninsula by root freezing aroused the attention of planters to the necessity of providing some remedy or prevention for this loss. Cover crops and mulching were tried with some measure of success, but on account of the

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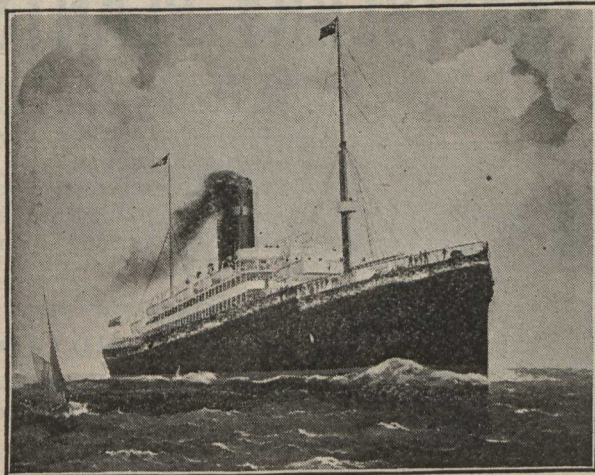
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light sandy soil, it was difficult to produce a good cover crop and mulching was expensive. The board of control of the experimental fruit stations was consulted. They

suggested growing the trees on something harder than their own roots as a remedy. They tried to purchase some trees budded on plum, but could find none, either at

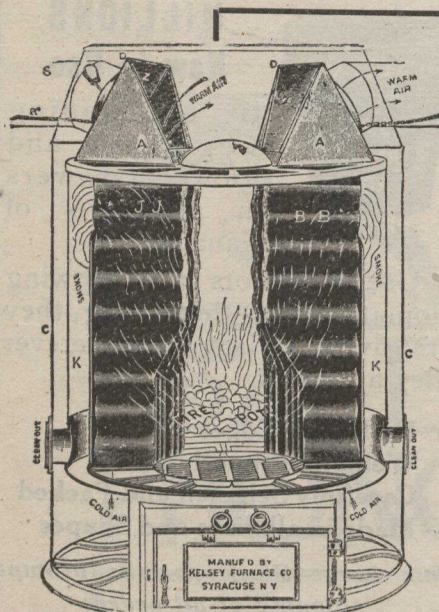
the nurseries in Canada or the United States; so, I volunteered to grow them some if they would furnish the stocks. Accordingly they sent me in the spring of 1907, 500 each of Americana and St. Julian plum stocks which were carefully planted. They made a fair growth and were budded in August.

The buds took fairly well and made a good start last spring, but about mid-summer, those on the St. Julian stock stopped growing and had quite a sickly appearance, (something like the yellows). I got only ten trees out of the entire lot big enough to plant this fall. Those on the Americana stock made a vigorous growth, quite equal to some alongside of them on peach roots. I got over 300 first-class trees out of the 500 budded. The St. Julian will have to be grown another year and it is not likely that it will ever be good trees.

If you want to grow peach trees on plum stock get the Americana. It remains to be seen yet how they will bear. The experimental stations will plant them next spring and test them.

Fruit notes are wanted for publication.

The use of Cooper's V1 and V2 Spraying Fluids last season against San Jose scale could only be regarded as an experiment. It must be conceded that in placing an altogether new remedy for so formidable a pest as San Jose, a considerable amount of experimental work was necessary, and it was for this reason the manufacturers refrained from pushing, to any great extent, the sale of these articles. From the experience of 1908, the manufacturers have learned so much that the use of their fluids in the coming season against San Jose scale will be no experiment, but will mean the application of a successful remedy.



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Tariff Matters—Fumigation

M. G. Bruner, Olinda, Ont.

At a meeting of the South Essex (Ont.) Fruit Growers' Association, the following resolution was passed: "Resolved that in the opinion of this Association it would be to the interest of the fruit growers the province over to have the Dominion Government remove the present duty that is imposed on the commercially prepared lime and sulphur solution, and on the arsenate of lead paste, which are now being prepared by different chemical companies in the United States, but as yet are not manufactured in Canada. And also resolved that the fumigation stations are no longer of any benefit, but rather an injury to trees being imported from the neighboring states, by the rough or careless handling the trees receive while passing through some of these stations; therefore, we ask the Government to remove the same, as there is a law in each and every state which compels every nurseryman to fumigate their trees before they leave the nursery." These same resolutions were passed by the Leamington Fruit Growers' Association at their last regular meeting.

I have had trees killed by the handling they received at the Windsor station in the spring of 1907. The trees had been undone to be fumigated and not properly re-packed. When they reached me the roots were as dry as straw.

The Essex county council appropriates \$25 each year to our association for the purpose of getting new fruits for the members to test as to the adaptability of our county to the growing of such new fruit trees or plants. As president of the association for the present year, I called for a report on the trees and plants at a meeting in January, and found that on an average about three-

fourths of the trees died. The cause was in almost every case laid to the fumigation; hence the above resolution.

Vegetable Growers Dine

The members of the Toronto branch of the Ontario Vegetable Growers' Association held a well attended and successful banquet in Toronto, February 9th. The principal speakers were Hon. J. S. Duff, Minister of Agriculture; Mr. J. Lockie Wilson, Secretary of the Ontario Association; Mr. Thos. Delworth, of Weston; H. B. Cowan of THE CANADIAN HORTICULTURIST; Mr. Jos. Rush, Humber Bay; Mr. R. J. Bushel, of Kingston, and Mr. A. McMeans, of the Ontario Agricultural College.

The president of the provincial association, Mr. Thomas Delworth, of Weston, announced that the Ontario association, this year, purposes conducting experiments in the growing of onion seed, to find which seed gives the best results in Ontario. Seed from France and California will be tested as well as Ontario grown seed.

Mr. J. Rush announced that the vegetable growers around Toronto during the past year, have erected greenhouses and effected other improvements in their grounds and buildings amounting to about \$500,000. He assured the young vegetable growers present that if they would devote their attention to growing the best possible vegetables without thinking of the money return, they would find that the money would come of itself.

As a result of a trip he had had to six of the leading vegetable growing states in the American union, Mr. A. McMeans, of Guelph, announced that more is being done in Ontario for the advancement of the vegetable interests than in any other state or province on the continent.

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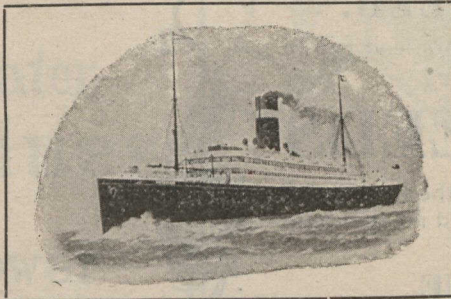
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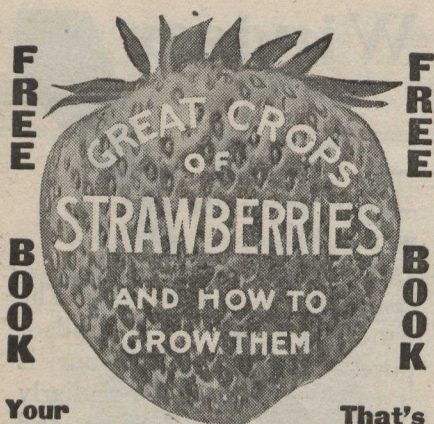
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NOTES FROM THE PROVINCES

Northern Okanagan, B. C.

The Northern Okanagan Valley is that section of the country lying to the north of Vernon and south of the C. P. R. It will average four miles in width by about 35 miles long and is an exceptionally productive strip of country. The soil generally may be described as loam; that is, we have a clay sub-soil, covered by a vegetable loam, varying from a few inches to a foot or more in depth. Generally speaking, as we get into the foothills, the soil gets to be of a much lighter character.

While fruit raising has not received as much attention as it has in the balance of the Okanagan, it is rapidly coming to the front and promises in the near future to be the leading industry of the whole valley. Every year, thousands of young trees are being planted, the varieties being confined

to a few of the best standard kinds. It is from end to end, a first-class fruit district. Apples, plums and pears do remarkably well. As a matter of fact, over-loading is one of our greatest troubles and as this is a general or mixed farming section, the orchards were looked upon as a side issue, proper attention in the shape of spraying, thinning fruit, and so forth, not being given them. This is a condition which, however, is rapidly changing and we may expect, in the future, to see well-kept orchards the rule instead of the exception. And why not, when we hear of comparatively young orchards yielding from \$2.00 to \$3.00 to as high as \$25.00 to \$30.00 to the tree? The promise for the future of the fruit grower is surely encouraging. Small fruits also do well. The writer knows of one case where \$300 worth of strawberries was sold off one-third of an acre of land.

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The fruit crop this year is good, but, on account of local conditions, the values obtained are lower than usual. Apples sell for 90 cents a box; pears, \$1.25 a box, and plums 50 cents per crate of 20 pounds.—“Farmer.”

Kootenay Valley, B. C.

Edgar W. Dynes

Maxwell Smith, Dominion Fruit Inspector, Vancouver, B. C., delivered an address at Nelson, some time ago and, after complimenting the growers on the high reputation that the district had attained for its fruit, reminded them that a reputation is an awkward thing in that it has to be kept up and urged all present to work towards that end. The subject of his address was “The Commercial Aspect of the Fruit Indus-

try.” He maintained that in selling and marketing the greatest difficulties would be encountered and outlined the methods of successful organizations with which he had come in contact and urged their adoption by the local association.

Mr. W. J. Brandrith, of Ladner, also delivered addresses throughout the district under the auspices of the farmer’s institutes. A new branch of the institute was formed at Nakusp and it already has a large membership.

Local nurserymen report a large demand for their stock and that they are already sold out of a number of the leading varieties. New settlers are coming in constantly and the prospects are that 1909 will see a material increase in the orchard acreage of the Kootenay.

Montreal

E. H. Wartman, Dominion Fruit Inspector

The fruit seasons of 1907 and 1908 will long be remembered by fruit growers and fruit buyers. A year ago apples were in large quantities on our fruit auction and selling from 90 cents to \$1.50 a barrel. Today the same varieties and packing are selling under the hammer from \$2.50 to \$4.50 a barrel. Can one imagine two greater extremes in 12 months?

To-day Nova Scotia apples are in our market and giving very good satisfaction as to quality and grading. Of course, they are short 10 to 12 pounds of Ontario barrels and look inferior in build to the Ontario eight-hoop barrel; yet, no one denies their strength to endure hardships on long jour-

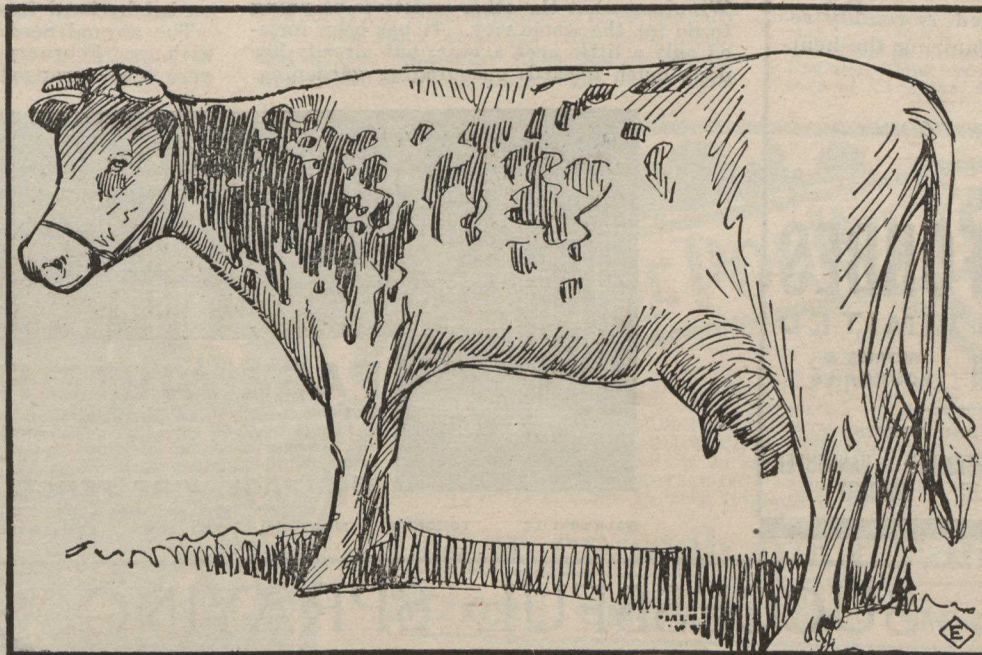
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FOR INSTANCE

December 12, 1908

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Yours truly,

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TORONTO CANADA

neys. I put my rule on some heading I removed for inspection and found it 1 1/4

inches thick, undressed. The varieties were Ben Davis and Spy.

After so many years of planting apple trees by the tens of thousands annually it seems most incredible that we have to pay 50 cents a dozen for choice Spys here to-day. I can remember 20 years ago when I purchased a 250-barrel lot of Prince Edward County, Ont., apples at 50 cents a barrel all picked and indoors, costing \$1.00 f.o.b. boat. The varieties were largely Golden Russets and Spy and fine quality at that. Also, 20 years ago in Kingston, Ont., in February, I bought bananas at 50 cents a dozen. To-day I can buy as good for 15 cents a dozen.

Pine apples to-day are as cheap as they are some years in June. We have had Florida strawberries since January; of course, only the rich can taste these at 75 cents a box.

A vigilance committee has been appointed to endeavor to see that every citizen keeps his back yard clean and to see that the weeds are cut and so forth. The officers are as follows: Pres., Henry Powells; sec., A. J. Richards; treas., H. E. Penny; executive committee, W. Gee, J. Day, R. Holland, J. Baker, H. Haroop and T. Hanford. In August last this association held an exhibition of vegetables, plants and cut flowers which was most successful. Further reports of the doings of these associations will appear in later issues.

Nova Scotia

Eunice Watts

The English market has been well supplied with apples, with the result that prices are considerably lower than when last reported. There are still several thousands of barrels in the warehouses, chiefly Ben Davis, Nonpareil, Golden Russet, Stark and Salome.

Although as yet Nova Scotia is not troubled with the San Jose scale, many leading growers believe that it would be beneficial to spray our orchards with the lime-sulphur wash which would cleanse the trees from canker worm eggs, scale insects and the like.

The pruning season has again arrived, and the sap is beginning to run, (Feb. 12). There has been very little snow on the whole. As soon as the sledding got good it has been washed away by violent rains. indeed some soft days in January and February have enticed the bees to fly out in great numbers. Such rains have been succeeded by hard frosts and much ice.

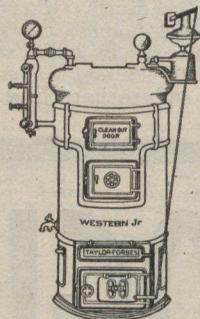
The annual Seed Fair took place at Berwick on February 24th. Public meetings were also arranged under the auspices of

Winnipeg

Besides the Western Horticultural Society, whose influence and scope of work covers all the western provinces and which has its head-quarters at Winnipeg, there are two local societies in this city that promise to do excellent work. One of these is the Home Gardening Association which was organized recently. Its president is Controller Waugh, and its secretary Mr. J. F. Blackwood. Its purpose is to promote the interests of horticulture and to aid in making the city of Winnipeg more beautiful.

The other society is known as the Weston Cottage Gardening Association, which is designed to accomplish for that suburb of Winnipeg what the other society is planning to do for the whole city. It has been formed only a little over a year, but already has done much towards encouraging gardening.

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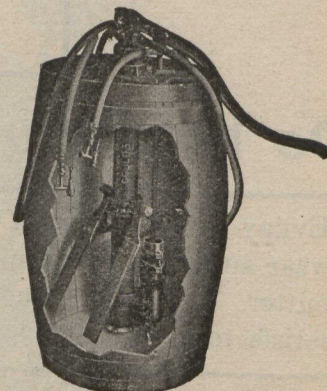
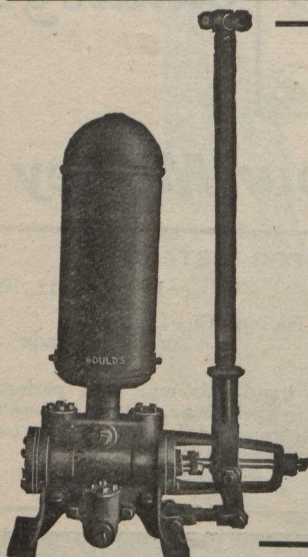
Have these essential points—they comprise the largest and most complete line on the market. Fruit growers will find it to their interest to send for catalog and to carefully consider the excellent points of superiority of the

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the Kings County Farmers' Association. Mr. W. H. Woodworth, an expert on spraying lectured at Avonport, Grand Pre, Gaspereau, Port Williams, Waterville and Morris-town.

The shipments of apples from Berwick station during the month of January amounted to 6212 barrels. A vinegar factory has recently been erected in Berwick, thus making another opening for inferior apples.

Handy Garden Tools.—Important factors in successful gardening are the Planet Jr. Farm and Garden Implements. They have revolutionized the slow, laborious old gardening and farming methods and have put them in the class of 20th century achievements. As an instance No. 4 Planet Jr. which is a combination hill and drill seeder, wheel hoe, cultivator, furrower and plow, is the most complete tool a farmer or gardener can have on his place. S. L. Allen & Company, Box 1106G, Philadelphia, Pa., who make these implements, have issued a handsome 56-page illustrated catalogue for 1909, which they are sending out to anyone interested in better farming methods and labor-saving devices.



Enclosed please find \$1.00 for renewal of our subscription to THE CANADIAN HORTICULTURIST for two years. We consider it well worth twice the price of subscription, and would not care to be without it, as we like to be alive to our own interests.—J. Bebbington & Son, Fredericton, N. B.

POULTRY DEPT.

Conducted by S. Short, Ottawa

This month, which is, for the average breeder, the first of the hatching season, it may be pertinent to speak of the importance of observing a few general rules which relate to how, when and where to hatch successfully. When it is considered that from the eggs which we set or incubate now depends wholly on whether in the following season we are to win prizes at the next fall and winter shows or if we are to raise healthy vigorous stock of good laying proclivities, it will be readily understood that some method should guide or direct our action.

The first matter to decide is, what are our wishes or aims for the coming year? Do we want prize winners or laying stock? Will we try pure-bred fowls or keep on the mongrels?

Many writers, more or less experienced, contend that exhibition stock is not profitable for utility purposes, that the constitution, shape and laying qualities are sacrificed for exhibition plumage, that in-breeding is practised to secure perfection in color or marking of the feathers. To some extent this is true, but not always. The writer has personally looked into the laying qualities of many notable winners and their progeny and in the majority of cases it has been found that the winning females have been remarkable layers. It is the custom nowadays for some breeders to advertise only exhibition stock and eggs from such stock, and if this particular stock has an exhibition record \$5.00 per dozen eggs is the usual

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PLANT AND STRAWBERRY BOXES.—We have a large quantity, and will sell them at "way down" prices. Order quick as they won't last long at the prices we ask. Wm. Rennie Co., Limited, Toronto.

YOUNG MARRIED ENGLISHMAN, abstainer, seeks situation; used to market gardening. A. Waller, Ontario Gardens, Port Hope, Ont.

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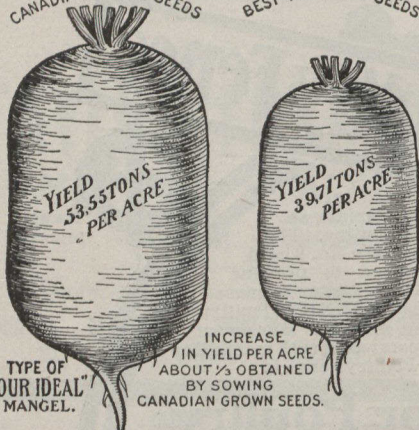
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PETERBORO, ONT.

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fee. Others advertise egg layers and utility fowl of the same breeds at \$1.50 to \$2.00 per 13. You can therefore "pay your money and take your choice." By asking for information from neighbors who have had experience with thoroughbreds and breeders who advertise extensively, knowledge of reliable breeders and the best breeds for the required purpose may easily be obtained. The writer recommends White Wyandottes as a thoroughly reliable utility breed and one very easy to introduce as they are generally bred in this province.

The question of "thoroughbred versus mongrel" has been so often enlarged upon that space will not now be taken up to prove what has so often been proved that, if fowls are worth keeping at all, thoroughbreds should be kept.

If the poultry-keeper has already laying pens of fowls and he intends setting eggs from his own fowls, observations through January and February will have shown him some of the best layers which should be marked by leg bands of some sort and these put in a pen by themselves until sufficient eggs have been procured for setting.

The simplest way to hatch is by incubator in a basement or room of even temperature. If hens are used, a dark room is best free from interference by other fowl. Late March and April are the best months for hatching for next winter's laying pullets.

Crop-Binding in Fowl

Editor, THE CANADIAN HORTICULTURIST: I have read Mr. Short's remarks in the November issue in respect to crop-binding

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in fowls. In my experience with this trouble, I employ no surgical operation. Try my way. Put the fowl's legs between your knees, hold firmly, keep the mouth up and open with left hand. Put the forefinger in the mouth and pour luke-warm water from a dipper into the crop until full. Then knead the crop until soft and stand up, holding the fowl, head down, in the right hand. With the left hand squeeze the crop. If the bird does not give up its load readily choke it somewhat and you will soon see the wheat, corn, oats and water scatter. Fill the crop again with water and empty the same way. If any grain still remains in the crop, repeat the operation a third time and then put a third of a teaspoonful of Rochelle's salts in a couple of tablespoonfuls of warm water and pour that down the throat. Put the bird in a coop by itself and in a few hours it will be the hungriest one in the flock. Feed soft food at first.

In filling the crop with water, don't pour for too long a period at a time. While treating a rooster in this way, he tried to breathe with the result that some water got into his lungs. There was a gasp and a gurgle, a kick and a struggle and there was nothing left for me to do but to plant him near a grape vine.—A. W. Graham, Elgin Co., Ont.

Naming New Strawberries

Editor, THE CANADIAN HORTICULTURIST:—I read your editorial in the January issue entitled "Name according to Sex." I think your idea is an excellent one. The only wonder to me is that somebody has not thought of it before. It certainly would be a means by which we could know the sex of strawberries without making special inquiry in the case of varieties that we were judging for the first time.

The idea is certainly worth being pushed horticulturally. As some of our other fruits also are proving to be self-sterile, the same idea might in the future, perhaps, be carried out in other self-sterile groups.—J. C. Whitten, Professor of Horticulture, College of Agriculture, Columbia, Mo.

Express your opinions on horticultural matters through the columns of THE CANADIAN HORTICULTURIST.



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The Brown-Tail Moth

A notice has been sent from the Central Experimental Farm, Ottawa, to nurserymen and to the press pointing out the possibility of the brown-tail moth gaining an entrance into Canada through the importation of nursery stock from Europe. Already this pest is to be found in Nova Scotia. To aid in controlling it there and in preventing its spread to other provinces from that and other sources, the following extract from the 1906 report of Dr. James Fletcher, late Dominion Entomologist, is reprinted:

"The brown-tail moth which has been the cause of enormous loss in Europe and the United States, is undoubtedly established in one locality in Nova Scotia and probably in several others. It is important to find out the range of infestation; and everybody is urged to send in any suspicious nests of insects, or clusters of leaves webbed together, particularly if they contain caterpillars, whenever any are noticed on their trees.

"The collection of the winter nests is the

best and easiest means of controlling this insect. The collection of these nests must be done carefully, with a little handling as possible and all should be burnt at once when cut from the trees. This work must be done before the buds burst.

"Any trees bearing nests of the brown-tail moth, after the buds have opened, must be sprayed with some poisonous mixture for the destruction of the caterpillars.

"The establishment of the brown-tail moth in Canada is a serious matter, affecting everybody in every district where the insects occur. What is now only a matter of considerable interest, may if neglected, become a public calamity. Specimens for examination may be sent to the Entomologist, Central Experimental Farm, Ottawa. If so addressed, no postage is required.

Free Alcohol.—The time has come to demand free alcohol. It can be made from potatoes for 20 cents a gallon, if not less. It is light, heat and motive power upon the farm and in the factory. It means great economy on the fruit farm. Canada will consume, at 20 cents a gallon, all the alcohol made from 500,000,000 bushels of potatoes. Potatoes can be grown at a profit in many places where no other can be produced.—Frances Wayland Glen, Brooklyn, N.Y.

The Kincardine (Ont.) Horticultural Society is offering an exceptionally good list

of premiums to its members this spring. In addition to any one of them that may be chosen each member is entitled to THE CANADIAN HORTICULTURIST, which is "the only journal of its kind published in the Dominion—a journal pure and clean as the air we breathe and a beautiful addition to the magazines upon the centre table."

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But a manure spreader is a still more valuable machine. Its purpose is to keep up the fertility of the soil. It is the machine you use *all seasons*, and the one on which the real usefulness of all your other farm machines depends.

If you have not already done so, you should consider now the advisability of having an I. H. C. manure spreader on your farm.

You will have choice of two different spreaders in the I. H. C. line—the Cloverleaf, endless apron spreader, and the Corn King, return apron spreader. Each of these spreaders handles the manure in all conditions perfectly and will give you long satisfactory service.

These spreaders are not ordinary. Their frames are made of air dried wood stock. They have serviceable, tractive power producing wheels, beaters that are unsurpassed for tearing the coarsest manure into the smallest pieces and applying it uniformly, aprons that deliver the manure to the beater with the least possible friction and

in a uniform manner. Any one of these machines will, if given proper care, last a lifetime.

The labor of spreading manure is greatly lessened by using one of these I. H. C. spreaders. Not only is the labor lessened, but it is changed into agreeable work.

But the strongest reason for using an I. H. C. spreader is the increased value you get out of the manure. The best authorities agree that manure spread by an I. H. C. spreader has at least double the value of manure spread by hand.

The I. H. C. spreaders pulverize and make the manure fine, and spread it evenly over the ground just as thick or as thin as may be required. The manure is placed upon the ground in a condition that is at once available for plant life. All is washed by the first shower into the soil—none is wasted.

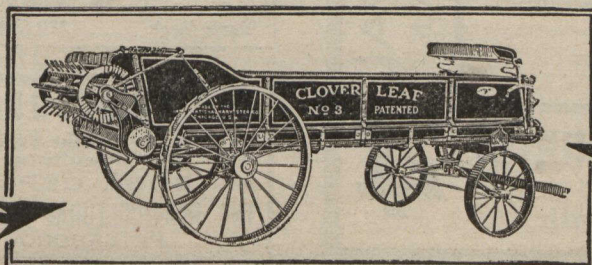
The good effects upon the crop are immediate and the permanent benefit to the land is greater than when the manure is spread by hand. There is no question but that land manured by an I. H. C. manure spreader will give an increased yield of from two to ten bushels per acre over land where manure is spread by hand.

Consider the labor saved, the more agreeable work, the better crops, the more fertile condition of the land—is not an I. H. C. manure spreader the machine you should have?

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Giving Seeds to Children

Among the many avenues of effort that are open to the horticultural societies, and that have been taken advantage of by many, is the distributing of seeds to school children. As the wisdom of this practice has been challenged occasionally, it is interesting to read the results of the work in St. Catharines, Ont. For the convention of the Ontario Horticultural Association held at Toronto in November, Mr. Jas. A. Wiley of St. Catharines prepared the following report:

"In 1906, for the first time, the St. Catharines Horticultural Society distributed seeds to the school children of the city to be grown by them, and, for the best bloom grown and exhibited, prizes were offered in the July and September exhibitions. Sweet peas and aster seed were chosen for distribution that year and since. The committee appointed to have charge of the distribution of the seeds secured the co-operation of the school teachers in placing the seeds in the hands of the school children. On a given day, each and every member of the school, who desired to try and grow the seed, were given a packet of sweet peas or asters as they chose and they promised to do their best. Culture directions were printed on the envelope containing the seed."

"While all the children who took the seeds did not succeed as was desired, yet the results in many cases were very gratifying. In July of that year 65 exhibits of sweet peas were made at the sweet pea exhibition, and in September 217 exhibits of asters were made. They reflected credit on the efforts of the children making them. The exhibits of sweet peas and asters for 1907 were equally gratifying and showed a marked improvement in the quality of bloom exhibited.

"The year 1908 was the best yet. The society not only distributed seeds to the city schools, but included Port Dalhousie, Merriton, Thorold, and Grantham and Louth Townships. Though this did not prove a good year for sweet peas, there were 63 exhibits at the exhibition in July and showed a quality equalling many of the exhibits entered by the adults.

"In the September exhibition there were 265 exhibits of asters by school children, the largest number of entries yet made, filling a space of over 260 square feet (and a little crowded at that). The asters showed such a marked improvement in quality and manner of displaying them that it was realized that the adults would have to look well to their laurels or they would lose them.

"The time is not far distant when the St. Catharines Horticultural Society will be receiving many members from the ranks of the school children, indeed some of them have become members already. Not only are to be noted the creditable exhibits and the membership that may result to the society through this work, but the vaster and more marked results are the improvements in the yards and gardens where school children are interested. Many an ugly weed patch has been turned into a spot of beauty, admired by all, and they have an influence on the child life. While at work and associated with the beautiful, cannot but make the child a better citizen. By all means interest them and educate the children in this work. It is worth the effort."

As a reader and contributor to various gardening periodicals of Great Britain, for the last twelve years, I find THE CANADIAN HORTICULTURIST a thoroughly practical paper, which no person should be without, if at all interested in matters horticultural. —A. V. Main, Pinehurst, Almonte, Ont.

4 FARM AND DAIRY 4

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4 THE CANADIAN HORTICULTURIST 4

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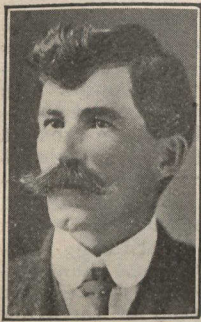
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London Vegetable Growers

When Mr. C. Wesley Baker, was elected president of the London branch of the Ontario Vegetable Growers' Association the voting was unanimous. The members highly honored a man eminently qualified to fill the position. As a grower of berries and vegetables he has been most successful. To Mr. Wm. Bartlett, Jr., who kindly furnished the accompanying illustration, Mr. Baker recently said: "I think it is a good investment for a gardener to join the Ontario Vegetable Growers' Association.



THE CANADIAN HORTICULTURIST, which he receives on joining, is alone worth the membership fee. I used to belong to the old London Gardeners' Association. When we affiliated with the Ontario Vegetable Growers' Association, we could not have done a better thing. Brothers Wistow, Ball, Deugate and McGinnis will confirm this. The future of the association is a great influence for the growers. Our picnics, banquets and meetings afford opportunities for the exchange of ideas. A great opportunity is open to members for their mutual benefit."

Vegetable Growers' Meeting

The annual meeting of the directors of the Ontario Vegetable Growers' Association was held Tuesday, February 10th, in the office of J. Lockie Wilson, Parliament Buildings, Toronto, with the president, R. H. Lewis, in the chair. Those present were Messrs. Delworth, Reeves, Dandridge, Rush, Sharp-ley, Mahoney, Baker, Fuller, Parsons, Chappus, Weaver, Bushell and Watts. The prizes for largest increases in membership were awarded to the London and Sarnia branches respectively. It was decided to offer similar prizes this year.

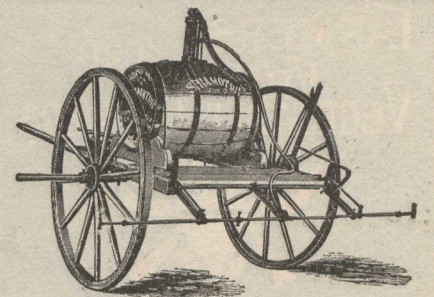
A communication was read from W. O. Sealy, M.P., S. Wentworth, together with a copy of a proposed resolution re increased protection to vegetable growers, also a copy of a bill respecting agricultural fertilizers, many clauses of which were declared unworkable. A committee of the president, and Messrs. McMeans, Reeves, and the secretary-treasurer were authorized to draft amendments and forward same to the Government.

Notice of motion was given by Mr. Reeves that at the next annual meeting the name of the Association be changed to read: "The Ontario Vegetable and Small Fruit Growers Association." It was decided that the branches continue the onion experiments this year.

Messrs. Delworth, Reeves, Mahoney and Sharp-ley were elected delegates to the Ontario Horticultural Exhibition of 1909, and T. Delworth as member of the nomenclature committee of the Ontario Horticultural Association.

The election of officers resulted as follows: President, T. Delworth, Weston; 1st vice-pres., F. G. Fuller, London; 2nd vice-pres., W. W. Parsons, Sarnia; sec-treas., J. Lockie Wilson, Toronto; executive committee, T. Delworth, F. F. Reeves, R. H. Lewis, and J. Lockie Wilson.

I appreciate THE CANADIAN HORTICULTURIST very much. I think it improves with every issue. I also thank you for your promptness in sending the paper.—E. Norman Howard, Simcoe Co., Ont.



OUR HAND SPRAMOTOR

No. 1 or No. 2

Mounted on a cart with strong, hardwood frame. 52-in. wooden wheels with iron hubs, steel axles. For one horse. All brass 4 row sprayer. Wheels and nozzles adjustable from 26 ins. to 36 ins. Vertical nozzle adjustment from rack 16 ins. Automatic vertical nozzle adjustment, brass spramotor. Ball valves, automatic compensating plunger. Mechanical agitator. Can be used for orchard, vineyard, mustard and potatoes, or painting and white-washing. Sold without cart as well. Prices from \$16.00 to \$50.00. Guaranteed for one year. Treatise on crop diseases free.

Heard Spramotor Co.

1061 King Street, LONDON, ONT.

Satisfied Customers from Newfoundland to B.C.

TREES, SHRUBS, ROSES, SEED POTATOES, ETC., IN VARIETY

THE PARSONS Co. write from Newfoundland "Trees came in fine shape. Well pleased."

HILL & HARVEY, of B.C., "The 1348 trees all planted, and must say they are the finest lot of trees we have seen."

MR. HARRIS, Ont., "I want to tell you the 500 peach trees are every one growing fine. My neighbor bought from an agent, 40 per cent. are dead."



Send for our prices for paying results, and order direct from

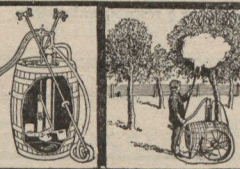
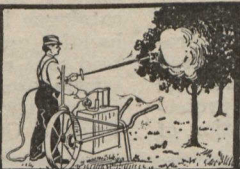
A. G. Hull & Son

The Central Nurseries ST. CATHARINES, ONTARIO

HURST SPRAYERS ON FREE TRIAL

NO-MONEY-IN-ADVANCE. PAY AFTER IT HAS PAID FOR ITSELF.

LET US SEND YOU ANY OF THESE SPRAYERS—to try for 10 days, then if you buy, you can pay us cash or we'll wait till you sell your crop, then you can pay us out of the "extra profit." We pay freight. Wholesale dealers' prices.



Man-Power Potato & Orchard Sprayer.

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

Horse-Power Potato & Orchard Sprayer.

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

Fitz-All Barrel Sprayer.

Fits any barrel or tank. High pressure, perfect agitation, easy to operate. Brass ball-valves, plunger, strainer, etc. Automatic strainer. No "cup leathers or rubber" about any of our sprayers. Furnished plain, mounted on barrel, or on wheels as shown. 3 year guarantee. It don't cost you "a cent" to try it in your orchard. Get one free. See below. Write today.

FREE

—Get a sprayer FREE.—After you have tried the sprayer and are satisfied that it is just as we recommend it, send us a list of the names of your Neighbors and we will write them and quote them price and have them call and see your machine work, and for every Fitz-ALL Sprayer we sell from your list we will credit you with \$2.00 or send you check if you have paid cash. For every Man-Power Potato & Orchard Sprayer we sell we will credit you with \$3.50 or send check. For every Horse-Power Potato & Orchard Sprayer we sell we will credit you \$8.50 or send check.

We do all corresponding and selling. All you need do is show the sprayer. Many have paid for their sprayers in this way. This offer is good for only the first order in each locality. Don't delay. Send the coupon or post card now. Ontario Seed Company, Ltd., 138 King St, Waterloo, Ont.


COUPON—Fill out and send today. This Coupon will not appear again.

ONTARIO SEED CO., Ltd., 138 King St., Waterloo, Ont. Send me your Catalog, Spraying Guide, and "special offer" on the sprayer marked with an X below. Man-Power Potato & Orchard Sprayer. Horse-Power Potato & Orchard Sprayer. Fitz-All Barrel Sprayer.

NAME.....

ADDRESS.....

FARMERS, FRUIT, AND VEGETABLE GROWERS



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

KINDLY ANSWER THE ABOVE

PURE BONE MEAL IS THE CHEAPEST FERTILIZER.

THIS PLANT FOOD IS ALL FROM OUR CANADIAN SOILS AND SHOULD ALL GO BACK.

SEND FOR PRICES, ETC.

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

FREE COPIES

Are you a regular subscriber for *The Canadian Horticulturist*? If not, fill in the attached coupon, and send it to us together with 8 cents in stamps to cover the cost of putting your name on our mailing list and mailing the paper to your address. We will send you **Free Copies** of the paper for **Three Months**. This is a special offer to introduce *The Canadian Horticulturist* among those not taking the paper, and is **not good for renewal subscriptions**.

Fill in this coupon and mail it to us with 8 cents enclosed. We will do the rest.

The Horticultural Publishing Co., Ltd.
Peterboro, Ontario

Gentlemen:

Please send me a free subscription to *The Canadian Horticulturist* for the next three months. I enclose 8 cents in stamps to cover cost of placing my name on the mailing list and of mailing the papers to me. It is understood that you will discontinue sending me copies of the paper at the end of three months if I do not become a regular subscriber.

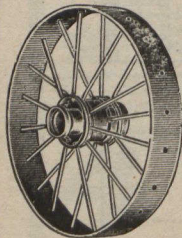
Name.....

Post Office.....

Date.....

GUARANTEED WHEELS

We guarantee our Low Wide-Tire Steel Wheels against any defect in material and workmanship. We guarantee they will not break in the coldest weather, or on rockiest road. It will pay you to learn more about these Guaranteed Wheels, so write for catalogue.



Dominion Wrought Iron Wheel Co., Limited
Orillia :: Ontario

Likes Metal Roofing

A contractor from the United States on his first visit to Canada recently, said that he could not help noting the extensive use of metal roofing on Canadian residences and barns. He said that he did not see why it should not be in even more general use, and predicted that a few years would see metal shingles adopted very largely in his own country.

"The advantages of metal shingles," he said, "are that when galvanized so as to meet British government specifications, rust cannot attack it in a life time. Such a shingle locking on all four sides, and so constructed that nails are protected from weather, is practically indestructible.

"We Americans like to think that Franklin discovered in the lightning rod a protection against lightning for all buildings. That honor really belongs to the metal roofing, however, because the lightning rod does not always protect, while in my experience I have never known a building completely covered with metal roofing to be destroyed by lightning."

It is interesting to note that the "Safe Lock" metal shingle, manufactured by the Metal Shingle & Siding Co. of Preston, Ont.,



Home of Mr. C. W. Killer, Preston, Ont.

Roofed with Safe Lock Shingles, and built entirely of sheet metal goods, made by the Metal Shingles and Siding Co., Preston, Ont.

completely fills the requirements of a perfect roofing as outlined above. The manufacturers say that it is the only shingle that locks with a positive grip on all four sides, protects the nails from weather, and meets with British government specifications for Admiralty and other public work. As for protection against lightning, the company gives a free lightning insurance policy protecting every building completely covered with Safe Lock Shingles. As spring with its heavy storms will soon be here this protection cannot fail to attract the attention of

all builders. Further facts can be gleaned from a Booklet "The Truth About Roofing," which will be sent free to all who write The Metal Shingle & Siding Co., Cedar Street Factory, Preston, Ont.

King Construction in Europe.—Messrs. Richon & Hermes, prominent horticulturists at Parame, France, have given a large order for King Construction greenhouses. This order has been secured owing to the up-to-date methods employed which have brought the King Construction into such prominent notice throughout the North American Continent. Other foreign negotiations are in progress so that it may not be long before several more greenhouses of the King pattern will be erected in European countries. This order is an important advertisement for King houses. The popularity of the King Construction is due mainly to its adaptability in building at reasonable cost per square foot of ground covered, large roomy airy and maximum light admitting houses, with a minimum of shade and unsightly purlin supports to the ground, at the same time so permanent as to last a life time with a minimum cost for repairs. The houses ordered by this firm are to be 42 feet wide, trussed roof in one span, having no support to the roof but the walls.

Hints to Fence Buyers.—As many of our readers have bought fencing that they were sorry for, we give the following hints: The "cheap" fence wears out a good deal quicker than better ones, and the loss in fence quality more than discounts the saving on the first cost. This all goes to prove that it pays to get a good fence. It takes time and costs money to repair fences, and the farmer who is immune from fence troubles is saving both. If you will read the advertisement of "Peerless" Fencing—"The Fence that saves Expense"—you will find out how a good fence ought to be made. Peerless Fencing is manufactured by The Banwell Hoxie Wire Fence Co., Ltd., of Hamilton, Ont., and Winnipeg, Man.

Hotbed sash should be ordered at once. See Batts, Limited, advt. on page V.

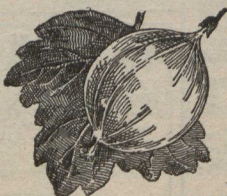
Our readers are reminded that the offer made by Wm. Rennie & Co. on page 45 of our February issue holds good until March 20, '09. Look it up.

To have high-class flowers and vegetables we must have good seeds. These can be secured only from reliable seedsmen such as John A. Bruce & Co., Hamilton, Ont., whose catalogue has just been received. This firm handles only those varieties and strains of seed that repeated tests have proven to give satisfaction. If you want seeds of the highest quality secure the catalogue of John A. Bruce & Co., and make your selections.

IF YOU HAVE APPLES OR POULTRY TO CONSIGN

we can handle them for you to advantage. If apples are in car lots, write us and we can sell them for you f.o.b. your station.

THE DAWSON COMMISSION CO., Ltd., Cor West Market and Colborne Sts. TORONTO, ONTARIO



SMALL FRUIT PLANTS

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

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

Western Horticulture

J. Cochrane Smith

The Western Horticultural Society held its 12th annual convention at the Manitoba Agricultural College, Winnipeg, on Feb. 18 and 19. The meeting was a most successful one. A number of valuable papers were read and discussed. In opening the convention, the president, Mr. A. P. Stephen-

son, of Nelson, Man., congratulated the society on the progress made since the last time of meeting and made special reference to the successful horticultural exhibition held in Winnipeg last September.

The question of restricting the work of the society to Manitoba alone and of changing its name to "The Horticultural Society of Manitoba" was discussed. After some argument the question was left in the hands

He Bought Her A 1900 Washer.

One of Our Readers Tells How Her Husband Learned

What Washday Means to a Woman.

Dear Editor:—Most men have no realization of what "wash-day" means to a woman. My husband is one of the best men that ever lived, but he laughed when I asked him one day to get me a 1900 Gravity Washer. I told him it would wash a tubful of clothes in six minutes. "Why, wife," said he, "a washing machine is a luxury. And, besides, there's no better exercise than rubbing clothes on a washboard. It's good for the back. I think we had better wait till we get the farm paid for before fooling away money on such new-fangled things as washing machines."



John's Busy Days.

That settled it. I gave up the idea and kept right on washing in the same old way. I confess I felt hurt, but I knew John had no notion how hard it was to do the washing for a family of five—three of them little tots. I am not very strong, and the washing with all my other work, finally got the better of me. I had quite a sick spell, and after things had gone at sixes and sevens for nearly two weeks, I suggested to John that he had better do the washing. We couldn't hire a girl for love or money and the situation was desperate.

So one morning he started in. My! what a commotion there was in the kitchen. From my bedroom I occasionally caught glimpses of poor John struggling with that mountain of dirty clothes.

If ever a man had all the "exercise" he wanted, my husband was that man! Couldn't help feeling sorry for him and yet it made me laugh, for I remembered how he made fun of me when I hinted so strongly for a 1900 Gravity Washer. When he finally got the clothes done and on the line he was just about "all in."

That evening John came to my room and said kind of sheepishly: "What's the name of the firm that makes those Washers you were telling me about?" I looked up their

advertisement and found the following address:

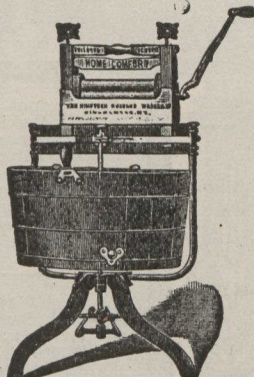
C. H. N. Bach, Manager
The 1900 Washer Co.,
357 Yonge St., Toronto, Canada.

That's all he said, but he lost no time in sending for their Free Washer Book. The book came in due time, and with it an offer to send the 1900 Gravity Washer on thirty days' free trial. My husband jumped at the chance to try the Washer without having to spend a cent. "We'll have four weeks' use of the Washer anyway, even if we don't decide to keep it," he said. So he told the company to send on the Washer.

It was sent promptly, all charges paid, and the 1900 Washer Company offered to let us pay for it in little easy payments. The next week I felt well enough to use it. It is the nicest Washer I ever saw, and it almost runs itself. Takes only six minutes to wash a tubful, and the garments come out spotlessly clean.

We were all delighted with the Washer, and wrote to the company that we would keep it and accept their easy payment terms of 50 cents a week. We paid for it without ever missing the money, and wouldn't part with the Washer for five times its cost.

If women knew what a wonderful help the 1900 Gravity Washer is, not one would be without it. It saves work and worry and doctors' bills. Take away all the dread of wash-day. I feel like a different woman since I have quit the use of the washboard. If any woman's husband objects to buying one of these labor-saving machines, let him do just one big washing by hand-rubbing on the old-fashioned washboard, and he will be only too glad to get you a 1900 Gravity Washer.



Anybody can get one on free trial by first writing for the Washer Book. Don't be talked into buying any other machine—there are many imitations, but none "just as good" as the 1900 Gravity Washer.

Excuse me for writing such a long letter, but I hope, Mr. Editor, you will print it for the benefit of the women readers of your valuable paper. Sincerely yours,
MRS. J. H. SMITH.

The secret of the easy operation of the 1900 Washer is in the peculiar "S" shaped links, which no other washer can have; then it has no iron to come in contact with the clothes, and also has a removable tub, which is a great convenience.

QUEBEC GROWN PLANTS

HEALTHY AND HARDY

The newest

Raspberries

by Express

- KING, best early, 75 cents per dozen, \$4 per hundred.
 - HERBERT, most productive, hardy, 90 cents per dozen, \$5 per hundred.
 - EATON, largest and most productive, \$1 per dozen, \$6 per hundred.
 - Cuthbert, Marlboro, London, Baumforth, 60 cents per dozen, \$3 per hundred.
- Mail postpaid 10 cents a dozen extra.

Strawberries

- SPRINGDALE BEAUTY, a fine early.
 - PARSONS BEAUTY, most productive market berry.
 - UNCLE JIM, the finest of the large berries.
 - WILLIAM BELT, best garden berry, and others.
- 60 cents per hundred, \$4 per thousand.
Mail postpaid 20 cents extra per hundred.

Send for price list and descriptions.

C. P. NEWMAN

Box 51, - Lachine Locks, - QUEBEC

FOUNTAIN PEN FREE

Send us \$1.20 to pay for Two New One Year Subscriptions to The Canadian Horticulturist. We will send you as a premium a 14 kt. Gold Fountain Pen. These pens are guaranteed to give satisfaction. A little work on your part will secure one.

The Canadian Horticulturist
PETERBORO, ONT.

China Aster Plants

FROM BEST SEED

- Queen of the Market,--white, early
- Queen of the Market,--pink, early
- 15 cents per dozen, 40 cents per hundred, postpaid
- Early Wonder,--white and pink
- Lavender Gem,--early
- Royal Purple,--medium early
- Vick's Branching,--white, medium early
- Vick's Branching,--white and pink, late
- 15 cents per dozen, 50 cents per hundred, postpaid
- Packed to go anywhere by mail.
- May be planted with good results until 15th June.
- Not less than 25 of one variety at 100 rates
- Orders received now will be filled in latter part of May and in early June.
- Please send postal note with order.

John Cavers, Oakville, Ont.

of a specially appointed committee. It seemed to be the feeling of the meeting that extension rather than restriction should be practised.

In the course of an address, Mr. Jas. Murray, Superintendent of the Brandon Experimental Farm, stated that, whilst the season of 1908 had not been eminently successful from a horticultural point of view, there had been some encouraging results at the farm from perennial flowers as well as vegetables. Apple trees suffered from blight. Plums and small fruits yielded fairly well.

A paper on "Shrubs and Trees Suitable for Planting in Saskatchewan," by Mr. Angus MacKay, of Inlian Head, was read. Extracts from this paper are published on another page of this issue. A more complete report of the proceedings of the convention and some of the papers in full will be published in the next and succeeding issues of The Canadian Horticulturist.

Free to Women.—A book that tells how to escape the drudgery of wash-day. It's just a little book—but one of those books with a message. A man might skim through its pages and miss the message. But any who reads the simple story, "Washing a Tubful in Six Minutes," will fully comprehend what it means. To her it means good-bye to the wash board for ever. Good-bye to the old back-breaking, nerve-straining method of washing clothes by hand-rubbing. For her it tells of a new and better way of doing the weekly washing. More tempers have been ruined, more complexions spoiled, more injury done to the health of womankind by the old way of washing than by any other kind of housework. The women of America expend enough energy over the washtub every week to move the machinery in a thousand mills and factories! Why this terrible waste of strength? Simply because, until very recently, inventive genius has been too busy devising labor-saving machines for men. Now, at last, a machine for woman's use has been perfected that almost runs itself. It is known as the 1900 Gravity Washer. Thousands upon thousands of these wonderful washers have been sold. They are doing the laundry work in homes all over the country. One of these 1900 Gravity Washers will wash a tubful of dirty clothes spotlessly clean in six minutes. The little book above mentioned tells all about them. It should be read by every woman, whether she does the washing herself or hires it done. A copy will be sent on sending address to C. H. N. Bach, Manager, 1900 Washer Company, 357 Yonge Street, Toronto, Canada.

Any of our readers who intend to buy strawberries this season should read the advertisement of Jas. E. Johnson, Simcoe, on another page of this issue.

The committee on revision of the prize list of the Canadian National Exhibition recently met in Toronto. Suggestions on improving the list will be gladly received by the committee. Fruit growers, gardeners and others interested in the horticultural features of the exhibition and who have suggestions to offer are requested to send same to Mr. J. Lockie Wilson, Parliament Buildings, Toronto.

THE CANADIAN HORTICULTURIST is a very welcome visitor to our home. I do not believe that we could get along without it.—Daniel Luesing, Grey Co., Ont.

I received a sample copy of THE CANADIAN HORTICULTURIST, and like it very much. Enclosed please find \$1.00 for a two-years' subscription.—J. B. Robinson, Yale and Caribou, B. C.

THE BISSELL ORCHARD DISK



A reversible disk harrow which can be used in the in-throw or out-throw form. Gangs can be set close or extended to reach under trees. Built in a variety of sizes for one or two horses, with immense capacity and the many good features of all Bissell disks. GARDENERS, FRUIT GROWERS, DAIRY FARMERS, WHEAT KINGS, RANCHERS, etc., find what they want in Bissell implements. Ask your agent to order for you, or write direct to the manufacturers.

T. E. BISSELL CO., Limited
DEPT. "N," ELORA, ONT.

None genuine without the name "BISSELL"



The old sweet "tunes" of childhood days.
The songs we all sang together in the long ago.
The songs which Mother sang, and we the chorus.
What would you not give to have the old songs back?

TRY THEM ON A

Gerhard Heintzman

SELF PLAYING PIANO

You cannot play? That matters not at all. You need no skill. You command it—all—the old-time music which never grows old—the new music of the passing days—the serious music which nothing could replace.

This, the only self-playing instrument made in Canada playing the complete keyboard. Send now for our beautiful self-player art booklet.

SPECIAL OFFER

A self player, very little used, cannot be told from new, all our patent improvements and fully guaranteed. Write at once for price and terms. Your present instrument taken as part payment.

Gerhard Heintzman, Limited
97 YONGE STREET, TORONTO.
Hamilton Salesrooms: 127 King St., E.

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

SAVE HIRED HELP

Only One of Many Iron Age Tools

IRON AGE

The most complete tool made



BATEMAN MFG. CO., Box 516-C, GRENLOCH, N. J.

About British Columbia

Editor, THE CANADIAN HORTICULTURIST: In the February issue of your publication, I noticed an article under the heading of "British Columbia" written by Mr. M. J. Henry, which I am inclined to think may prove misleading to many of your readers, and do a great deal of harm to the province of British Columbia, inasmuch as intending settlers might think from the heading of the article that the statements made by Mr. Henry applied to the whole of the province.

Far be it from me to suggest that Mr. Henry's remarks are incorrect when applied to his own district of Vancouver, for I have personally never visited that part of the province, but his remarks as applied to the whole of British Columbia are, I venture to say, incorrect and altogether misleading.

For instance, in the Kootenay district, where I resided some time and where I own a 10-acre tract of fruit land, I am in a position to say, that though this land is now recognized as one of the best fruit growing districts in British Columbia, good land is

still for sale there are \$100 to \$125 an acre, and land which is well located and has the best of transportation facilities.

The clearing of the land I refer to can be done by contract from \$35 an acre upwards, and I have never heard of it exceeding \$80 an acre. Mr. Henry from his article would lead one to believe that a settler could secure no returns from his land for two or three years, I personally cleared land in the winter and having planted it in the spring with vegetables, etc., secured very fair results the same fall.

Whilst the amount which Mr. Henry mentions as capital for a fruit grower, viz., \$5,000 to \$10,000, would be very helpful, I state most emphatically that half the amount would be adequate for a settler to commence on in most localities, and such statements as Mr. Henry's, if taken to apply to the whole of British Columbia, can only have the effect of deterring many good prospective settlers, with moderate, though sufficient capital, from coming to the province.—R. M. Lane, Winnipeg.

Fruit growers and gardeners can secure an excellent booklet on how to spray, when to spray and what to spray for, by applying to the Goulds Manufacturing Co., Seneca Falls, N.Y. The catalogue of this firm tells all these things and gives also formulas and directions for making all the standard spray mixtures. It contains much information of practical value. See the advertisement of this firm on another page of this issue.

Washing Without Rubbing
 No work—no tired arms—when the washing is done with
"PURITAN"
 Reacting Washing Machine

Grandmother, or any of the children, can do the entire week's wash in an hour with the "PURITAN" It is the only washing machine made in Canada that has the Improved Roller Gear. Write us for booklet if your dealer does not handle the "PURITAN". Don't take a substitute—there are none "just as good".

DAVID MAXWELL & SONS - St. Mary's, Ont.



38

Get more out of your garden

Use the Planet Jr. Combination Garden Tools, and you'll do better work; save two-thirds your time, and get a better yield.

There's nothing like a Planet Jr. for profitable gardening or farming. Made by a practical farmer and experienced manufacturer. Fully guaranteed.

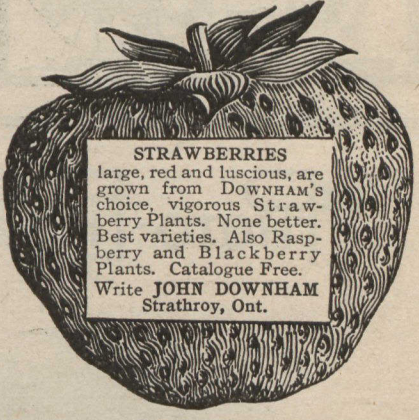
No. 4 Planet Jr. Combined Seeder and Wheel-Hoe saves time, labor, seed and money. Almost all useful garden implements in one. Adjustable in a minute to sow all garden seeds, hoe, cultivate, weed, or plow. Pays for itself quickly, even in small gardens.

No. 12 Planet Jr. Double-Wheel Hoe, Cultivator and Plow, the handiest implement ever made for truckers and gardeners. All cultivating parts are of high-carbon steel to keep keen edge. Specially designed to work extremely close to plants without injury.


Write for our 1909 free illustrated catalogue which describes 45 Planet Jr. implements, including Seeders, Wheel-Hoes, Horse-Hoes, One- and Two-Horse Riding Cultivators, Harrows, Orchard- and Beet-Cultivators.

S. L. ALLEN & CO.
 Box 1106G Philadelphia, Pa

Planet Jr. Garden Tools
 Write for the name of our nearest Agency.



STRAWBERRIES
 large, red and luscious, are grown from DOWNHAM'S choice, vigorous Strawberry Plants. None better. Best varieties. Also Raspberry and Blackberry Plants. Catalogue Free. Write JOHN DOWNHAM Srathroy, Ont.



FOR ORCHARD POTATO MUSTARD OR SURFACE SPRAYING

there is no sprayer equal to our Latest Model Horse Power

SPRAMOTOR

As a vineyard sprayer it stands supreme. Catalogue tells all about the Spramotor and its triumphs. Write for it.

HEARD SPRAMOTOR CO., 1067 KING STREET LONDON, ONT.

SUPERIOR RUBBER & STEEL MFG. CO. LIMITED STAMPS STENCILS SEALS &C.
 93 CHURCH ST. TORONTO.

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Well Pleased.—“ I have received your excellent fountain pen, which was sent me for securing two new subscriptions to THE CANADIAN HORTICULTURIST. I must thank

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The Imperial Bank has recently opened a branch at Elk Lake, Montreal River District. This is another evidence of the progressiveness of this up-to-date institution.

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Every Safe Lock Shingle is made to meet the rigid requirements of the British Government for Admiralty and other Public Service



to proper size for Safe Lock Shingles.
—The only shingle with galvanized edges.

—The only shingle sold with a positive protective guaranty against lightning, backed up by a free insurance policy signed and sealed by the manufacturers, the Metal Shingle & Siding Company, a \$200,000.00 Canadian corporation.

Every Canadian farmer who expects to put up a new barn or house or to re-roof old buildings is directly interested in this extraordinary free offer.

Think of it! A straight-out lightning insurance policy free from conditions of any kind. It is the most liberal roofing offer ever made to Canadian farmers.

Insurance records show that one-half the fire losses on barns in Canada result from lightning. The property loss in these cases amounts to many thousands of dollars every year.

Safe Lock Shingles have been on the market for more than ten years, and in all that time no building covered with them has ever been harmed by lightning.

This proves to us that Safe Lock roofing is a positive guaranty against lightning.

Anyway, we are willing to show our faith in Safe Lock Shingles and will protect you from lightning without one cent additional cost to you, directly or indirectly.

Safe Lock Shingles are sold at the same price as shingles known to be inferior in quality of steel, galvanizing and construction.

Safe Lock Shingles lock positively and securely on all four sides. They cannot be blown off, nor can they be pulled apart through the warping of the sheeting, or in any other way.

And remember this—
No other shingle is a Safe Lock Shingle.

Safe Lock Shingles can be found in every part of the Dominion of Canada where they have been subject to storms of all degrees of severity.

No building covered with Safe Lock Shingles has ever been unroofed.

We want you to know what some of the users of Safe Lock Shingles say of them.

R. T. McLAUGHLIN, Fair View Farm, Alba, Ont.—“The ‘Safe Lock’ makes your shingles absolutely wind and water proof. They are the best shingles on the market to-day.”

F. B. DOUD, Branchton, Ont.—“The Galvanized Steel roof is apparently as good as when put on in 1898. The ‘Safe Lock’ Shingles make a lasting, storm-tight roof, and give clean cistern water. “I am satisfied that I put on a good roof.”

W. J. McPHERSON, Berryton, Ont.—“The ‘Safe Lock’ Shingles that I purchased from you ten years ago have given splendid satisfaction. The roof has never leaked a drop, and they seem to be just as good as the day they were put on.”

J. C. PAYNE, Cayuga, Ont.—“It must be ten years now since I bought the metal ‘Safe Lock’ Shingles, and up to this time I have no reason to regret their purchase. We have had wooden roofs put on since which are open in spots from the splitting and shrinkage of shingles. No difficulty, so far as I have noticed at least, has arisen with your Metal Shingles, and the roof seems compact and durable. So far as I have been able to see, I have seen no wear or injury to the shingles during the ten years’ use, and cannot see but that the roof is just as good as when it went on.”

MURDOCK McKENZIE, Bear Line, Ont.—“The ‘Safe Lock’ Shingles have never given me any trouble, and they appear to be as good to-day as the day I put them on. I am well satisfied with them, as I believe them to be the best roofing that can be used on barn buildings.”

GEO. HARDY, Ashgrove, Ont.—“It will be eight years in June since the barn was shingled. I never had any trouble with it in any way, and it appears to be as good as when put on. I have been recommending your shingles as the best that can be got.”

MRS. JAMES STEWART, Pendleton, Ont.—“In reply to your letter asking about shingles I bought from you over five years ago. I looked the roof all over to-day, and they seem to be in as good condition as when they were put on the roof. The shingles don’t seem to be any the worse for wear, and they will last for years.”

Send to-day for our book, “The Truth about Roofing” and full details of our Fire Insurance Policy payable in cash if your Safe Lock Roof is damaged by lightning.

The Metal Shingle and Siding Co. Ltd.

“Roofers to the Farmers of Canada”

Cedar Street Factory, Preston, Ontario

Branch Factory, Montreal

CUT OFF THIS COUPON AND MAIL TO US

THE British Government requires all galvanized steel roofing for Admiralty or other public work to be of specific grade and to be capable of withstanding a certain acid test.

The acids used for this purpose are strong enough to burn the skin off a man’s hand, and yet the galvanizing must be heavy enough to withstand their action for a definite period.

Exposure to wind, rain and snow for a quarter of a century is much less destructive than this acid test.

Yet every Safe Lock shingle is guaranteed to meet the Government requirement in this and all other respects.

No wonder that those who have used Safe Lock Shingles declare that they will last as long as the buildings they protect.

Safe Lock Shingles are the only shingles that actually lock on all four sides so that they cannot pull apart.

Shingles which do not lock on four sides are not Safe Lock Shingles.

Again: Safe Lock Shingles are the only shingles that completely protect the roofing nails from weather.

—The only shingles that have three thicknesses of steel along the upper edge of lock, thereby doubling the strength along the line of greatest strain.

—The only shingle galvanized after the sheets have been accurately cut

My Roof measures.....ft.....in. long.

The Metal Shingle and Siding Company, Limited

Cedar Street Factory, Preston, Ontario

Please send me your booklet “Truth about Roofing,” with full particulars of your Free Safe Lock Lightning Insurance Policy.

I expect to build..... Kind of Building.....

Size of Roof..... If interested in any other Metal Building Goods please state such fact here.....

Name.....

P.O..... Province.....

Give length of roof along ridge; also distance from ridge to eaves, and we will send approximate cost of a Safe Lock Roof.ft.....in.

My roof measures.....ft.....in.

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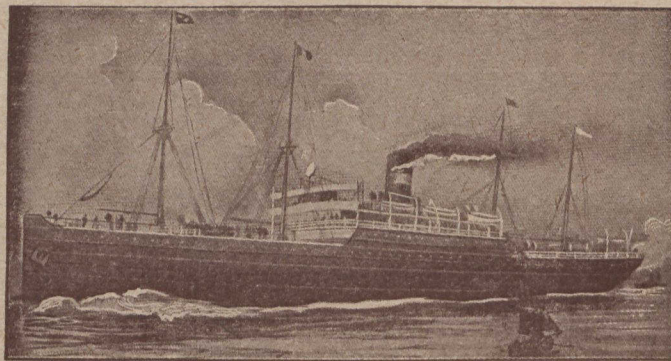
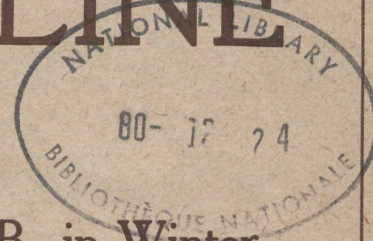
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