

BRITISH COLUMBIA

FRUIT *and* FARM

MAGAZINE



Vol. IX., No. 2

FEBRUARY, 1917



HARVESTING THE CROP

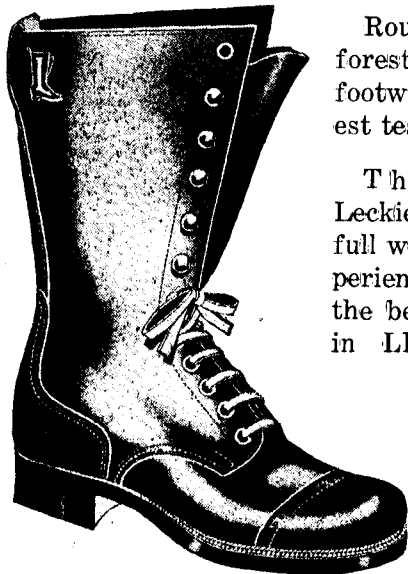
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Although early yet, the wise planter does not wait until his neighbors' trees begin to bloom, but plans out and orders in time what will be required and thus secures the special varieties and size of stock he wants. Now is the time to place your orders and we either will ship at once or reserve the stock you specify until you are ready to receive it.

We have all the Fruit Trees and Small Fruits in best assortment and large quantities. In addition we grow Ornamentals: Shade Trees, Flowering Shrubs, Roses, Climbers, Evergreens, etc in endless variety, and all sizes, and of strictly first-class quality to choose from.

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Established 1890.

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BRITISH COLUMBIA

Fruit and Farm Magazine

A Monthly Journal Devoted to the Interests of the Man on the Land.

Vol. IX.—No. 2

Vancouver, British Columbia

\$1.00 per year
in Advance

The British Columbia Fruit Growers' Association

The Association's Record in 1916

A short summary of the work done in 1916 by the B. C. Fruit Growers' Association has just been issued. It is evident that the association is continuing to perform a very useful function in the development of the industry with which it has now been connected for 27 years. The summary is as follows:

Express Transportation—Reduction in the carload minimum on berries, from 20,000 to 17,000 lbs. per car, was secured. This effected a saving of \$60 per car express charges. The association has worked hard for the Unloading-in-Transit privilege, and has good prospects for securing this for 1917.

Another advantage secured is the joint through tariffs on express shipments to C. N. R. and G. T. P. points on the prairies at a reduced rate. The reduction of 20 per cent on the rates from the transfer points will affect savings of thousands of dollars on express shipments to the great numbers of fruit consumers on these newer lines. A reduction of 10 cents per 100 lbs. to Coast points from Penticton and Summerland was also granted by the Dominion Express Co., on the association's representations. Favorable L.C.L. rates to Kenora, Ont., etc., were installed on the association's request. The Canadian Northern Express also granted Chilliwack the same rate as Harrison and Mission, a reduction of 25 cents per 100 lbs. These individual items taken altogether, work out a very considerable benefit to the industry. In this connection it might be noted that the Dominion Express shipments of B. C. fruits and vegetables for the past season were practically as great as in 1915, despite shorter crops of many kinds of fruits, indicating the usefulness of the association's work of the past year, and the past eight years, along these lines.

Labor—The association made a survey of the labor situation in April, through its directors, and took steps through the season to assist the situation. Authority was secured from Ottawa to import skilled fruit packers from the United States. Harvesters' rates from Coast cities were obtained and were used to quite an extent. The association also secured, through Col. Duff Stewart, permission for two weeks' additional harvest furlough for soldiers at the Vernon Camp, and this help came at a critical time.

Price List—The association's price list of spray supplies at wholesale rates was made use of to quite an extent, especially on Vancouver Island.

Market Reports—All members were sent the weekly reports of the Prairie Market Commissioner, 22 in all; and to all Coast

and Island members, and such interior members as requested them were sent the 28 reports issued weekly by the Coast Markets Commissioner.

Annual Report, etc.—A copy of the Annual Report was sent to each member. A copy of the 80-page booklet—"British Columbia Fruit"—was also mailed to each. At the conclusion of the season each member was sent a copy of the booklet (36 pages) "Advertising B. C. Fruit," 1916, which reported on the details of the big campaign.

Sale of Goods Act (B. C.)—The Association contributed its influence to the passage of this measure, which is designed to protect the shipper in respect to consignments to commission houses in B. C.

Irrigation—The Association's resolution on government action in respect to irrigation system has been met to, at least, the extent that all systems were operated during the season. The question is not permanently or finally settled, however and the Association will doubtless be instructed by its members at the Annual Meeting.

Dominions Royal Commission—The Secretary presented evidence to this Commission, on behalf of the Association urging especially reciprocal and preferential tariffs on fruit within the Empire. The Secretary also accompanied the Commission on its tour of fruit districts of the Province.

Standardization of Packages—The last Annual Meeting endorsed the principle of standardization and appointed a committee to work out a report; a copy has been mailed to each member. This report is to come before the Annual Meeting. This is an important question, and it is possible that the convention may be able to reach a conclusion.

The Tariff Question—The Association's efforts, extending over a number of years past, were at last successful in securing an increase of duty on apples imported into Canada. The need for protection against the over-production and bankrupt stock condition of the market was not, of course, known or understood by the consumer, apparent though it was to the apple-growers.

The Association had anticipated misunderstanding and objection by consumers. During the past year, therefore, the Association has, by meetings and correspondence, endeavored to promote a better understanding of the situation. It is gratifying to report that prejudice and lack of information have been to a large extent overcome. In fact, the Association's efforts are not unlikely to bring about a very much better understanding with consum-

ers, especially those of the prairie farmers' organizations, than has ever before existed, and this should lead to mutual benefit.

Summer Meeting—The Association held a mid-summer meeting at Penticton, July 20-21. The opportunity to get acquainted with the Association was welcomed by a large number of fruit growers, and a useful meeting was held. The Annual Meeting is to decide whether, and where, the next Summer session will be held.

Change in Constitution, etc.—The Association, at its last Annual Meeting, made some important changes in its organization, of which the members have already been advised. It is important to note that all the members now have opportunity to express their views on the nomination of directors. The membership is also put on an absolutely equal basis, the affiliation of Associations being abolished, the fee \$1.00 to all members, and all members, instead of those in affiliated associations, may participate in the naming of delegates to the Annual Meeting.

Advertising—The advertising campaign of 1916 was the most extensive yet conducted by the Association.

Funds for advertising were obtained: First, \$2500 from the Provincial Government's grant to the Association; secondly, \$1000 from the Dominion Department of Agriculture, through Hon. Martin Burrell; and, third, about \$1000 in contributions from fruit growers and shippers. This is the first season in which the growers have contributed to any great extent to the Association's valuable advertising work.

The advertising started with the strawberries, and concluded with Winter apples. Most of the farm journals and daily newspapers of the Prairie Provinces, and some in B. C., were used; 30,000 copies of a revised edition of the 80-page booklet, "B. C. Fruit," were printed, published and distributed; 100,000 copies of a slip, giving directions for preserving without sugar were also put into circulation. A number of circular letters about the fruit crop, etc., were sent to 4200 retailers in the prairies. The B. C. Apple Show at Calgary, in October, was a very useful feature of the apple publicity.

Altogether, the advertising campaign was very good, and did most useful work in "boosting B. C. Fruit."

Our growers must not forget that our fruit crop increases at the rate of about 500 carloads a year. In 1920, the crop will have increased to two and one-half times the present crop. The markets must be expanded to take care of it all; and advertising is a great help.

Increase the Milk Production of Your Herd

The "dead line" of milk production per cow throughout the whole of Canada is 4,000 lbs., and the possible line is 20,000. It has been said on many occasions that the agriculture output of the country could be practically doubled without adding an acre to the area under cultivation, and there is no doubt that it could be done. The difference between the actual milk production and the possible is convincing evidence that in dairying at least there is great room for improvement.

Last year one of the leading live stock professors gave an interesting account of a Canadian dairy he had visited. This farm was run on strictly business principles, and was making good profits. The herd had been built up on the best dairy lines. The cows were regularly tested and the "incompetents" eliminated. Gradually a model herd of 200 milkers had been obtained, their average production being 10,000 pounds of milk per year. And the goal had by no means been reached, for that owner aims to have in a few years a herd of 600 cows of at least the same high average. This herd of 200 cows were producing as much as 500 average Canadian cows.

This is real dairying. It is the kind of dairying that has made money for the Danish and Dutch dairymen on the poor sandy soils of the North Sea Coast, and in some of the central counties of England. This progressive Canadian dairyman will get his 600 cows and will make them give him 10,000 pounds of milk each, and he will not be satisfied then. He will then be setting his mark higher, and will perhaps be aiming to get an average of 15,000 pounds per cow. And why not? There are some cows in Canada producing as high as 20,000 pounds. Why should a man not aim at having the largest herd of big producers? He can do it by selection, breeding, feeding and care.

An Interesting Occupation.

And what an interesting and attractive undertaking! It is just as interesting an occupation as any man in the world—making shells included, and is of as prime importance at the present time as even the making of shells. Cheese and butter help to keep the fighting men alive and also to pay for the shells, and perhaps if we can get this idea into the minds of the men and women in Canada who are dairying, the production of milk and cheese and butter may assume a new interest in war time. The efficiency of a dairy herd under an expert manager is of as great importance as a field battery in the hands of a Canadian major.

If the dairy herd is not rising above the 4,000 pound mark there is something wrong, it is inefficient, and incompetence or lack of energy is likely to be the root of the trouble in the average case. If the average 4,000 pound level was raised to 5,000 pounds it would mean an increase of over \$35,000,000 in the value of the milk products of Canada. Surely something worth while. Sometimes we read in the press the story of the growth of a great business in some town or city. A discarded by-product or an overlooked resource is discovered and a process applied whereby it is made useful. There is the picture of

the modest little factory in which the business started, and alongside the massive modern buildings, marking the tremendous growth. Then there is, perhaps, the picture of the man back of the whole thing, and an estimate of the fortune he has made. What attention this attracts, and how it stirs the farm boy to go out and also "do things," especially if the doer of the things in the story was born on a farm in some remote country town. Alas! What fuller and more interesting problems of real life he left back on the old farm! It all depends on the viewpoint, the insight and the inspiration.

What the Result Would Be.

Let us do a little figuring, and we won't need to put any imagination into it either. Suppose we could direct the inclination and work of ten thousand boys on the farms of Canada. Give each of them a herd of ten average Canadian cows—the 4,000 pound breed. This will mean a production of 40,000,000 pounds of milk a year. We set them to work and year by year the averages rises to 5,000 pounds, to 6,000 pounds, to 7,000 pounds and finally to 10,000 pounds. The yearly product will then be 100,000,000 pounds. And see all that is involved—the evolution of the living machines, the gradual increase in the product, the improvement in the buildings, the development of a real home! And this suggests that this will be a partnership affair—a company. What will the farmer's wife be doing all these years? Is there any city manufacturing business where the manager and his wife co-operate in the same way as do the dairyman and his wife? This puts a new aspect on the matter, adds to it new interest, enlarges the world in which business is being carried on. No, there is nothing in town or city which is just like it. It is growing business full of life and thought, a home co-operation, and an increasing of national production all in one. Such a thing is a dream. It is easily possible. How can it best be brought about? That is something worth thinking about. Do your own thinking on it. Discuss it with some of your neighbors. Consult the government instructors. Give it real serious consideration, and then start in to raise the 4,000 pound record of your cows to 5,000 pounds, the 6,000 to 7,000, or the 9,000 to 10,000. Success in agriculture lies largely in "getting above the average line," whether it is with a dairy cow, a field of wheat or a laying hen.

FOR SALE

Shetland Pony, Stallion, dun color; age, rising six years, (imported); quiet to ride or drive; also brown harness, brass mounted; and small Democrat wagon, almost new.

This outfit is very pretty and stylish, just the thing for a boy or girl fond of animals.

For price, etc., apply

E. OSBORNE, Mission City, B. C.



Synopsis of Coal Mining Regulations

COAL mining rights of the Dominion, in Manitoba, Saskatchewan and Alberta, the Yukon Territory, the North-West Territories and in a portion of the Province of British Columbia, may be leased for a term of 21 years, renewable for a further term of 21 years at an annual rental of \$1 an acre. Not more than 2,560 acres will be leased to one applicant.

Application for a lease may be made by the applicant in person to the Agent or Sub-Agent of the district in which the rights applied for are situated.

In surveyed territory the land must be described by sections, or legal subdivisions of sections, and in unsurveyed territory the tract applied for shall be staked out by the applicant himself.

Each application must be accompanied by a fee of \$5 which will be refunded if the rights applied for are not available, but not otherwise. A royalty shall be paid on the merchantable output of the mine at the rate of five cents per ton.

The person operating the mine shall furnish the Agent with sworn returns accounting for the full quantity of merchantable coal mined and pay the royalty thereon. If the coal mining rights are not being operated, such returns shall be furnished at least once a year.

The lease shall include the coal mining rights only, rescinded by Chap. 27 of 4-5 George V. assented to 12th June, 1914.

For full information application should be made to the Secretary of the Department of the Interior, Ottawa, or to any Agent or Sub-Agent of Dominion Lands.

W. W. CORY,

Deputy Minister of the Interior.

N.B.—Unauthorized publication of this advertisement will not be paid for.—33575.

The Dominion Telegraph and Wireless Institute is now in a position to accept pupils for a thorough course in Wireless Commercial and Railway Telegraphy at a reasonable rate. The most up-to-date Marconi equipment installed. Our instructors are masters in their profession. Our college is thorough in every respect. Young men and women take advantage of this great opportunity.

213 Hastings St. East, Vancouver, B. C.
J. E. HUGHES, Manager.

What is Needed for the Successful Marketing of British Columbia's Fruit Crop.

By S. J. FEE

Supervision.

We have had co-operation and we have had concentration, both absolutely necessary, but without supervision, there is small chance of success. Supervision is the most vital link in the chain. We think we know what co-operation is, and we think we know what concentration is, but when it comes to supervision, we are a little at sea. The radical will say: "We will get into the markets and market our own stuff." This would not prove a success at the present time. It takes years to build up a distribution chain of houses, train the men, learn the markets and local conditions in those markets, and before this could be done, the co-operative associations would have fallen to pieces. Then such a course is not necessary. The present firms are sufficient under supervision. Just getting the goods together and turning them over to some brokerage, which claims connections covering all the markets. It must be understood that a brokerage formed for the supplying of its chain of jobbing houses, is naturally working for those houses, and will give those houses every advantage they can, or that a brokerage dependent on another chain of jobbing houses will favor those houses. And to give to either of these brokerages may lead to the other making war on the one that gets the goods.

Supervision means using the present jobbing houses under a brokerage owned and managed by British Columbia fruit growers. One big co-operative association may claim to have their own chain of brokers, and rightly, but they have been to a considerable extent helpless in the markets. Berries consigned to them have at times lain for hours at the express depots, then sold at low prices, or turned to some jobber on any terms the jobber wished to dictate. Naturally those jobbers would sell their own stuff first, and losses from deterioration or waste would come out of this stuff that had no friends. In that case the direct shipping to the jobbers would have been preferable, as then the jobbers would have felt a direct responsibility for it.

A British Columbia owned brokerage must be in a strong position, able to reach the retailers direct in case they cannot get satisfactory service through the jobbers. Supervision would be giving to each reliable jobber just what he could handle to good advantage, and his supplies would be increased as his ability to handle more justified. There would be a recognized charge for this service. Supervision will not permit one jobber to undersell another; it will recognize the law of supply and demand making the prices. If there is only a small supply, a few people will pay a high price for it. In greater supply,

prices must be made to reach more people, etc. Then all costs should be public to both consumers and producers. The retailer must be given a fair price for his part of the distribution; he cannot be expected to be an enthusiastic distributor unless he receives remuneration for that work. Then the public must be appealed to through the press and otherwise, when to buy, what to buy; absolute truth and candor with the public will win. Just a word on a very important point. No distribution chain of houses can shut you out of your markets if you do not agree to their particular terms. This is an idle bluff. Treat the public fairly and with truth and candor, and no company, no matter how powerful, can successfully shut you out of your markets.

Permit me to say just two things about the company that I am the manager of: First, that our company has never handled any goods in competition with those of British Columbia; secondly, go on record as we have done every year for the past eight years, that we will give our hearty support to any scheme of co-operation, concentration and supervision that will place the marketing of British Columbia's fruit on a sound foundation.

PRESERVING FRUIT IN HONEY

During the last Fair at Vancouver there was a government "educational" exhibit on how to preserve fruit without sugar. The lecturers seemed to draw quite a crowd, but my private opinion (publicly expressed) is that my wife has forgotten more about preserving fruit than the whole bunch ever knew.

On my return home from the fair one night, I says to her: "Did you ever put up fruit without sugar?"

"Yes," she answers, "it's like boiling cabbage in clear water without the corn-beef; isn't fit to eat. Every woman that has done any amount of preserving knows this. The juice is nothing but fruit acid and water. To make a syrup it has to be heated over again, and more sugar used than was necessary in the first place, besides the fruit nearly always remains acid; is fit only for logging camps or cheap restaurants to make pies."

And there you are.

"But," she says, "why didn't some of you smart beekeepers have an exhibit of fruit preserved in honey? It's far ahead of even sugar, particularly for whole fruit; nothing equals honey for preserving peaches."

And there you are again. We've had fruit preserved in honey in our house for 20 years. Try it next season. It's no steerage decoction. It costs no more than

FRUIT OUTPUT FOR 1917

It is allowed by those who are in the best position to know that the demand for fruit (fresh and preserved) during 1917 shall be considerably larger than in past years.

This is your opportunity to increase your output, reap a good harvest and at the same time to

SOW GOOD SEED FOR BIGGER SALES

during the years to follow.

LET EACH PACKAGE SPEAK FOR ITSELF

Familiarize your brand by label to the jobber, wholesaler, retailer and general public.

AN
Attractive and Effective
Label is the Medium.
We Make These Kind
of Labels.

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HOME GROWN SEEDS

Larger stock than ever. B. C. grown. To introduce them we mail to your address, anywhere in Canada, forty 5c packets for \$1.00. Price list of seeds in bulk, plants, trees, bee supplies, etc., free.

TOMS BROS.

Chilliwack, B. C.

using sugar, and it's dandy. Yes, Madame Lewis is right. Boiled peaches wouldn't be as good as boiled potatoes.

I hope to see at the next fair some good prizes given for exhibits of fruit preserved wholly in honey; also cake sweetened with honey. There is nothing better

W. H. LEWIS.

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of Your Needs.

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Berry Baskets
and Crates.
All Kinds of Fruit
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GENERAL FARM, STOCK AND FRUIT NOTES.

To produce any crop, from 300 to 500 pounds of water will be required to make a pound of dry matter.

Soils need considerable moisture, and it is important that it be not lost by evaporation. For this reason deep plowing must be resorted to in order to retain the moisture, and frequent surface cultivations prevent its loss by evaporation.

A grindstone should never be exposed to the sun. When compelled to leave the stone in the open, it should be covered.

Following is a handy table of weights of feed stuffs:

| | |
|--------------------------------|------------|
| Cotton meal | 1.5 pounds |
| Linseed meal, old process | 1.1 pound |
| Gluten meal | 1.7 pounds |
| Wheat bran, coarse | 0.5 pound |
| Wheat middlings, coarse | 0.8 pound |
| Wheat middlings, fine | 1.1 pounds |
| Mixed wheat feed | 0.6 pound |
| Cornmeal | 0.5 pound |
| Oats | 1.2 pounds |
| Rye bran | 0.6 pounds |

Complete fertilizer is a general name applied to all fertilizers which contain phosphoric acid, potash and nitrogen. This name does not in any way indicate how much of each element is found in the goods.

Fresh sawdust, it is said, contains an acid which, when heavily used is apt to do injury to soils that are deficient in lime. The liquids of manure are alkaline and will neutralize the sawdust if well soaked into it. The chemical action in the manure pile is also alkaline, so that sawdust for bedding and well mixed with the manure is safe to use on the soil.

The amount of humus in the soil indicates in great measure its richness in nitrogen.

It is claimed that exposed manure loses about one-sixth of its phosphoric acid, and more than one-third of its phosphate.

A nail can be driven in hard wood by dipping the point in lard or tallow.

An acre of soil nine inches deep, if of ordinary fertility, is estimated to weigh about 3,000,000 pounds, and contains about 2,000 pounds of nitrogen, 3,000 pounds of phosphoric acid, and 6,000 of potash.

The Horse and His Care.

The horse's feet should be washed occasionally with soap and water.

Horses that are compelled to travel on hard roads must be kept well shod.

Where the horse's feet are brittle, and the hoof breaks and does not hold the shoes properly, the hoofs should be frequently made wet, by driving through a stream of water, or by using some convenient vessel for this purpose.

Some horsemen use oil on brittle hoofs.

A sick animal should be placed in a well disinfected and dry box stall, with plenty of bedding and sunlight; avoid drafts. In cold weather place a blanket on the animal, feed sparingly with digestible food, such as bran mash made of linseed tea; keep the manger sweet and clean. Water should be pure and clean and warmed when necessary.

For growing colts, there is no better grain ration than equal parts of corn and oats ground together. This feed supplies the elements required for the production of fat, bone and muscle.

Bran or linseed meal added to the ration aids in regulating the bowels, avoiding

**KEEP YOUR
HORSES IN
PRIME WORKING
CONDITION**



SOUND legs pull big loads. No horse with a Spavin, Splint, Curb, Ringbone, Bony Growth or Sprain, can do itself justice. Thousands of horsemen have been keeping their horses sound by using Kendall's Spavin Cure—the old reliable, safe remedy. Mr. Maurice Wayville, Amherstburg, Ont., wrote on April 20th last—"I cured a jack spavin with two bottles of your Spavin Cure. I am just taking off a bog spavin. It is the best liniment for sprains you can get for man or beast. I would like to have a copy of your "Treatise on the Horse".

KENDALL'S SPAVIN CURE

acts quickly, leaves no scars or blemishes, and costs little— $\$1$. a bottle— $\$6$ for $\$5$. Get our valuable book—"Treatise on the horse"—free at your druggist's, or write us 111

Dr. B. J. KENDALL CO., ENOSBURG FALLS, VERMONT, U.S.A.

constipation, and lessening the liability of disease.

If his head is left free, a horse that stumbles is less likely to fall. It is said that in the English army the check-rain on the horse has been abolished for this very reason.

The horse has a smaller stomach than the cow.

A half pint of flaxseed jelly; once or twice a day, added to the ration, will work wonders in a horse's condition. The jelly is made by pouring boiling water on whole flaxseed and allowing it to jell.

Scratches in horses will never occur when the mud has been allowed to dry and then brushed off without the application of water.

A remedy for scratches is oxide of zinc, 1 dram; vaseline, 1 ounce. Never apply water to the legs.

The brood mare needs liberal but not excessive feeding of well cured hay, oats and bran.

Bone spaven can often be traced to working the colt at too tender an age, or fast driving over roads that are slippery, or too suddenly stopping or jerking the colt.

The stomach of the horse being small, he must be fed at regular hours, three times a day, at all seasons of the year.

An English veterinarian says careless or improper feeding is the prime cause of colic. The stomach of the horse being small the digestion is limited and if the horse is hungry and overfed, or is allowed to gulp down a big feed, colic is the result. Also if musty hay or musty sour feed is used, or if fresh-cut grass wet with dew or rain is hastily eaten in large quantities, colic is often the result.

The Cow and the Dairy.

Experiments show that the Jersey cows drink the most, consuming over five pounds of water for every one pound of milk produced. The Guerneys come next, and, in the order named, are followed by the Shorthorns, Devons, Holsteins and Ayrshires.

Cows that are milking, drink 50 per cent more water than those that are not.

There is a prejudice against eating beef from an old, played-out dairy cow, and

A BETTER ATTACHMENT FOR HOOKS ON HORSE COLLAR PADS

Our new patented staple and felt reinforcing device keeps hooks from pulling off easily, even when fabric is weakened by long use. It adds greatly to life of the pad. This form of attachment is

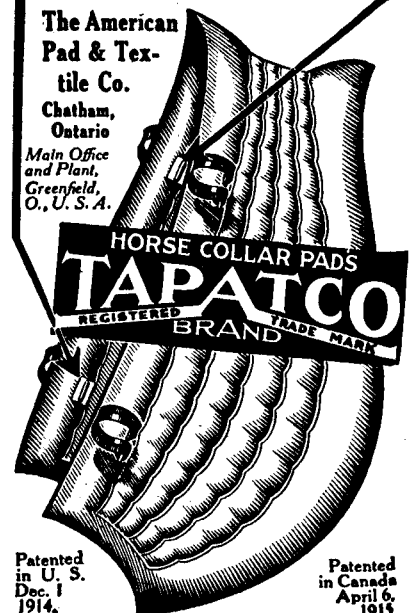
Found Only On Pads Made By Us

Ask your dealer for free Tapatco booklet. Shows pads in colors and contains valuable horse remedies. If he hasn't it, request him to write us direct.

The American Pad & Textile Co.

Chatham, Ontario

Main Office and Plant, Greenfield, O., U. S. A.



Patented in U. S. Dec. 1 1914.

Patented in Canada April 6, 1915

therefore there is no advantage in endeavoring to combine milk and meat qualities in the same animal.

Keep a record of the cows.

To keep a cow clean, the stall in which she stands must not be too wide.

A good cow should give a good flow of milk ten months out of twelve.

The dairyman has an income nearly or quite fifty-two weeks in the year.

The dry pasture calls for a soiling crop. It is best to milk the cows in the barn, even in hot weather.

Get the cow's good will and she will not hold up the milk. Kindness will accomplish what abuse never can.

The dairy cow likes regularity. It matters little what hours are selected, provided the cows are milked regularly and go through the same routine at the same hours each day. Irregularity in milking or feeding means loss.

If it is noticed that the calf does not seem to thrive, a change for the better can often be made by giving a half pint of wheat bran with a pinch of salt, scalded with a teacupful of hot water. This should be given with the usual quantity of milk. Corn, oats and hay, with pure water should be constantly within reach.

The dairy cow should be kept clean, especially the udder. Before milking, the udder should be rubbed with a damp cloth, but not wet, so as to prevent any dirt falling into the milk.

The bowels of the cow can be kept regular, and also the skin improved, by feeding a small amount of oil cake, or ground linseed once or twice a week. Where the teats have a tendency to become sore and dry, there is nothing better than a little vaseline rubbed on them.

Orchard Culture.

One of the most successful factors in grafting is waxing. It must be carefully performed, that the scions be not disturbed, and completely done, that all air and moisture be excluded.

An excellent wax is made by melting together four pounds of resin, two pounds of beeswax, and one pound of tallow. When melted, pour into a tub of cold water to cool; then pull, the same as for taffy, until it is of a clear, golden color.

Warm, bright days should be chosen for grafting; otherwise the wax hardens so quickly that it is difficult to do the work.

Young trees may be re-topped in a single season; a tree eight to ten years old, in two years.

A large New York apple grower advises low-headed trees as being less affected by disease of the trunk than are those not protected by the branches. They are less affected by winds, the fruit can be more cheaply gathered, and most important of all, at maturity can be thoroughly sprayed.

The "trimming-up" plan is the best for old orchards; the bottom limbs should be cut off to a point three or four feet from the ground; then the ends of the most extending branches should be cut off.

While there is no sure cure for blight in pear trees, there is a possibility of saving the trees by properly cutting off all branches which are the least bit affected.

Some peach growers believe in sod culture. During the time the trees are growing the soil is worked, and a clover crop is sowed in fall and plowed under early in the spring. It is a mistake to leave clover crops until they suck too much moisture from the soil at a time when it is required by the trees.

The best time to scrape old bark off apple trees is on wet days. Care, however, must be taken not to injure the live bark.

Trees should never be planted until the ground is ready, neither should they be planted in soil that is not thoroughly underdrained and enriched before planting.

Small Fruit Culture

It is a good rule to cultivate the soil so frequently that the space between the rows of strawberries will never be covered with runners, and that the soil may be loose and mellow.

It is important that a mulch of some kind be provided and placed on the strawberry bed after the ground is frozen, and left on until after all danger of hard freezing in spring is past.

Among the peculiarities of the black raspberry is that of the annual travel to new soil by the aid of the tips. The plants must be obtained from the tips of the present year's growth. When the growing canes have reached about four feet in height, the point should be nipped off with the thumb and finger, and soon branches will appear along the cane, increasing the number to take root, and adding to the productiveness of the plant the next season. The bearing cane should be left in its place until fall. Later on, when it is time for the tips to attach themselves to the soil, the roosting can be facilitated by a light covering of dirt. In preparing for the drop in spring, the branches should be headed in two or three feet, according to their strength.

A cultivator with square pointed shovels is the best kind to use among raspberries.

The black raspberry is different from the rest of its class, both in habit of growth and in make-up of its fruit.

The average yield of blackberries is 3158 quarts, although an acre has been known that produced 10,000 quarts.

The Life of Chilean Nitrate Deposits

A. D. 1917

| | |
|---------------------------------|--------------------|
| Total Nitrate deposits in Chile | } 720 million tons |
|---------------------------------|--------------------|

| | |
|-------------------------------------------------------------------|-------------|
| Estimated life of deposits at present rate of World's consumption | } 300 years |
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For Reliable Information Write

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VANCOUVER, B. C.

ficient wear for the hoofs, and they should be pared at least twice a year.

The sheep stables should have frequent cleaning. When the manure is allowed to remain too long, it gives off ammonia and other foul gasses which injure the sheep.

Sheep feeders in England attach more importance to succulent feeds, like turnips and cabbages, than do feeders in this country.

Sheep manure has very aptly been termed "American Guano."

A sheep allowed to fall off in condition will have a weakened constitution permanently.

Hogs and Hoglets.

Keep the hog away from filthy water holes.

Better results are secured from soaked grain than soaked meal.

Many of the by-products of the dairy can be profitably converted into pork.

The pig's digestive apparatus must be developed to its full capacity before the fattening period begins.

Similarity of breeding stock produces off-spring of much greater value.

The hog lot should be dry. Burn over the feeding places at least once a year.

When the little pigs are weaned, put the sow out of their hearing for a while.

Do not allow the food to sour in the feed trough.

For the pig that coughs, a mixture of equal parts of licorice and ginger in the feed is recommended. Repeat two or three times a day.

Experiments have shown that hogs fed on soaked corn and tankage made greater gains per day and greater gains per 100 pounds of feed than hogs fed on corn alone.

Warm a little kerosene and lard together, and rub along the backs of the swine while they are feeding. It will help to free them from lice.

Good care will in the majority of cases ward off hog cholera.

The boar should be given plenty of exercise and a good variety of food.

Facts About Goats

Every vici kid shoe is made from goat skin.

All "mohair" goods in the dress line are made from goat hair.

The average Angora goat will produce about six to eight pounds of mohair.

The meat of the purebred goat is excellent, and very similar to mutton.

The silk plush of every Pullman and Wagner car is made of Angora goat hair. The Angora reaches the size of an ordinary sheep, but it is slower to mature.

Goat milk gives a constitution to the child which cannot be obtained from cow's milk.

Angoras will thrive and live in any climate of our country where sheep will.

Goat milk and meat are both absolutely free from any tubercular contamination.

Goats are very domestic, and will not wander from their range when once located for a few days, and salted.

The Angoras are not so good milkers as the Maltese and Swiss goats, but they give plenty for rearing their young.

The long, silky coat of the Angora is called mohair, and the fact that the price of this fleece brings today, and has for years, more than twice that of wool, is the best evidence of its demand.

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Men's Oil Skin Coats Special \$2.95

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All sizes; very special **\$2.95**
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including Desks, Maps, Globes, Blackboards, Paint Boxes,
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(Opposite C. P. R. Depot) Vancouver, B. C.

Canada and the Beef Problem

Farmers Are Assisted

The Dominion and Provincial governments and the Canadian Pacific Railway, through its Agricultural and Animal Industry Branch, have all aided the farmers in every possible way, and have published broadcast literature showing the best results that have been obtained on the various experimental and demonstration farms. The Canadian Pacific has several of these farms throughout the West, with an expert in charge of each, and at every cattle sale these farms are represented by animals of a very high class, both for breeding, milk and beef animals. The experts in charge of these farms will at all times aid in any way they can the farmer who seeks advice with reference to the best stock to go in for and also the proper way to secure the greatest results.

Big Prices Realized

As an instance of the demand for good breeding stock, eighty-one head of short-horn cattle realized \$27,620 at a sale recently held at Calgary, Alta. The top price obtained was \$885, which was paid for a thoroughbred bull, while the average price was \$340, and when it is known that 65 of these animals were under eighteen months old, it will be seen that they were a fine lot of animals.

While there is no prospect of an immediate reduction in the price of meat as a result of the increased interest displayed by the farmers of the West, the prairies of the Canadian West have unlimited room for the raising of all kinds of livestock, and with the farmers taking a greater interest in livestock than ever before, Canada is destined to play a large part in solving the meat problem which the world now faces, and which is likely to become still more acute at the close of the war, when European countries will be buying animals to replenish their herds.

for ham and bacon that called for 350,000 head of hogs.

The increase in the number of sheep is one of the outstanding features of the government report. The increase is approximately 30 per cent, which is very gratifying. Many of the smaller farmers of the West have started small flocks of sheep, as they have found out that the climate is very suitable for them, provided a certain amount of shelter was supplied during the short intervals when the weather might otherwise be too severe.

Small Farmer Takes Hold

There are several large flocks in the West, and the success that the owners of these have met with has prompted the smaller farmers to start flocks. As an excellent price was obtained for wool this year, ranging as high as 36 cents a pound, and averaging ten pounds of wool per animal, the industry thus received another impetus. One sheep owner in Alberta was offered \$12 per head for his entire flock of 6,000 head. He refused the offer and also another of \$7.50 per head for 1,600 lambs. A short time after refusing these offers he purchased another 500 ewes.

The report estimates that there are at the present time 2,048,354 cattle in the three western provinces, 565,709 being milk cows and the balance beef and other cattle. This shows an increase of nearly 15 per cent over 1913, and also the very large number of beef cattle that have been marketed during the past couple of years must be taken into consideration. Many large war orders were filled in Western Canada.

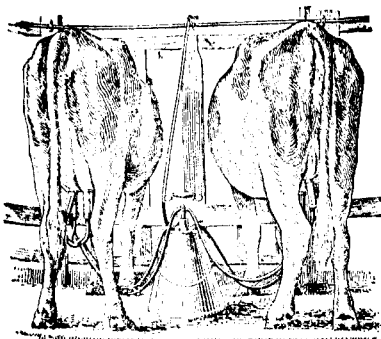
With the price of beef and other meats soaring to hitherto unheard-of heights, and every newspaper carrying stories about the future prices of boots and shoes and other articles made of leather, there may be a modicum of comfort to be taken from the fact that the farmers and ranchers of Western Canada are now turning their attention to cattle and stock raising to an extent that would not have been believed possible a few years ago.

The modern farmer is very wide awake, especially those of the three prairie provinces of Canada, and naturally as soon as he saw the prices of livestock soaring on the large world markets he began to pay more attention to stock raising, gradually finding, as he did so, that by combining it with the grain production, he was able to make two profits where he hitherto had one.

Raising More Stock

According to figures given in the Census and Statistics Bulletin issued by the Department of Trade and Commerce at Ottawa, all three of the western provinces show large increases in the number of livestock raised in 1916, as compared with 1913, the year previous to the war. Although there had been a slight gradual increase in the years immediately preceding 1913, all classes of livestock except swine show greater percentage of increase in the years after the commencement of the war than those previous. The figures for hogs show a decrease, due to the several large war orders received by some of the western packing firms from the Allies. One firm alone is said to have received an order

EMPIRE MECHANICAL MILKER



One man, using only one double unit, can milk 20 to 30 cows per hour. Besides doing the stripping and carrying the milk. Single units, each of which will milk 10 to 15 cows per hour, can be had if preferred. One man can operate two or three single units.

Heifers and old cows both like the EMPIRE Milker and take to it quickly. The frequent increase in milk flow proves that.

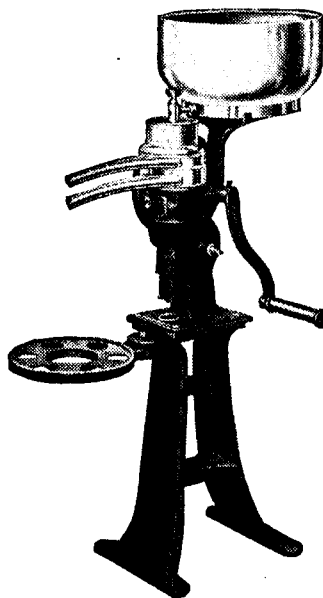
The illustration shows you the Double Unit Outfit in actual operation, except for the small pump and tank which supply the vacuum. Any suitable power will drive the pump.

Hand milking is a hard job in cold weather, in fly time, after a hard day's work or any other time—especially hard when you are short-handed. The EMPIRE Milker takes care of a job nobody likes. Pays you a handsome profit. Insures your cows being milked regularly, quickly and uniformly. It's good-bye to hand milking and everybody glad of it.

The EMPIRE Milker is a fine machine. Absolutely reliable. Successful everywhere. Guaranteed by the Empire Cream Separator Company. See for yourself how simple, sure and reliable it is. Will be glad to show it to you at your first opportunity.

Gently massages the teats after each spurt of milk. Does not use compressed air. Only one pipe line needed—it can be run wherever convenient.

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Absolutely satisfy the men and women who are looking for quality and who judge construction and fine workmanship by the "sound" and the "feel" of the machine when running.

EMPIRES

are remarkable for smooth, quiet running.

Used by Three Generations

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C. L. Merritt, Provincial Agent, 207 Hastings St., W., Vancouver, B. C. Telephone Seymour 3613.

Kelowna Example of Success in Mixed Farming on Small Acreage.

Another example of the success which may be attained in mixed farming on a small piece of land is the experience of Mr. W. A. Scott, who lives three miles out of Kelowna in the Okanagan Valley, and is making good money on a block of only ten acres of land.

Mr. G. C. Scott, who assists his father on the farm, spent a few days in Vancouver recently, and it was from him that Fruit and Farm gleaned the following interesting facts.

"We went into the Okanagan valley twelve years ago," said Mr. Scott, "and made a start in fruit, but found it did not do well on the bottom land we had secured, or at least did not do anything like as well as it does on the bench land."

Continuing, Mr. Scott said that they had gradually worked into stock, and were now combining dairying, gardening and fruit raising, and had proven beyond any doubt that with proper management a farmer can do well, if reasonably well situated, even if he hasn't more than ten acres.

"A big thing cannot be made in this way," admitted Mr. Scott, "but certainly it is very much better than working for a salary. We ought to have more land and will get it as soon as possible. We could buy it now on terms but purpose paying cash for what we get."

Supports Family of Four.

The family on this little ranch comprises the father and his wife and a son and daughter. Another older boy is at the front. Needless to say the whole of their ten acres is utilized. Fifteen head of cattle are kept. Eleven of these are cows. Eight are now milking and three more will freshen soon. These of course provide the backbone of their business, and every cow is a payer. No boarders are kept.

"Do you sell your milk to the creameries?" Mr. Scott was asked.

"No, we make our own butter," was the reply. "We have private customers who take our whole output. We do not solicit, but can depend on the sale of every pound at any season of the year."

None of the cows are pure bred, but have been carefully selected and are well fed and well cared for.

Small fruits also are depended on for a good part of the income. Currants, gooseberries and crabapples chiefly are handled, principally because they come on early and there is an advantage in getting on the market as early in the season as possible. Apples, Wealthies and Jonathans, are also handled. About half an acre of asparagus grown every year is also a source of a nice little profit, amounting to better than a hundred dollars. This is sold to the stores.

Success With Hens.

Good success has also been had with hens. A large flock is not kept, but they are paying a good profit. A well worked garden is the final source of profit on this small farm. Potatoes are occasionally planted, but the market is uncertain and the work is heavy, and Mr. Scott apparently believes that the potato business is for the specialist who can put in special machinery for handling the crop and can go in for it on a large scale.

To system-management, is what is due the success of this family. The markets are looked after. The goods are carefully prepared and are of the best, and a customer is never lost. Hard and faithful work is done, but it is all done between six in the morning and six at night. The chores are made a part of the days work and everything is finished up at six o'clock—no working until ten and eleven o'clock.

"It is simply a case of keeping up with our work," said Mr. Scott in conclusion. "If we let our work get ahead of us it would likely be a case of working overtime, but we always try to keep things cleaned up."

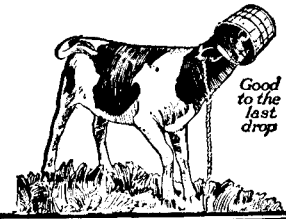
COW ADOPTS DOG.

A milch cow belonging to John Riley of Marshall, Tex., failed for several days to furnish the family with the usual bountiful supply of milk. The situation was the cause of considerable discussion among the members of the family as to why the milk was not forthcoming as usual.

To solve the mystery the "watchful waiting" policy was decided upon as the proper course to pursue, and in a short time the mystery was solved.

As a result Billy, the big English bulldog belonging to J. L. Pence, has been cut off from a milk diet and the cow is again contributing milk for the exclusive use of its owners.

The cow had lost its calf and presumably adopted the bulldog in its place. At any rate, the dog got the milk, gained several pounds in weight, and it is said the cow gave evidence of grief when the substituted calf failed to come for its meal.



Raise your calves on Blatchford's Calf Meal and SELL THE MILK

100 pounds make 100 gallons
of rich milk substitute

Blatchford's Calf Meal prevents scouring,
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WHY?

Because it is the home product that the people want. We aim to please our customers and help the B. C. Farmers.

We guarantee returns thirty-six hours after goods are sold.

Give us a trial with your next shipment of fruit and be convinced.

15 Per Cent Charged on All Goods.

Write for particulars.

SWARTZ BROS.

It Is Not Long Till Spring

when you will be planning your Garden or Orchard. NOW is the time to be thinking and planning what you will plant. Don't leave it too late, but give us the opportunity NOW of making a few suggestions.

IN SMALL FRUITS THE STRAWBERRY comes among the very first. We have the newest and very best varieties, as follows:

DR. BURRELL—Mid-season. Called "The Million Dollar Berry."

MAGIC GEM—Mid-season to late.

KELLOGG'S PRIZE—The berry without a fault.

HELEN DAVIS—Early, fruit large and very fine quality.

GOODELL—Originated on Pacific Coast—succeeds anywhere.

MAGOON—The greatest commercial berry known.

We have fine plants of all the above varieties.

CURRANTS—In all leading varieties, including Fay's, Victoria, Black Naples, etc.

GOOSEBERRIES—Oregon Champlon, the mildew-proof and money-making variety.

RASPBERRIES—Cuthbert, S. Regis, and other leading kinds.

LOGAN BERRIES—One of the best investments we know of. Canning and juice making are coming industries in B. C.

The above and many other specialties are grown at our Nurseries at Sardis, near Chilliwack, B. C., and form just a part of our full line of CHOICE FRUIT TREES, SHRUBS, ROSES AND ORNAMENTALS.

Do not fail to write us about your needs, and do it now.

Our large descriptive Catalogue is at your service, also our artistic and exclusive Rose Catalogue—either or both sent by return mail as we want your order EARLY. We can do the fullest justice to orders sent in AT ONCE. Your trees are then reserved in good time.

We can at all times find room for the right kind of man to represent us in the sale of our well-known "QUALITY" trees. Write for particulars.

BRITISH COLUMBIA NURSERIES CO., LTD.

1493 SEVENTH AVENUE WEST.

VANCOUVER, B. C.

POTATOES HIGHER THAN THEY HAVE BEEN FOR YEARS.

"How much of the British Columbia potato crop is still in the hands of the farmer?" a representative of Fruit and Farm asked Mr. Joseph Swartz, a well-known local produce dealer, the other day.

"It would be difficult to give an accurate estimate," replied Mr. Swartz, "but it would be safe to say that the farmers are still holding at least one-third of the potatoes grown by them last season."

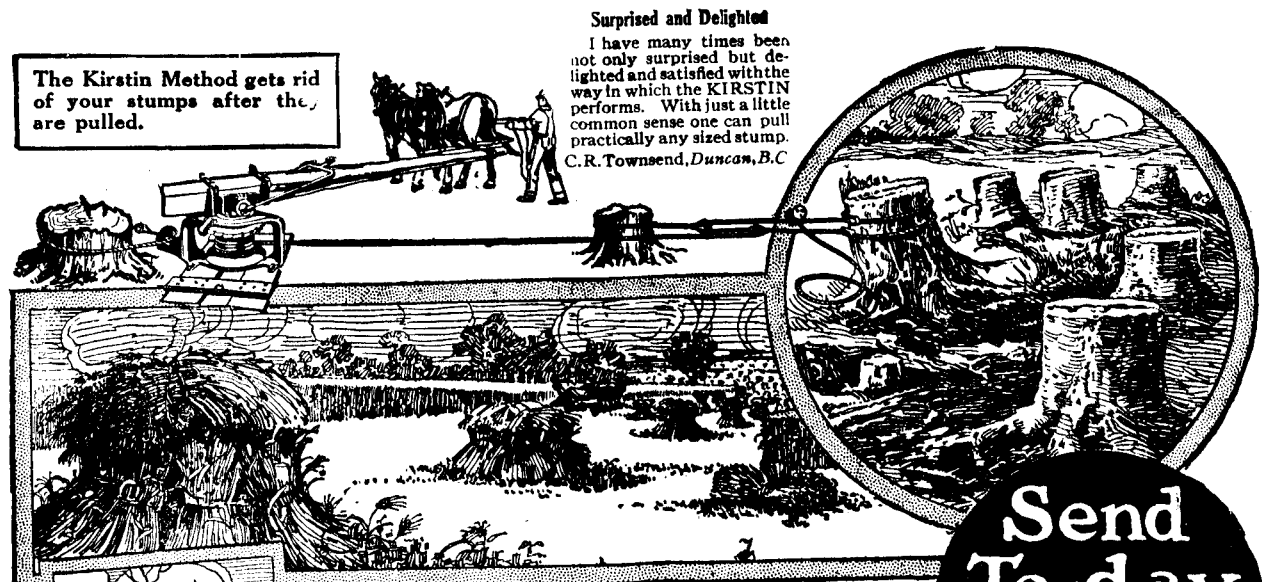
"From your knowledge of the situation would you consider it good business for the farmer to hold longer?" the questioner continued.

"I believe it would. It is a gamble of course," was the reply, "and no one can be sure, and if a farmer asked me personally what he ought to do, I would likely tell him to let go. The price is away up and he would be assured of a fine margin of profit. He would be playing safe."

Continuing, Mr. Swartz said that the market had opened at \$12 per ton but had quickly gone to \$15 owing to the demand for evaporating purposes. Then in October reports of the partial failure of the Ontario crop and the demand from that province caused a further rise and about \$17 prevailed throughout that month. Following this there were several rapid jumps, and in November the price reached \$25. The market weakened a little later on owing to

heavy selling, but gradually recovered, and \$30 per ton is now the prevailing price for good goods.

"With prices in Ontario at about \$40 we can pay \$30 here and make a fair margin," said Mr. Swartz. "We are not, however, selling anything in that province now. Practically all of our sales are now being made in Minneapolis and St. Paul, St. Louis, and Boston. We will handle at least thirty-five carloads this season running from 400 to 500 bags to the car. We never hold ourselves. We buy for a quick turnover and find it is the safest plan in the long run. A farmer couldn't go far wrong in holding potatoes in face of the present market situation.



The Kirstin Method gets rid of your stumps after they are pulled.

Surprised and Delighted
I have many times been not only surprised but delighted and satisfied with the way in which the KIRSTIN performs. With just a little common sense one can pull practically any sized stump.
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80 stumps in 100 minutes. Record made by Kirstin Horse Power Puller under official watch test at the Land Clearing Demonstration of the University of Wisconsin.

Yank Out Those Stumps!

A Guaranteed Saving of from 10% to 50% in Clearing Land Ready for the Plow.

The rich crop pictured above, is growing on what was a tax-eating stump field. The owner got it ready for the plow the Quickest, Cheapest and Best Way — with the Kirstin Method. Thousands of farmers have increased the productive value of their land a hundred-fold by clearing the Kirstin way. You do the same. Stop paying taxes on worthless stump fields; make them earn money for you — get a

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Kirstin Stump Puller
One Man — Horse Power

No deeply imbedded root is too big for the Kirstin Horse Power Puller. Its mighty strength is irresistible because of its triple power and other exclusive Kirstin features. It will clear more than two acres at one setting without strain to man, horse or machine. 21 years the leader. One man without horses can pull the biggest stumps, too, with the Kirstin One Man Stump Puller. A little push on the handle gives tons of pull on the stump. This enormous power is developed by use of double leverage. It gives an ordinary 17-year-old farm boy a giant's power.

There is a machine for every need, from the smallest land clearing job to the biggest. Every customer is given a **Guarantee Bond** that The Kirstin Method will clear your land and make it ready for the plow at a cost from 10% to 50% cheaper than any other. Every Kirstin Puller is guaranteed against breakage for 15 years. Every puller sent on 10 days' trial, money back if guarantee does not deliver the goods.

Send for Free Book
"The Gold in Your Stump Land." Read the letters from farmers who have bought Kirstin. Learn how, after clearing your land, you can make money by renting your Kirstin to the neighbors, learn about Kirstin service, forever free to all Kirstin Owners. Don't buy until you read this book.



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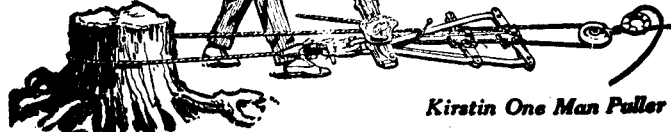
We offer you a special opportunity to join our Profit Sharing Plan. No canvassing. Just a willingness to show your Kirstin to your neighbors. Don't wait—send the coupon today. Be the first to share in this big money making plan.

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Name.....
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Kirstin One Man Puller

Sending this coupon obligates you in no way.

The Home--The Most Important of the Farm Buildings.*

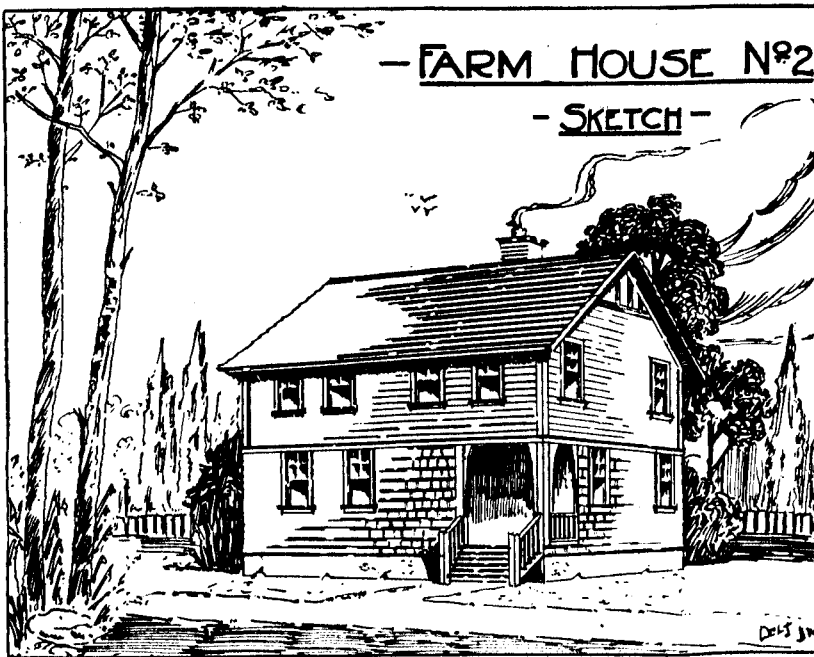
The house, the centre of all the activities of the farm, is the most important of all its buildings, is a statement made in a bulletin on home planning, recently issued by the British Columbia government, and its planning and construction should receive a corresponding amount of care, even if it is to be only a temporary structure. Too often, unfortunately, the reverse is the case, and the house, usually the first building put up, is the least carefully planned and the last to be improved or rebuilt.

Ideas on planning a house probably vary more than in any other kind of building, and it is therefore the least capable of

farm house than a city house, because the housekeeper on the farm has, as a rule, more work to do—work which often includes duties in addition to the care of the house itself.

As the house is the most important building, so the kitchen is the most important room. As a rule, a large part of the work is done there, and it has been aptly called the workshop of the home.

The size of the kitchen will depend largely on its uses. It should be primarily a cook room, and the tendency in the larger modern farm houses is to have a comparatively small, compact kitchen, used chiefly for the preparation of food, and a



standardization. There are, however, certain general principles which any plan must follow to secure the greatest comfort and convenience. Some of the main points to be considered are given below. It is understood, of course, that these are intended to be of a very general nature only, and must always be modified by individual conditions and circumstances.

The Site.

The home will be most convenient if it is easily accessible from the highway, and is centrally located, so that all parts of the farm may be reached without difficulty. This will save all kinds of time. It should have good drainage, and plenty of room should be left for future improvements in the shape of trees, shrubs, lawn, etc., which add so greatly not only to the appearance but also to the value of a farm. An inexpensive house set in attractive surroundings looks better than an expensive and elaborate house without them. A southern exposure is desirable for the front of the house, in order to give it all the light and sun possible, especially in winter; but in any case the best outlook should always be selected.

Interior Arrangements.

Convenient, labor-saving arrangement of the interior is even more important in a

separate dining room. Very often, however, especially in small houses, the kitchen must serve also as a dining room, living room, wash room, laundry, etc., and in such cases must be made correspondingly larger.

The kitchen should be light and pleasant to work in, both summer and winter. It is desirable to have it placed either in a corner of the house, or else in a narrow part, where it can get light and ventilation from two sides, with one side preferably facing east to let in the morning light. The windows and doors should be placed to get full advantage of the light and air. Dust from a road and odours or flies from the barnyard must, of course, be avoided.

The different articles forming the kitchen equipment, such as stove, sink, work table, cupboards, refrigerator, etc., should be arranged in positions most convenient to each other, and to the pantry and dining room, to avoid unnecessary walking; and, furthermore, they should be fixed at the proper working heights above the floor to suit the person who will use them; the proper height for a work table, for example, will generally vary between 32 and 36 inches. If the refrigerator is built into the wall, so that the ice can be put in from the outside, it is easier to fill, keeps the

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Delco-Light

So Simple a Child Can Operate It.

This combined, compact unit consists of a gasoline engine, a dynamo and a switch-board. It weighs 325 pounds, exclusive of the storage batteries which are furnished as a part of the outfit.

Some of the things Delco-Light will do for your home:

It will furnish light for the house and the barn. This is the greatest need of the farm home.

Its safety, its convenience, its greater brilliancy have been long felt wants of progressive country folks.

In addition it will furnish electric power for pumping water. This will admit of installing an automatic pressure system of water supply. It saves the labor of pumping and carrying water. Wash day is the bugaboo of most homes. It is a hard, disagreeable task. But with Delco-Light installed, a small motor will operate the machine while the baking and other household work goes on as usual. It is worth the price of Delco-Light to relieve the wife of part of the difficulties of wash day.

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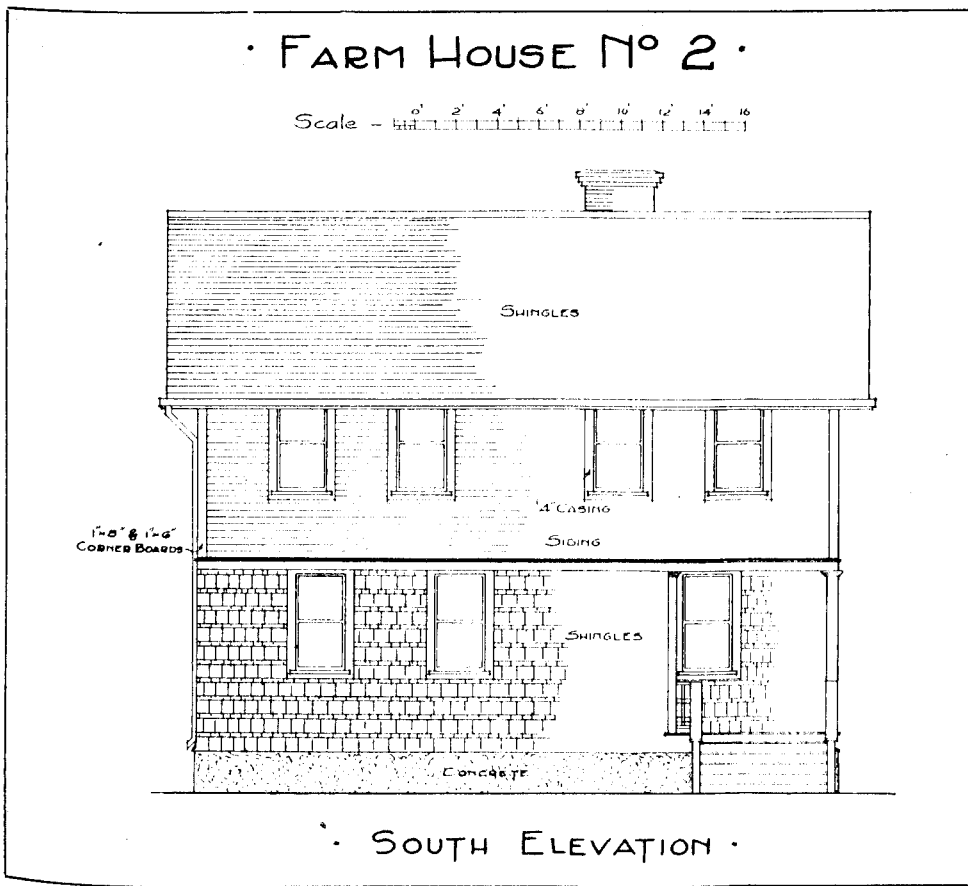
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dirt out of the kitchen, and in winter it can be used as a refrigerator without ice. Where the winters are severe, it is advisable to have the sink against an inside wall rather than an outside one, so it will be less likely to get frozen.

The floors, walls and ceiling should be plain, smooth, and easy to keep clean. For the floor it is desirable to use one of the harder woods, as Western Larch, Douglas Fir, or Western Hemlock, preferably edge-grain stock, and to oil it periodically after

it is laid. Wood finish, such as V-joint, or good plaster are suitable for the walls and ceiling; wood finish is easier for the unskilled person to put up, and is therefore specified in some of the houses shown in this bulletin.

The pantry, dining room, wash room, cellar and wood shed are the rooms most used in connection with the kitchen, and they should therefore be located conveniently to it and to each other.

A wash room off the kitchen, with a

sink, and if possible a toilet too, where the men coming in from the fields can clean up and leave their coats, hats, overalls, etc., will be found a great convenience, as well as a great help in keeping the kitchen clean. It could also serve as a laundry.

The store room or shed for fuel should be close by the kitchen, and if possible on the same floor level.

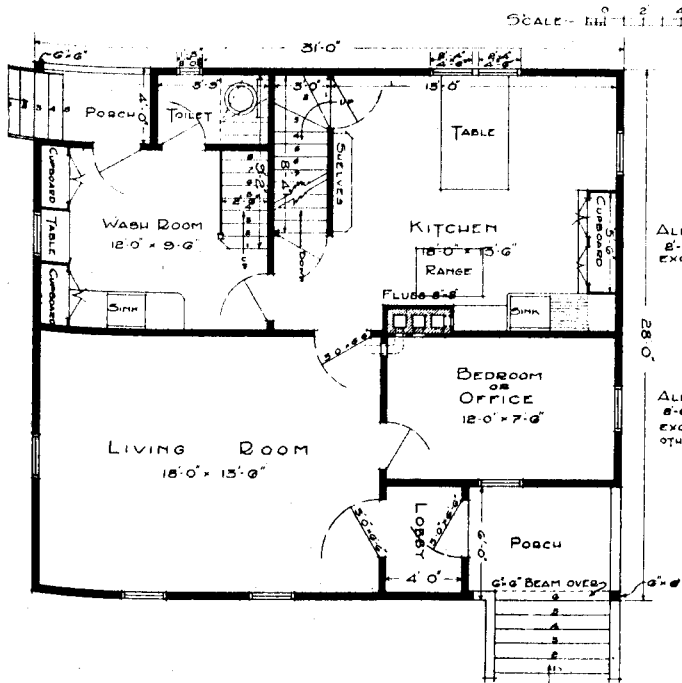
The pantry or store closet should be placed where it will be handy both to the kitchen and dining room. Sometimes a pantry is put between the kitchen and dining room, but this is objectionable, because it increases the distance to be travelled in serving meals. As a rule, it is preferable to have the pantry located in the kitchen or opening off it.

A basement or cellar is not essential unless a furnace is to be installed, but it is very useful for many purposes, such as storing vegetables for use in the kitchen. It should have an entrance from the kitchen or the wash room; it is also convenient to have an entrance from the outside.

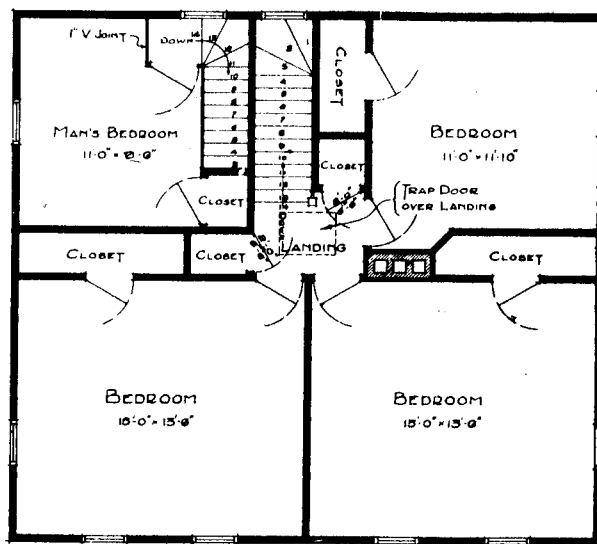
The dining room should be at least 11 feet wide, and preferably larger, in order to leave room around the table for serving meals. If it is used also as a living room, additional space ought to be provided, and also a fireplace if possible. It should have direct communication with the kitchen with a door between swinging both ways, and fitted with a glass panel to avert collisions. A labor-saving arrangement that can often be used to advantage is a sliding panel or window, with a shelf on each side, at a convenient height in the wall between the kitchen and the dining room, through which dishes, etc., can be passed.

It is for obvious reasons a good plan to have a separate entrance to the dining room from the outside. The old custom of having two rooms, one used as a living room and the other as a parlor, unused except for company, or on Sunday, is being abandoned. The modern plan is to have a living room, and to make it a real family clubroom, as large, comfortable and cheerful as possible.

FARM HOUSE No. 2



GROUND FLOOR PLAN



SECOND FLOOR PLAN

A farm house generally needs more bedrooms than a city house, if possible a bedroom on the ground floor should be planned for. Space should always be left for a bathroom, even if it is not possible to fit it up at first.

All rooms on the same floor should be on the same level if possible; changes in level necessitate steps, which are a never-ending nuisance.

The windows should be placed chiefly on the south, east and west sides. It is usually better to have two or several small windows advantageously placed in a room than a single large one. It is desirable to have at least one window in one of the principal rooms command a good view of the farm buildings.

tains a number of other plans. The feature of this house is the large accommodation it gives for a very moderate outlay, and it is intended for the farmer to whom these two qualities appeal.

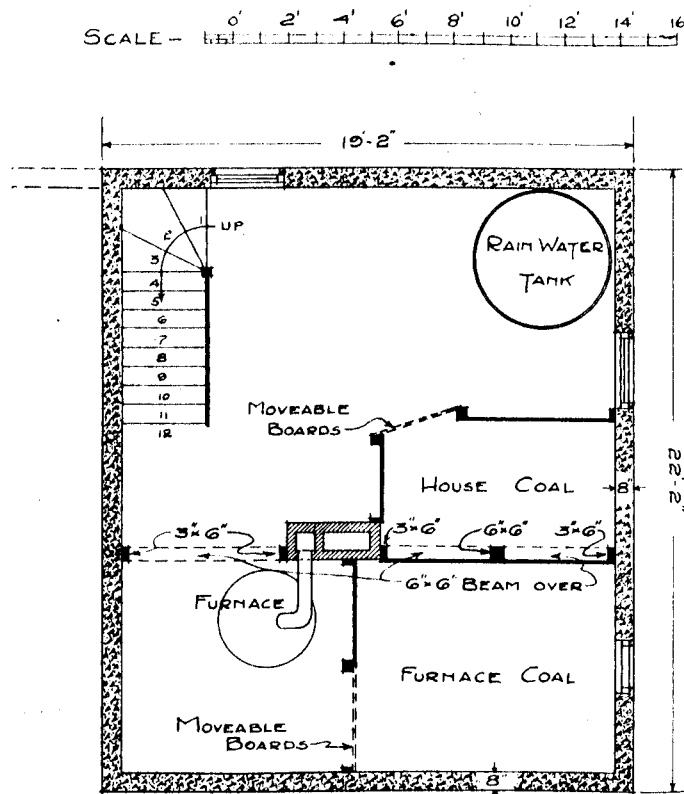
There are two stories and a basement. The outside is 28x31, and there is ample room for a family of eight or ten persons. The kitchen, 18x13½ feet, is entered from the washroom or living room. It is fitted with a sink, with draining boards (cupboards underneath), a kitchen cabinet, and shelving. Either the kitchen or the living room may be used as a dining room.

The washroom is 12 x 9 feet 6 inches in size and is located between the kitchen and back entrance. It is equipped with a table under the window, and a sink with

floor. There are closets in each bedroom, and in addition a couple of closets for linen, etc., at the head of the stairs.

The construction has been made as simple and as economical as possible throughout. The windows and doors are all of standard sizes, except the basement and toilet windows. All the rafters are of one length; most of the floor joists are of one length; and so on with regard to most items in the bill of material. The ground floor should be kept from 3 to 3 feet 6 inches above the ground line; this will give sufficient height for the basement windows to be kept well above the ground, and will require a depth of no more than 4 feet 6 inches for excavation of the basement. The concrete walls of the basement are 8 inches thick and the basement floor is 4 inches thick. The latter should be laid on a bed of dry rubble 2 or 3 inches thick to ensure good drainage.

FARM HOUSE No 2 .



BASEMENT PLAN
UNDER KITCHEN & OFFICE

In buying doors, windows, furniture, and fittings, etc., it is advisable to get stock or standard-sized articles, simple and unpretentious in style, but the best that can be afforded in quality. Well made doors and windows and good fastenings cost but little more than poor ones, and will last much longer, look much better and give infinitely more satisfaction.

The plans published in connection with this sketch are known as "House Plans No. 2," and anyone contemplating the construction of such a house can secure full details of the material which will be required for its construction from the government. The bulletin mentioned also con-

tain a number of other plans. The toilet opens off this room.

The living room, 18 x 13 feet 6 inches, is of good size, well lighted, and can be made very comfortable. The room opening off it will be found convenient for a bedroom, nursery or office. The lobby in front is useful to hang coats, etc., in, and it also helps to keep the living room warm.

On the second floor, the stairs to which lead out of the kitchen, there are two large bedrooms in front and two smaller ones behind. One of the latter is for the hired man; it is reached by a separate stairway from the washroom, and does not communicate with the rest of the second

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DO WE NEED THE ORIENTAL?

That there are those who believe there is a place in this province for the Oriental, and that he is necessary for the well-being of the agriculturist, is shown by expressions not infrequently heard.

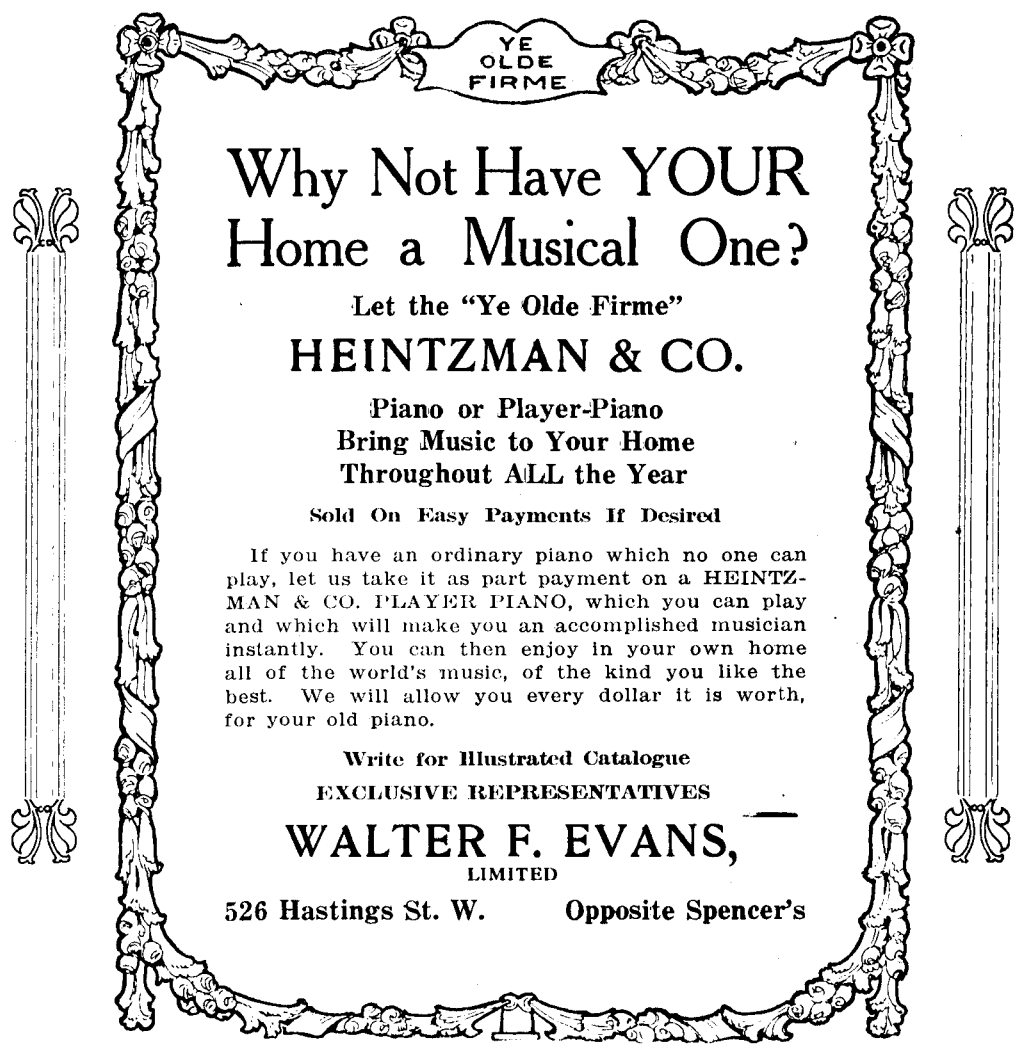
Writing to Fruit and Farm, Mr. H. H. Grist, of Victoria, even goes so far as to say that the head tax must be removed and the Oriental controlled in some way, or the Chinese will soon monopolize the agricultural industry of the province. His letter is as follows:

May I be allowed a few remarks on the labor question and its connection with fruit farming and the remarks of Mr. David Whiteside and Mr. Maxwell Smith. I cordially agree with Mr. Whiteside in his statement that the proportion of Orientals to whites in B. C. is too great, but only in one sense, and that is owing to the fact that they are in business for themselves, and are not, as they should be, working for white men. "That is where the trouble is, and why we shall eventually be dependent on them to cultivate the soil, as it is impossible for white men to compete with them on an equal footing. Their mode of life, their standard of living, their method of business, will not permit of white men having a chance of any kind in competition with them.

As laborers they are, and will be, necessary for quite a long time to come, if agriculture is to take any place in the future of B. C. The mistake is and has been in allowing them to engage in any business or in any profession on their own account in competition with white men—and agriculture in its various phases is quite as much a profession as any other—ministers or parsons, doctors and lawyers, included, and more honorable than most.

The Oriental is necessary for these reasons. Who else will undertake clearing operations, so absolutely essential now, particularly when our soldiers are returning and nothing prepared? Does the government intend to give them an axe, spade and pick to get out the stumps? Who else but the Oriental will pick the fruit that represents returns for the investment of the growers? Will any labor union in the province undertake to pick the crop of small and large fruit? Even if white help were available would they do it? Could they do it? I think not. Ten hours a day in the hot sun on all fours or in a cramped position or on hands and knees. Will Mr. Maxwell Smith do it? It would be more to his credit than suggesting that one class of agriculturists have the audacity to take advantage of another class in the same profession. He surely knows that grain growing cannot be compared with fruit growing any more than that he can compete with a Chinese berry picker. The grain grower has the advantage of machinery of all kinds to handle his product, which is not so perishable and can do with far less help than a soft fruit grower who has only a very short season in which to harvest and sell his very perishable crop. He cannot put in a binder or a mower and expect any results that would benefit his raspberries or strawberries.

No sir, the head tax must be removed, and the Oriental must be controlled in some way, or agriculture in B. C. (with possibly the exception of stock farming) will be eventually entirely in Chinese hands, and then they will exact toll. By that time, however, and it is not far distant, the white farmer and fruit grower will not be here to protest.



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Vol. IX. FEBRUARY No. 2

EDITORIAL

BORROW MONEY TO BUY CATTLE

Will it pay to borrow money at 10 per cent to buy Holstein heifers which will freshen in spring? was a question recently asked by a farmer wishing to increase his dairy stock.

An expert dairyman replying to the question said that ten per cent was a big price to pay for money, and there was no reason why any one should have to pay it, but if any investment would warrant such interest it was the one outlined. Holstein heifers put on good pasture could not help making money. Fall freshening heifers will, except under unusual conditions, pay better than those dropping their calves in the spring.

Two things might make such an investment unprofitable. First, buying poor individuals, and second, failing to supply liberal quantities of palatable, nutritious feeds at all times. See to it that every heifer purchased is growthy, strong and free from disease. If possible buy where records of dams are available. It will cost more to buy such animals, but it will pay. Do not depend on pasture alone for feed unless it is excellent. Supply enough feed at all times to keep the heifers in good flesh and healthy. Good individuals will pay ten, yes twenty per cent on the money invested if they are handled properly.

U. S. WAR TRADE.

What the war has meant to the United States in the way of additional trade is shown by a report recently issued. During 1916 the United Kingdom has bought in the United States goods to the amount of over two billion dollars, which is several times more than she has ever previously bought in any one year. No other nation has bought half as much, and though France has more than doubled her purchases she is still a little under the billion dollar mark. Canada comes third with purchases of over six hundred million dollars. This is also greatly in excess of our usual purchases from that country.

Besides the central powers, the three neutrals of Northern Europe alone of all the world failed to receive more American goods than in 1916.

American exports to Germany during the year were more than one million dollars. Austria-Hungary took less than one hundred thousand dollars.

Japan in 1916 took ninety-four million dollars of American goods, as against forty millions the year before; Cuba a hundred and forty-five millions, against eighty-three

millions; China twenty-nine millions, as against nineteen millions; Russia a hundred and forty-four millions, as against thirty-seven millions; South America a hundred and ninety-seven millions, against a hundred and twenty-nine millions.

Imports from South America during the year increased 50 per cent. Asia sold nearly twice as much to the United States as in 1915. Europe showed some increase.

MAKING AND SAVING.

"Production and Retrenchment"; "making and saving," ought to be the Canadian motto today. There should be no more waste of time, energy, money or opportunity in this country. Canada ought to increase production and cut down expenditure and can do so. These two things are something in which every man, woman and child can take part to a greater or less extent, and by pursuing this policy it will have more to contribute to the needs of the Empire, and besides will develop habits of thrift, self-denial and saving which will be of inestimable value to the nation, individually and collectively, long after the drain of the war ceases to be felt.

Canada has been learning many things of value during the past two years. The school in which these things have been learned has been exacting and cruel, but the lessons have been steadily driven home, and ought to be of permanent advantage. Will Canada profit by those lessons? We believe she will.

Canadians have been taught their country's resources and capabilities better than ever before. They realize more clearly than ever before that Canada offers to its native sine even more than they were at any time in the past too eager to promise the newcomer from abroad, and they are commencing to do today for themselves what three years ago they believed only immigration and outside capital and enterprise would do for them. The war is inspiring them at once with initiative and confidence.

There is only one cause for anxiety. The country is becoming prosperous, and with the inflow of money there is exhibited the tendency to spend too freely. Money is fairly free, there is work and wage for all, and extravagant tendencies begin to manifest themselves. Will the temptation be combatted? It must be. Wholesome public opinion, a sane press, are doing all that can be done to check the tendency, and there is reason to believe there will be little reason for fear in the future.

PRICES MAY GO TOO HIGH.

There is no doubt that the increased price of food stuffs does restrict the consumption. There are plenty of people who think they cannot get on without their regular allowance of meat, but salaries have not kept pace with the rising prices of foods, and the careful housewife has perforce had to be more careful in her purchases, and if certain lines go much higher she is likely to cut out her purchase in those lines altogether, to the serious detriment of the trades concerned.

Speaking on this question of rising prices, and applying it to the canned goods trade, a writer recently remarked that there was not much doubt that advantage was being taken of war conditions to extract a greater profit than the packers were justly entitled to. They had "tasted blood" he said, and were laying their plans to hit the mar-

ket harder than ever. This applied not only to the packer but to other lines as well—all have their eyes on the main chance.

It is a game that one can play at as well as another, and if they all play at it, prices for canned goods are likely to go prices that will mean catastrophe to every element of the trade. The consuming public has a wonderful ability to adjust its demands to conditions. Twenty-five years ago the canned goods business of this country was of little importance, but it has grown to great magnitude. The public has bought canned goods because it has found them wholesome and cheap, but the public will cease to buy canned goods if the prices become unreasonable. The world lived without canned goods and lived quite comfortably, and about the quickest way the canners can wreck their business is to try to make a "sure thing gold mine" out of it.

These are facts which not only the canners but every man in the trade, from the man who works in the field to the retailer who hands out the richly labeled can, should bear in mind.

CONSCRIPTION.

The reply of Sir Robert Borden to the labor men at Ottawa, who in discussing the question of the National Service cards asked to be assured that conscription would not follow, will be considered by most people to have been an eminently proper one. He said that while conscription was not proposed and desired, if the war situation later seemed to render it necessary, it would have to be adopted.

This is plainly the only attitude that Canada can assume. There are those who contend that conscription should have been adopted early in the war, and that if it had been thousands of married men who are now in the ranks would not have found it necessary to join, and millions of dollars would have been saved to the country. Fortunately these views did not prevail either in England or in Canada. There is no doubt that if conscription had been attempted in England early in the war that grave disorders would have ensued. Britain at that time properly adhered to the voluntary system and a magnificent army was marshalled in a marvellously short space of time, in an atmosphere of freedom which could not have prevailed had compulsion been resorted to. It was right that the volunteer system should be used to its fullest extent before the question of force was admitted to consideration.

There came a time, however, when the need for men could not be promptly met, and only then was conscription resorted to. It was supported by practically everyone—even those who had opposed it most strenuously. So may it possibly be in Canada. Representatives of all classes of public men have gone on record against compulsory service. All have expressed a hope and a faith that it would not be necessary to resort to it. That hope still remains to a large extent. But if the war is to last much longer, and if Canada finds that the number of slackers remains so large that sufficient men cannot be secured in the old way, then conscription will have to be resorted to, and will have the cordial support of many who have not assented to it yet.

Britain must win this war, and Canada must do her part to the fullest extent of her powers. Whatever is necessary, even conscription, must be resorted to whenever the need arises.

WAR PROFITS.

The tremendous increase in business in the United States since the beginning of the war is shown in the earnings of the railroads of that country. More than a billion net income was made by them during the year just closed. This huge total is the peak of prosperity in railroad operations, and stands more than one-third higher than the total of 1913, heretofore the banner year.

Statistics gathered by the Interstate Commerce Commission complete for nine months, are made the basis for the calculation for the entire year, indicate that the total net income from operations will be approximately \$1,098,000,000. For the first nine months of the year the complete returns show \$785,558,266. Even this does not represent the full amount, as roads whose income is less than \$1,000,000 are not included.

The estimate—\$1,098,000,000—is regarded by officials as conservative. It makes no allowance for normal increase in business during the last three months of the year—returns for which are unavailable—but places the income for October, November and December at the same figures as for July, August and September. There is no doubt, officials say, that there will be an increase; the only doubt is as to its size.

Analysis of the returns for the nine months shows a startling increase from January to September, amounting to more than 67 per cent. Thus, net income in January, \$64,915,286, had mounted to \$107,910,814 in September, an increase of nearly \$43,000,000.

RECRUITING AND MUNITIONS.

It is significant, says the Toronto Weekly Sun in a recent editorial, that twice within the past few days, the Minister of Finance has assured the public that the Allies need munitions more than anything else. Does he wish to intimate that we are to prefer munitions making to army service? Evidence accumulates that we are unable to meet the demands of both. The railways of Ontario, finding themselves unable, from lack of labor, to maintain their locomotives, cancel half a hundred passenger services to move freight. Complaints have come to us of serious inconveniences on the farms, in the care of farm animals. The military authorities report that, in the county of Huron, for example, with a population, urban and rural, of about 50,000, not more than 500 men, at most, are available for the army and munitions making.

Mr. White is concerned with the financial problems to which it is surprising that little attention is paid. The minister must provide a vast sum over and above the ordinary receipts of revenue. It is his duty, also, to enable, as far as he can, the public to pay its debts abroad to maintain foreign exchange and to uphold credit at home and abroad. The money markets of London and New York are now closed. He is, apparently, receiving advances from the British Government, but on condition of assisting the British Government to finance. He pays for British purchases of ammunition here out of a domestic war loan and he induces the banks to use their resources in the same way. For these advances, the British Government probably provides credit in Britain with which our foreign debts are paid. In addition, there are the purchases of munitions here for which Britain pays without the use of Canadian credit. As a result, an enormous export

business has been developed in addition to the ordinary export production of the country, which keeps things doing and defers the financial consequences of war. The dislocation, at the end of the war, cannot but be great. There is also some anxiety as to the accumulation of foreign bonds and securities, such as the Federal Reserves. Bankers in the United States have warned against because they would not be liquid when needed. In view of the necessities which are inevitable, at the end of the war, it does not seem wise to permit the depletion of the farm workers.

THE McINTOSH APPLE

(Experimental Farm Note)

Ever since the first orchard was planted at the Central Experimental Farm, Ottawa, in 1883, the McIntosh apple has been under test by the Experimental Farms System, and during that time much useful information has been obtained in regard to this fine variety. In very severe winters when the Fameuse apple was injured, the McIntosh remained unharmed, thus proving that it is hardier than that old variety from which it is supposed to have sprung. For a long time the McIntosh apple had the reputation of being a shy bearer, but in nearly thirty years' experience with it at Ottawa it has been found to be one of the most productive varieties under test. The tree does not often bear very heavily, or overbear in any one year and then fail to bear the following year, but it is an annual bearer; as a rule giving a good and medium crop alternately, the number of small crops being few. Following are the yields of one McIntosh tree planted at Ottawa in 1890, the first yield being recorded in 1898, the eighth year after planting. Some trees of this variety will begin to bear in the sixth or even in the fifth year after planting. The yields are recorded in gallons, but if it is desired to reduce them to barrels, there are 24 gallons in a standard barrel.

Yield of one McIntosh apple tree from the eighth year after planting, in gallons: 17 1-2, 26, 37, 6 1-2, 71 1-2, 94, 12, 109, 41 1-2, 184, 50, 166, 55, 145, 112, 44, 149 1-2—a total of 1,432 1-2 gallons for 19 seasons, or an average of a little over 3 barrels per year, from one tree.

Nearly Sterile

It has been found by experiment that, in Ontario at least, the McIntosh is self-sterile or, at least, practically so, and to ensure a good set of fruit there should be another variety or varieties, blooming at the same time, growing near it.

The McIntosh apple is subject to the Apple Scab Fungus, and in some seasons if the trees are not sprayed, the proportion of No. 1 fruit will be very small. This year, at Ottawa, it was found necessary to spray the trees six times with lime-sulphur wash to ensure clean fruit, but the reward was a large proportion of No. 1 fruit in a year when there was, in many quarters, a very small proportion of No. 1 grade on unsprayed or poorly sprayed trees. As a rule, three or four sprayings are sufficient.

Owing to its very high quality and the great beauty of the fruit, it is believed that the demand for McIntosh apples will be an ever-increasing one. There are many relatively poor apples of the same season still being grown which will have to, in time, give place to McIntosh. Today there is no other apple which commands as high a price in Canada, No. 1 fruit being worth between seven and eight dollars a barrel, and in years of plenty the price of McIn-

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tosh apples is relatively high. Although it is in good enough condition to be eaten in October, at Ottawa it is not in its prime until November. Unlike the Fameuse, which has a relatively short season when it is at its best, the McIntosh remains in fine condition until February, and in good cellars keeps even until March. In parts of Canada where the autumn is warmer than it is at Ottawa, it ripens earlier and does not keep so late.

Description of Apple

Following is a detailed description of this apple:

Originated with John McIntosh, Dundela, Dundas County, Ontario, in 1796, the first tree remaining alive until 1908. Fruit above medium, roundish, slightly ribbed; skin pale yellow, almost entirely covered with crimson, dark on sunny side and brighter on rest of fruit; dots few, small, yellow, distinct, but not conspicuous; cavity of medium depth and width; stem short, stout, sometimes medium length and moderately stout; basin narrow, almost smooth, medium depth; calyx partly open; flesh white and yellow, crisp, very tender, melting, juicy, sub-acid, sprightly with a pleasant aromatic flavor; core of medium size, open; quality very good to best; has a strong aroma; season November to February, or later; and earlier in the season in the warmest parts of Canada; tree hardy, and a strong moderately upright grower.

Beekeeping in British Columbia

By Williams Hugh

THE BEE-KEEPERS' ASSOCIATION OF BRITISH COLUMBIA.

The annual general meeting will be held in Board of Trade rooms, Vancouver, 543 Hastings street west, Wednesday, February 7, 1917.

Programme.

12:30—Directors' meeting.

2:30—General meeting of members. President's address. Reports of hon. sec., auditors, supplies, labels, standardization of hives, legislation re honey. Addresses by W. H. Lewis, "Winter and Spring Experiences." American Foul Brood, Williams Hugh. Dadants Hive for B. C., is it Suitable?, F. D. Todd.

7:30—Election of directors, and hon. presidents. Addresses by Dr. A. E. Cameron, "Anatomy of the Honey Bee"; R. C. Treherne, "Problems of the Bee-keeper and Fruit Grower," illustrated by lantern slides.

Members traveling over B. C. E. Ry., are requested to procure convention certificates from agent at station or conductor, this when signed by secretary, will enable member to return at reduced rate. The directors extend a hearty invitation to all persons interested in bee-keeping to attend the meetings.

If you are unable to attend the meetings and your subscription is due please forward same to Hon. Secretary Williams Hugh, Victoria.

The following directors retire from office and are eligible for re-election: Mrs. Troughton, Messrs. Brooks, Chittenden, Coe, Dennis, Finlay, Glen, W. Hill-Tout, Hugh, Johnson, Knowlton, Lewis, Mills, Mowat, Parks, Rant, Robinson, A. Smith, Wilfred Smith, Sprout, Turnbull, White, and Winson.

The Agricultural Act, under which this association is incorporated requires fourteen days previous notice in writing shall be given to the secretary of the intention of any member to propose any person, other than a retiring director, for election as a director, the chairman may waive such with the approval of all members present at the annual meeting, and submit to the meeting the name of any proper person.

The subject of closer union with The Kootenay Bee-keepers' Association and the formation of local societies or branches will be laid before the members for their consideration.

Mr. F. D. Todd has presented the association several large photos of our exhibit at Vancouver Fair, 1916.

The following bee-keepers have recently joined up, Parker Williams, M.P.P., M. Dean, Alfred Humphrey, Mrs. H. B. Howell.

The many friends of Mr. W. H. Turnbull will be glad to hear that a new bee inspector has arrived at his home. Mr. Donald Francis intends to make this home his headquarters and will hold demonstrations later.

SPRING MANAGEMENT FOR THE SMALL BEE-KEEPER.

When spring's warm days unfold the budding blossom and fragrant flower on field and meadow, enticing bees to gather pollen wherewith to feed the growing brood, I feed with a thin warm syrup; this stimulates brood-raising and quickly crowds the busy hive with young bees, ready for any

flow of nectar. The late E. W. Alexander, one of the most successful apiarists in the United States, wrote: "We feed the thin syrup quite warm; and the heat and odor as they rise up to the cluster, even though the cluster may be only a mere handful of bees, will start them at once for the feed, and in a short time the syrup will all be taken out of the feeder and put into a circle around the brood. There is not any other one thing connected with beekeeping that I have tested more thoroughly in all its different phases than I have spring feeding."

Feeding in the Spring

This feeding should be continued during inclement weather or when the weather is unfavorable for the bees to gather pollen or nectar. The syrup is used for feeding the brood and not for storing, and does not cost more than 25 cents per colony. If bees are neglected during a long cold spell in the spring, they will suck the juices from the cells containing larvae, and then throw out the remains; this want of attention will put the bees back all summer, building up will then come too late to be of any great use to the bee-keeper, and his bees will miss the maple, fruit, and first dandelion and the small wild fruits. Should the suggestion of early stimulating feeding be followed, it will be found that in about forty days from the time pollen was first carried into the hive that the colony is crowded and the bees will commence to draw out the cells at the top of the frames with new wax. When this is noticed it will be found that the first honey is coming in; have the super body ready, take out one of the outside frames from the brood-chamber, replace it with a frame with a full sheet foundation; now place the super body on the brood-chamber, then put in the frame, with any adhering bees taken from the brood-chamber, between two other frames, close in with a division-board, cover all with a

cloth and fill the empty space in super with packing; the bees will quickly commence work in the super, and as each frame is filled or drawn out, others can be added until the super is filled. The effect of the gradual addition of the frames in the super is to conserve the heat and keep the bees fairly well crowded.

To Produce Section Honey

If it is the wish of the bee-keeper to produce section-honey, the same plan can be followed successfully, except it is not considered advisable to take any frames from the brood-chamber. A commencement is made with one or two rows of sections; the bees will quickly get to work in them and add from time to time as the sections are drawn out.

Over 2000 years ago, Varro wrote that "bees become spirited when placed in hives too large." Some beekeepers find it difficult to get bees to work in supers, owing to the sudden enlargement of the hive; try the gradual adding of frames or sections to the super, and see how quickly the bees will commence working. It takes more time at first, but compensation will be forthcoming in the shape of quick returns in an increased honey crop.

Now that the bees are growing in numbers and the first super is commencing to fill with honey, the colony should be ex-

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amed once a week; in doing so break up the brood-nest. This is done by shifting the frames in the brood-chamber, taking the centre frame and placing it on one side, or vice versa; the effect of this is to prevent or delay the swarming impulse and keep the queen working in the brood-chamber without the aid of a queen-excluder. If the bee-keeper prefers the Demaree plan as set forth in last month's issue by Mr. W. J. Sheppard, it can be tried. If there is no tendency to swarm—and if the hive contains a young queen there should not be any—the bees will be quite ready to avail themselves of any flow of nectar; there will be a working force that will give a fair surplus during a poor season, a good one during a fair season, and a bumper crop during a good season.

APICULTURE SHORT COURSE FOR B. C. BEE-KEEPERS.

Secretary Hugh, has applied to the provincial university through the educational department, to institute a short course in bee-keeping, free to all. Dean Klinek writes: "You will, I am sure, be interested to learn that in the preparation of our 1916-17 budget an estimate was included for the putting on of a course in apiculture at the university during the coming winter. Unfortunately, money was not available for this purpose, with the result that the only short course we have been able definitely to plan is the one on horticulture. We hope, however, that with this as a nucleus we may be able to extend the source of our operations next year.

"From this you will see that the university authorities are in hearty sympathy with the ideas expressed in your letter to Mr. Scott, and I can assure you that just as soon as the necessary financial arrangements can be made that short courses, such as you have outlined, will be offered by the university."

Should the university authorities not be in a position to start a summer course, some of our members will volunteer their services so that we can arrange a systematic programme of instruction in bee-keeping, provided a suitable location can be secured for demonstration purposes and a hall in which addresses can be given.

NOTES CONCERNING BEES.

"Bee-keeping is another money-maker, yielding surprisingly big returns, with little work or worry either in summer or winter," Toronto Saturday Night, in its issue of November 18, writing on the subject of "Mixed Farming," that "cattle raising is easy, and a sure money-maker; dairying yields very large returns," and then hands out the gem on bee-keeping as set forth above. Newspaper apiculturists would have people believe there is as much easy money in bee-keeping as there was supposed to be in sky line sub-divisions.

R. M. Muckle, of the Manitoba Bee-keepers' Association, in an article in the Canadian Bee-keeper for December, writes: "Several bee-keepers are rearing queen bees. Superior stock can be purchased in Manitoba thus keeping our money at home and at the same time lessening the danger of introducing bee diseases. This is one of the advantages derived from experimental work." Is there reason why B. C. with the beautiful climate of the Lower Mainland and V. I. cannot produce all the queens we require? Mr. Rant of South Vancouver has proved we can.

W. J. Sheppard of Nelson, in his notes on Winter Experiments in the Kootenay, writes: "The hives have been nearly cov-

SPECIAL OFFER TO BEE-KEEPERS

Have you Bees or other products of the Apiary for Sale?

We will accept classified advertising in the columns of the Bee-keeping section at a very moderate charge; copy to reach this office not later than 22nd of month preceding publication. Write for special rate to members of the association.

B. C. Fruit and Farm Magazine,

615 Yorkshire Building, 525 Seymour Street

Vancouver, B. C.

ered with snow since the middle of November and will probably remain so until the middle of next March. The last flight the bees had was on the 27th October. In previous winters we have always been troubled by the snow getting in at the entrances. A slight thaw would sometimes come followed by frost which would freeze them up solid with ice. This meant suffocation for the bees unless the ice was removed which caused undue disturbance. To get over the difficulty this winter, I cut some pieces of board the same length as the width of the hive, and about eight inches wide. A cross piece is nailed at the ends for closing them up when in position. The device rests on the alighting board slanting up against the hive, the top being bevelled to make it fit close. This protects the entrance completely by snow being now piled up over it. The front is left open right along with a depth of half an inch which makes a second entrance about seven inches in advance of the first. The bees keep the inner one clear of dead bees themselves. They bring them right out of the hive on to the covered-in space on the alighting board. The outer entrance can easily be kept clear without disturbing the bees. The arrangement keeps the sun from shining on the inner entrance which is also a good thing."

W. H. Abbotsford writes: The inside of the lid of a hive was very wet, water dropping off it. I put a queen excluder on top with the metal up so as to allow a space, then on top of queen excluder a bran sack and pressed the lid down over sack. Do you think that will be all right if zero weather should come? I think the sack will absorb the moisture. I am very glad to see a recipe in the "Fruit and Farm" Magazine. Will the common white sugar do to make the candy for bees or is it special granulated sugar, or is there any certain kind of candy one could purchase to feed bees?

Answer: The packing on the hives will be sufficient for zero weather. The sacking will absorb the moisture. The sugar used for making candy for feeding bees as mentioned in December's issue is made of B. C. granulated sugar. There is no need for you to purchase candy, it is easily made if you follow the directions as set forth in the December issue, but I think your bees have sufficient stores for the winter according to your letter. Do not disturb bees at this time of the year.

Williams Hugh will deliver an address illustrated by lantern slides, on Tuesday, February 13, 1917, on the Life History of the Honey Bee, at the Natural History Society's room, Duncan, V. I., B. C.

Bees were flying in Victoria Saturday, December 23 ult., January 9, 10 and 15.

LITTLE DETAILS IN THE APIARY THAT MAKE FOR BETTER BEE-KEEPING.

W. J. Sheppard, Nelson, B. C.

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and trouble and which often suggest themselves. The following are a few that may be mentioned.

When opening hives the smoker is frequently a source of trouble to the bee-keeper as it is apt to burn out, sometimes just at the very moment it is most wanted. Always keep a supply of fuel ready. An old gunny sack can generally be found beforehand and answers the purpose very well. Cedar bark makes good fuel, and so does oily waste, which gives a dense smoke and smoulders for a long time. Do not forget to keep matches handy. The smoker should be provided with a hook so that it can be hung at the side of the hive-body and will then be in a convenient place to reach when required. A cork, attached to the smoker with a cord, for plugging up the nozzle, is a ready method for keeping it from burning out too quickly when not in use. Keep a carbolic cloth always ready. A piece of calico, about 18 by 21 inches lightly sprinkled with undiluted carbolic acid, is all that is required. When laid over the tops of the frames for a second or two it acts as an intimidant to the bees, similar to smoke. If kept in a closed glass honey jar, when not in use, the carbolic will not evaporate so quickly, and the

B. C. FRUIT AND FARM A DEARLY BOUGHT PEACE.

cloth will not require sprinkling so frequently. Lysol may be found better than carbolic, and if the cloth is rubbed lightly over the hands before starting to manipulate it will often prevent stings.

Hive bodies are not always provided with hand-holes, for convenience in lifting, and when so they are sometimes cut in the centre. It is an advantage to have them near enough to the top so that the thumbs can grip the edge, which will give more lifting power, and keep the whole steadier, a great consideration when the hive-body is full of honey and has to be carried any distance.

Bottom boards, of the reversible type as generally constructed, are made level, which necessitates the hives being tilted at the back to give it a slope to the front. This can be easily obviated by having the bottom board so arranged that it slopes instead. The whole hive can then always stand level.

Alighting boards of hives, and also roofs, especially if the latter are metal-covered, cause the death and loss of hundreds of bees in wet and damp weather. They frequently turn over on their backs when starting to fly and are caught by the wings, through the suction of the wet smooth surface, and very soon perish. This can be prevented by putting on a coat of thick paint and sprinkling some coarse sand over it. Or, a piece of cheese cloth can be laid on the wet paint, and given another coat afterwards so as to provide a rough surface.

Before the snow comes a piece of board about eight inches wide with cross pieces nailed on to close up the ends, slanted over the hive entrance will have the two-fold effect of shading it from the sun in winter and keeping the snow from drifting in. There will then be no risk of its getting clogged with ice, through a freeze up after a thaw, which sometimes causes the bees to become suffocated before the beekeeper is aware there is anything wrong. It is so arranged that an opening is left in front the whole width of hive and half an inch deep, thus forming a second entrance which can easily be kept closed.

When examining a hive it is advisable to keep a record of the state of the colony, weather conditions, flowers in bloom, etc., which is useful for reference from year to year. For this purpose a card can be kept inside the hive cover and fastened thereto with a wire clip.

Wiring frames can be more expeditiously accomplished by cutting a thin stick of wood, eight and one-eighth inches long, which is inserted between the top and bottom bars, before putting the wire through the side-bars (technically termed posts). Then after the wire has been threaded through the holes pierced for the purpose and fastened at the ends, the stick is removed. The bottom bar springs back into position and the wire is automatically tightened.

An easy way of fastening foundation, in either frames or sections, is to use liquid bees' wax that has been melted on the top of hot water. The vessel containing same must be kept on an oil or spirit stove, so as to maintain an even temperature. Get a small brush and trim the bristles so that it is wedge-shaped. The brush is dipped down into the water each time before using and the wax that adheres to it can be laid on as easily as paint.

A simple way to keep track of the age of queens is to place a drawing pin on the front of the hive for denoting one year, two for two years, and so on.

In the early days in the west, in a little valley in the Sierras, at the forks of a tiny mountain stream, there grew up a small settlement of people. Some of them washed the sandbars of the stream for gold, some of them pastured a few cattle or sheep on the ranges, some of them were employed in a sawmill which cut the logs floated down from the forest higher up, and some of them kept shops, stores and saloons, selling to their neighbors and travellers. In these days there was no town organization, and the law of the country had not yet stretched out its strong arm to them. Only the goodwill and common sense of the people protected their property and lives.

After a time there came to that mountain village a man named William Frederick. It had not been the custom of the people to inquire into any newcomer's antecedents, but to take him at his face value. There was no mistaking, however, the type to which Frederick belonged. He was what was known as a "bad man," a coarse, brutal, fearless, arrogant, domineering ruffian, ready to risk his own or take another's life on any provocation. With his advent a feeling of disturbance and alarm ran through the whole community. Men began to oil the locks of their rifles and buy more cartridges. Some, who had revolvers, took them from their trunks, loaded them and put them in their pockets.

But the bad man did not begin by shooting up the town. Except for an air of recklessness and bravado he seemed like his neighbors. He was ready to talk to anyone, and made himself quite popular with many of the poorer workers by his condemnation of the leading men of the place. According to him they were monsters of greed and hypocrisy. He was specially severe on those who frowned on gambling and drinking, calling them sanctionous humbugs. He was an impassioned advocate of a wide-open town, in the interests of human liberty and enjoyment and for the increase of trade.

So most of the citizens began to lay aside their fears. They felt that this man was not the ignorant and impulsive savage that other bad men of their acquaintance had been. They recognized in him force of character, with mental energy and ability. Many of them became influenced by his opinions, the more so as he was manifestly becoming rich. Several new business blocks, the handsomest in the town, were built by him. He had built himself a home, the most imposing and elaborate in the place. And it was known that he had always money to lend, for which he demanded a goodly rate of interest.

The more sagacious few, however, became only more uneasy as they saw so many of their old-time friends drawing away from them and becoming the partisans of Frederick. And the village changed its character. It became vociferous and violent. Saloons multiplied and ran all night long. Gambling hells, fitted with expensive appliances and luxurious furnishings, ran every day and night in the week. Low dance halls started up, and other resorts of a more vicious sort. Painted women outstared decent women on the public street. Claims were jumped. Highway robbery became common. Shots were often heard in the night, and occasionally some one disappeared never to be heard of again. It came to be recognized as distinctly dangerous to ask questions in regard to such mysterious disappearances. Some who were indiscreet enough to ques-

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tion or criticize the new era of vice and terror had their cattle stolen or their homes burned over their heads.

The climax came when a poor family named Albert provoked the wrath of Frederick. A more inoffensive man than Albert was not to be found in the village. For no other reason than that he refused to join in one of the unholy depredations of the organized gang of thieves and murderers headed by Frederick his house was set upon in the dead of night by a mob, many of whom were drunk. The house was burned to the ground, one or two of his children were killed, several of his daughters outraged, and Frederick took possession of poor Albert's farm compelling him to work it and hand over the proceeds to him.

The next night a vigilance committee was formed, and a set of articles drawn up which a number of men signed, declaring that they would not rest till Albert had had his property restored to him and the village was freed from the terror of Frederick and his band. These articles were nailed on the front of the most prominent building of the place.

So the village became divided into two armed camps. Everybody was forced into

the fight, on one side or another. No one could show himself on the street without being shot at. Entrenchments were dug and forts constructed from which assaults were delivered or repelled. All peaceful production ceased, the whole energy of the people going into the fight and both sides grew rapidly poorer as they consumed their supplies and failed to replenish them.

At first the advantage was with the ruffians. They had more firearms and ammunition, and were more expert in handling them. But for a long time neither side gained any important victory. The vigilance committee, however, managed to set guards on the roads into the village so that while they could get supplies from outside their enemies could not. And after a time also they acquired an equipment of arms and ammunition which made them stronger than the foe.

It was at this time, when Frederick was growing desperate, realizing that he could not escape defeat, that there came to the village a young lady to teach school. She was pretty and good, and had the fearlessness of innocence. The sight of dead bodies in the streets horrified her, and she resolved to risk her life in order to bring the dreadful contest to a close.

So she boldly visited Frederick and besought him to agree to cease fighting. He answered her:

"My dear young lady, it is the dearest wish of my heart. I forebore to fight as long as I could, and have done nothing but resist the wanton attacks of these enemies, to whose greed and hypocrisy I had become an obstacle. If you can persuade them to quit I shall be very glad, because I am a man who loves peace. As you can see, I have so far more than held my own against them, but rather than see more bloodshed I will submit the differences between us to arbitration and abide by the decision."

Then the school teacher went to see the vigilance committee. They told her the story of how they had come to organize themselves and of their purpose to continue fighting till their village was once again fit to live in. And she argued with them, saying:

"I will not try to justify your enemy, nor to deny the great provocation under which you began the fight. But think of the destruction that is taking place now! You are all impoverished. Many of your sons and some of your daughters are already slain! Do you want to go on? Is not even a bad peace better than war? And I am sure that your enemy today is a different man from what you think him to be. Perhaps your object is already accomplished, and he is already a meeker spirit. I am sure that, once fighting is over, you will find him a good citizen of your town."

So these honest men of the vigilance committee allowed themselves to be persuaded by the pretty and innocent school-teacher. And peace was declared. And Frederick laughed in his sleeve, and sent out and got a hundred more ruffians, and six machine-guns, and two wagon-loads of incendiary bombs. And one night, several months later the gang made a sudden attack on the homes of the vigilance committee, and burnt them to the ground, and shot the inmates as they tried to escape. And afterward they ruled the town at their pleasure. And men were robbed or slain, and women sold into a slavery of shame without anyone to protest.

And the pretty school-teacher, what became of her? Oh, Frederick came to the school one day and gruffly told her to shut



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it up. She has since been washing dishes in his kitchen.

MANITOBA FARM LOAN BILL

The Manitoba Farm Loan Bill contains some features of more than ordinary interest. The purpose of the bill is to provide cheap money for agricultural development. The bill will be administered by a non-partisan commission, and the various municipalities in the province shall have direct supervision over all loans made under the act in their municipality, it being provided that no loan shall be made in a municipality until the ratepayers have passed a bylaw bringing the act into operation, and that the council shall appoint a committee to pass upon all loans made in the district, and recommend same to the board.

Six per cent. interest shall be charged on the loans and they are made payable in equal annual instalments over not less than 20 years and not more than 40 years. Loans shall not exceed \$10,000, nor be less than \$500, and shall be for any legitimate purpose in farm development.

Purpose of Loans

All such loans on first mortgages may be made for the following purposes and for no other: To provide for the purchase of land for agricultural uses; to provide for the purchase of equipment, fertilizers and live stock necessary for the proper and reasonable operation of the mortgaged farm; to provide buildings and for improvements on the land (the term "improvements" to be defined by the board, who may vary same in different cases); to liquidate the indebtedness of the owner of the land mortgaged, existing at the time, or indebtedness subsequently incurred for the purposes mentioned in this section.

The amount of a loan to any one borrower shall not in any case exceed a maximum of \$10,000, nor shall in any case be for a less amount than \$500.

Overdue payments shall bear interest at the rate of 8 per cent. per annum, and all buildings shall be kept insured.

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Gardening for the Home

By H. M. EDDIE, F.R.H.S.

The work to be done in the garden this month will depend greatly on the weather, but there are jobs to suit every variety of weather and no time need be lost by the enthusiastic gardener who realizes that much of his success depends upon preparations made this month.

If the weather is frosty, manure may be wheeled on to the undug land and left in heaps until the frost has gone. Pruning of the various fruit trees and bushes, if not already attended to, ought to be no longer delayed, and immediately pruning is done give them their winter spray as a remedy on dirty trees and as a prevention on clean ones. For fungus diseases and scale insects give a thorough spraying with the lime-sulphur spray, winter strength; and for woolly aphis give a thorough and forceful drenching with the kerosene spray.

Lime-Sulphur spray can be obtained ready for dilution with water, but the kerosene must be made at home, and for the benefit of those not acquainted with its manufacture I will give the details.

Dissolve two pounds soap in half gallon boiling water, and while still hot add one gallon kerosene and switch or churn with syringe or spray pump thoroughly until a creamy mass is obtained. For use, this quantity must be diluted with ten gallons of water. If used forcibly and directed into the crevices and rough bark of the trees this will go a long way towards ridding them of a troublesome pest.

If the weather is mild and no frost in the ground all ground not already dug ought to be done at the earliest. If there is any chance of getting the ground to work at all, much will be gained by putting in sowing of onions, leeks, parsnips, broad beans and peas. If the ground for these crops has already been manured and dug, select the morning of what promises to be a sunny day and lightly fork over the surface and leave lying rough after noon when it will in all likelihood be in shape to sow the seeds. For the small seeds rake the surface to get a fine tilt for covering with, it does not matter so much for the beans and peas.

Sow onions thinly in rows half an inch deep and 15 inches apart, cover with fine soil and tramp evenly with the soles of the feet.

Leeks may be sown at the end of an onion row and the seed may be dropped fairly thick, as they have to be transplanted later; two or three feet of row will produce enough for the average family. Sow parsnips one inch deep and in rows 18 inches apart. Bear in mind parsnips are deep rooted and ought to have deep soil to grow in. Plant broad beans in a double alternate row about six inches apart each way, and about two inches deep, give three feet between rows.

For green peas select an early, round seeded variety like the Pilot and sow in rows one and one half inches deep, and three feet between the rows.

Much can be done in the way of raising your own tomato and early vegetable plants by the use of a hotbed.

The initial cost of the structure is perhaps a consideration but if properly taken care of will last for many years and if fully utilized will repay itself in one year. The possibilities of a hot bed were mentioned in last month's "Gardening for the Home," and while the details of hotbed construction have at various times been given I consider it of such importance as to warrant me giving them again.

The frame is made of one inch lumber two feet high at the back and one to one and one half high at the front and the sizes tapering from back to front. The size will depend upon circumstances but the standard single sash frame measures three feet by six feet outside measurement. Any amateur can make the frame but the services of a carpenter had better be enlisted to provide the sash.

When ready select a warm sunny corner and dig a hole two and one half feet deep and one foot larger each way than your frame. The best heating material is fresh horse manure and where leaves can be obtained they may be mixed with the manure at the rate of one of the former to two of the latter; they make the heat less fierce to begin with and sustain it for a much longer period. Mix those materials well and let lie for a week turning at intervals of two days, then turn the whole into the prepared hole and tramp moderately firm; place the frame squarely on the manure and then cover the manure with three inches of fine soil and put on the sash.

In about three days everything ought to be in readiness for the seed. Arrange the above operations so that by the end of the month you will be able to sow seeds of celery, onion, cabbage, cauliflower and tomatoes.

Sow the seeds in shallow drills at one end of the frame and cover with newspaper until the plants appear; and when showing their second leaves prick out two inches apart each way in the vacant space in the frame. Should the weather prove sunny at this time, shade the tender plants with newspaper until they are established. A thermometer will be required and an even temperature of about 60 degrees at night with a rise of ten or fifteen degrees by day.

Great care must be taken in airing, that is sliding the sash down from the back, to prevent the sun running the temperature up too high and scorching the plants, which are very susceptible to sudden changes either way.

Should the onions or celery be inclined to grow spindly, it will do them good to shear their tops off once or twice, taking care, of course, not to damage the growing points; this will result in the produc-

SOW RITCHIE'S SEEDS

Make an early sowing of Pea, The Pilot Bean, Ritchie's Monster Long Pod Bean, Ritchie's Marrow; also Asters, Stocks, Lobelia, in frames.

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tion of nice stocky plants. As the plants get bigger more air must be given until the sash is gradually taken off entirely by day, but returned at night until all danger of frost is over.

The onions, cabbage and cauliflower may be planted out in their permanent quarters about the middle of April, the tomatoes and celery about the middle of May.

H. M. EDDIE.



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MARKETING POTATOES

From the consumers' side, the question of marketing potatoes is of the greatest importance, especially so in years when the prices for this commodity are advancing daily. The officers of the Experimental Farms recently had an opportunity of inspecting quantities of potatoes in the consumers' own cellars. The potatoes had been purchased in the ordinary way from small dealers. The condition of the potatoes was most unsatisfactory. In three cases the amount of rot came up to 75 per cent. of the total quantity in storage. This rot was the common late blight rot, and was certainly present when the potatoes were dug, and before shipping.

The consumer is helpless in such cases, and rarely is there a way open to him for compensation. Nor is the smaller dealer to blame. The blame rests with the shipper and the grower. In order that such losses may be avoided and the consumer be in a position to secure for his good money, good potatoes that will keep over winter, it is necessary for the growers, on their part, to exercise more care in digging, sorting and handling potatoes. Late blight is a preventable disease; every farmer should know this fact, since the experimental farm system has made every effort to demonstrate on many farms in the country the effect of spraying, with results showing the production of sound crops, and an increase in yield amounting to some 90 to 100 bushels per acre.

Practice Is Illegal.

The sale of inferior potatoes is dishonest, if not illegal at the present moment. Farmers know from their own experience that storage rots cause great losses in their own cellars. It seems, however, the general practice to dispose of an infected crop immediately and shift the losses from rot from the farmer to the consumer. The latter, however, has to pay the price of good potatoes.

In some instances, no doubt, the consumer is to blame by storing potatoes (or other winter vegetables) in too warm cellars. Potatoes and similar vegetables must be stored in a cool place. They cannot stand frost, which causes a sweetish taste in potatoes; but the temperature should never rise above 40 degrees F. Where such conditions are non-existent it is better not to lay in a winter's supply, as losses are sure to result.

Farmers are cautioned that the attitude of consumers will eventually result in demanding grading of potatoes just like apples; and the farmer who does not control diseases in the field, will have all rotten or diseased potatoes thrown on his hands. Diseased potatoes, when boiled, still make good stock food, it should be remembered. A letter or postal card addressed to the Publications Branch of the Department of Agriculture will bring by return mail all the required information relating to the growing of potatoes free from disease.

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"The Finest in the Land"

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SPRAY WITH PHYTOPHILINE

before aphids multiply and before they get the protection of the foliage.

READ THIS :

"A Stitch in Time Saves Nine."

Phytophiline Distributors,
Vancouver, B. C.

WALHACHIN, B. C., Oct. 14th, 1916.

Dear Sirs:

I wish to add my name to those who are recommending the use of Phytophiline. I have used as you are aware this article to the value of \$130.00 this year; while it comes expensive, I consider it well worth the money.

I have thoroughly tried it out this season, against other sprays and more especially for Green Aphis, and Phytophiline is what I shall use in the future; furthermore it is the only spray that I have found yet that appears to give equally good results, whether used with considerable pressure or very little.

You can make what use you like of this communication as I thoroughly believe in it. I am,

Yours faithfully,

WALTER B. HILL.

Three grades—state trouble. Cans postpaid, 50c, and double sizes, 85c, \$1.55 and \$2.90. Also commercial size, \$12 (sent express collect). Cash with order. PHYTOPHILINE DISTRIBUTORS, 1455 Eighth Avenue West, Vancouver B. C.

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We are arranging with the leading dealers throughout British Columbia and Alberta to carry a complete line of

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These seeds are the choicest it is possible to secure in the world's markets. They are government inspected and carefully selected for purity.

Buy early—prices inevitably advance as the season progresses. In all probability the market will be short, and late purchases may be difficult.

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CATALOGUE
AND GUIDE
FREE OF
CHARGE

POULTRY SECTION

THE BRAHMA AS UTILITY FOWL (By Michael K. Boyer)

Uncle Isaac Felch, in recent writings, is again extolling the merits of the Light Brahma fowl as a utility bird. Mr. Felch in his contention is correct. He has shown that this variety cannot only be made excellent winter egg producers, but that for broilers or roasters they have no superior.

The writer has bred Brahmas for years—probably as long as Mr. Felch. The first love was the dark variety, but since the introduction of the Light Brahma, that former variety seems to be placed in the background.

Between the two varieties, however—the Light and the Dark—the former far excel. In point of plumage they about equally divide honors. But it is the Light variety that we wish to particularly refer to.

As winter layers, Light Brahmas, if properly fed and cared for, will give more eggs than any other breed the writer has ever tried. Not only do they show their ability in numbers, but the size of the egg exceeds that of any of the American or Asiatic classes and, besides, the color—a rich brown—is of the best, and just such a shade that would fill the breeders of the American class with joy.

It does not end with their laying. They will make quick broilers—in ten weeks; from the time they are born they are plump chickens. We can never forget a lot of young stock we some years ago saw on a farm in Massachusetts. They were but 61 days old, and the weights were: Cockerels—we weighed but eleven—three pounds and one ounce for heaviest, and two pounds and four ounces for lightest. The pullets weighed two pounds and eight ounces for heaviest, and two pounds for lightest. These were live weights.

Mr. Felch accompanied the writer to that farm in order that he might prove his contention that Light Brahma chicks at eight weeks of age make good, plump broilers.

But there is a market objection to the Brahma as a broiler. It comes not in quality of flesh, neither is it in the time of maturity, but simply in the fact that the American does not want feathers on the legs. And why not? We do not eat the legs, but the peculiarity of our market buyers says it spoils the appearance. We must cater to the whims of the market.

However, there is a place for them where there can be no objection, and that is in the roaster class. In this they are ideal. Large enough and fit enough for a king, there is both quality and quantity of meat. At six months of age they are in prime condition, weighing easily a pound for each month's age—six pounds for six months—and if they are kept for a full year, and all that time properly fed and cared for, they will get twelve full pounds for that year's lease of life.

Truthfully it has been said the Light Brahma is the king of the roaster class, but we wish to add an amendment: It is the peer of the utility fowls.

It is not only hard to sell a lean chicken in market, but it also is poor eating. A little care and feed will make them more inviting.

It is claimed that a single-comb fowl fatten best. An English authority says he

White Leghorns & White Wyandottes

Very vigorous stock, bred for years for heavy egg production, with most successful results.

Headquarters for
STRONG CHICKS AND RELIABLE HATCHING EGGS

Write now for my 1917 Illustrated Catalogue containing valuable information on feeding poultry.

L. F. Solly, Lakeview Poultry Farm WESTHOLME, B. C.

has found that a single comb fowl always grows fatter and plumper than any others.

It is a waste of food to keep young cockerels after they weigh five pounds to the pair, as they are sold as "old roosters" after their combs grow. While the market rate for old roosters is from five to nine cents a pound, young ones often sell at from fifteen to twenty cents per pound. It is a loss to keep them longer than they are old enough to sell.

One part of cedar oil and two parts of vaseline is an excellent treatment for sore head.

When hens become too fat the result is apt to be egg-bound, soft and irregular shaped eggs, dizziness, apoplexy, liver complaint and kindred diseases.

It is claimed that nux vomica is a specific for liver complaint in fowls, if taken in time. The dose is given in homeopathic form, allowing six pills three times a day to a large fowl, and less to a smaller one.

The following formula for roup is recommended: Half a dram each of cayenne pepper, ginger, mustard; half ounce of plain vaseline or clear lard; mix thoroughly and add enough flour to make a tough dough. Make into pills the size of a pea. Dose, one night and morning.

The following is said to be the recipe for making Vale's roup pills—a popular English remedy: Hydrastin, 2 grains; sulphate of iron (dried) and sulphate of copper, 3 grains each; powdered capsicum, 12 grains; oil of capsiba, 20 drops; Venetia turpentine and calcined magnesia, of each enough to make 24 pills.

Dose for adult fowls, one or two pills, night and morning.

Diseases of the liver are caused by over-feeding of fat-producing food or by the use of too much spice or stimulating substances. This particular trouble is hypertrophy of the liver, which is an enlargement of that organ, and is often found in hens kept over the second winter. It is due to feeding too much fatty food, combined with a lack of exercise. In the early stages the disease may be arrested by feeding lightly on bran mash and green food, and to each quart of drinking water adding one-half teaspoonful of muriate of ammonia.

The trap nest is a regular detective. It tells the facts of the case, it tames the hens, it gives accurate reports, it arrests the robber hens, it gives an honest count, and it exposes the fraudulent hens.

Some egg farmers candle all eggs each day as they are received from the nests. Their reason for so doing is to throw out all such that show blood clots—that is, every now and then a hen in straining to lay her egg is apt to rupture a minute blood vessel, and this clot of blood sometimes shows itself inside the egg, and at other times we find the blood on the shell. When candling, this blood clot is easily seen if in the egg.

The Houdan is a small-boned fowl, having a thick breast, and the flesh is tender and juicy. They make fine broilers and the best roasters.

Some poulterers, in order to obtain the best prices for their broilers, hatch from October 1 to February 1, and have all the stock marketed by July 1.

The skin of the Langshan is a pure white, and not a dark or bluish white. The meat is fine grained, tender and juicy; thin skin and small bone, and while possibly not so much admired in the market as the yellow-skinned breeds, none surpasses it for tenderness and flavor when served on the table.

Capon and poulard rearing is a general industry in Normandy, Maine and La Brasse (a capon is a castrated male bird; a poularde is a female that has been operated upon). Poulardes are peculiar to the La Fleche and Le Manes breeds. It is the peasant farmer who fattens the young hens and creates the industry.

The main reliance of the poultry breeder is the certainty that he will always have a fairly profitable market for his meat and eggs. This is the bedrock of the industry.

The late Morgan Bates once said that the class of poultrymen that are supplying the market with eggs and poultry are the bulwark of the poultry industry of the nation.

Because there are failures with poultry is no argument that the business is a failure. There are lots of people who never make a success of anything they undertake. Work out your own salvation, and never mind what the croakers have to say.

WHITE and COLUMBIAN Wyandotte, Light Brahms and S. C. White Leghorns. Over thirty years a breeder. Stock and eggs for sale.
MICHAEL K. BOYER,
Box M, Hammonton, New Jersey.

WOMEN'S SECTION

British Columbia Women's Institutes

Motto—"FOR HOME AND COUNTRY"

VERNON WOMEN DO GOOD WORK Institute in That District Has Helped in Patriotic and Other Necessary Work.

When the Women's Institute movement was started some years ago, it was the desire of the promoters to build up this institution to meet the needs of the women in the country districts. This expectation has been fully met.

The reports for the first annual meeting of the Vernon and District Women's Institute, which was held at Vernon last month, show the truth of this statement. Mrs. Price Ellison is the president of the institute. Their total receipts for the year were \$1132.75, and their expenditures \$1046.08, the money being spent in gifts to the hospital, the Patriotic Fund, the Prisoners of War Fund, in Christmas boxes for the soldiers, to the military work of the Y. M. C. A. and in purchasing various articles needed in the work of the institute.

There are many women in the city who do not understand what these institutes are doing and the address given by the president, part of which follows, may prove enlightening:

"We often meet the questions: 'What does your institute mean? What are its aims?' As we are just beginning the new year it seems an opportune time to consider these questions and to try to answer them.

"For Home and Country."

"The general idea embodied in an institute are co-operation, exchange of ideas, instruction and education. But a thoughtful consideration of our motto, 'For Home and Country' will add much to these ideas. First, we are studying the welfare of our homes. A great nation must depend upon great people and great people can come only from homes where integrity, intelligence and thrift rule. The first and important question in the home is the care and welfare of the children. The boy is father of the man. A neglected, badly raised child can never make a good citizen. As far back as the old Roman Empire the adage, 'Sana mens sane corpore' was a well respected rule, and the building up of strong minds in strong bodies was considered the first duty of Roman citizens.

"War is killing off the best of our nation's manhood. The future of our country depends upon the proper care and raising of the nation's children. Every child must be saved, must be made healthy and strong and endowed with character for becoming a valuable citizen. To this end, women should make an effort to supervise schools to see that all arrangements are sanitary, that their sports and drills tend to healthy development, that they have medical inspection and that measures are taken to provide for the treatment of such physical defects as are reported by the medical inspector, which menace the future efficiency of the child or rather of the citizen.

To Help Women.

"The institute aims to help women to so order their homes that there will be less friction, less wear and tear and greater efficiency, maximum result from minimum effort. Toward this end the agricultural departments are trying to secure all the

new labour saving devices in order that the members of the institutes may be able to study them and may co-operate in buying them. American institutes are rather ahead of us in this respect.

"The second part of our motto: 'For Our Country,' this depends, or rather is inseparable from the first part. Although we must recognize the care of home and children as peculiarly our work there is much good that can be done by organized effort in other lines.

Social Problems.

"Our Women's Institute is a splendidly organized machine for the handling of social problems. Now that we are enfranchised citizens we must prepare ourselves to vote intelligently. A most important subject is to be studied this month—the laws of B. C. relating to women and children—we must be prepared to draft a strong resolution praying for their betterment.

"We can help to win this war by the practice of economy in our households, in our dress, in our contributions to the Red Cross, the Patriotic and Prisoners of War funds. We can help by sending cheery letters and parcels to our boys at the front.

A Fine Record.

"To the question: 'What have we done?' we point with some pride to our records. Through our junior members, who are also members of the Girls' Hospital Auxiliary, we gave \$118 to our hospital. We contributed \$100 to the Canadian Patriotic Fund, \$50 to our Prisoners of War Fund, \$137 to Christmas boxes for our soldiers. We have bought a good piano, a fine oil stove, and all the china required for a large entertainment. We have given some help to the military Y. M. C. A. We have entertained the soldiers with many dances. I must say for your directors, that they have worked nobly. When you consider that our institute is considerably less than a year old, you must grant that this is a remarkable record. Having gained so much experience, our second year should be even more memorable. We propose to contribute at least \$25 per month to the Prisoners of War Fund."

PENTICTON.

At the annual meeting of the Penticton Women's Institute the reports showed the branch to be in a very prosperous condition with an increasing membership. Not only are the meetings mutually helpful to the members, but the institute does much practical work in assisting and encouraging worthy causes. During the year the sum of \$296.90 was raised for patriotic purposes. Officers for 1917 were elected as follows: President, Mrs. H. McGregor; vice-president, Mrs. H. W. D. Smith; directors, Mrs. Morehouse, Mrs. M. Campbell, Mrs. J. W. Thompson; secretary-treasurer, Mrs. H. W. Main. Dr. Hetherington of Vancouver addressed the members on "Social Reconstruction."

MISSION WOMEN'S INSTITUTE.

The annual meeting of the Mission City Women's Institute was held in the Agricultural Hall, January 11, 35 members being present. In the absence of the president, Vice-president Mrs. Middleton was in

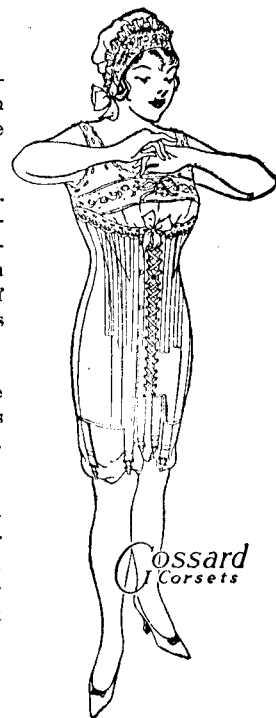
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To prove to every woman that this is the best Vacuum Washer made and to introduce it in every home we will send it complete with bundle and exhaust protectors, which prevents splashing, for only \$1.75 Postpaid.
Washes anything from finest laces to heaviest blankets, without wear or tear—saves rubbing and wash-board drudgery. Used equally well for rinsing, bleaching or dry cleaning with gasoline. Lasts a life time. Satisfaction guaranteed or money refunded. Send your order to-day.

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the chair. When the minutes of the last annual meeting were read and adopted, the president gave a short address and the interesting report of the directors for the last year was read by the secretary, as follows:

"The institute held ten monthly meetings with an average attendance of 32

members, including visitors. Our membership showed a decrease from 70 to 53, as so many have moved away from this district for various reasons. We were very discouraged by this, but we discovered at the annual conference that nearly all institutes were suffering in the same way. Members have, owing to the war, so many calls on their time that they are unwillingly compelled to drop out of something. Mission Institute received a sad blow in the death of its oldest member, Mrs. Abercrombie. It was entirely due to this lady's perseverance in the early days that we have our institute with us now, and we would like to urge all members to honor her memory and do their share to help our institute to prosper. At the April meeting we had a very interesting debate, and the members of the Agricultural Association were invited to meet with us. All work undertaken has been for patriotic purposes, members agreeing that other work must be laid aside until after the war. Five dollars was donated from the institute funds to the Serbian Relief Fund, and \$1 per month to the Y. M. C. A. military work. The institute also paid postage amounting to \$17.68 for Christmas parcels sent to Mission boys in the trenches."

The directors for the coming year were then elected by ballot for the year, the following ladies being chosen: Mrs. Middleton, Mrs. Keeves, Mrs. Bush, Mrs. A. Stuart and Mrs. C. J. Ward, who then retired, and appointed Mrs. Middleton to be president, Mrs. Keeves to be vice-president, and Mrs. Osborne to continue to hold the secretaryship. A copy of the institute programme for the year was then presented to the members for approval and the meeting closed with the National Anthem

SURREY OFFICERS ELECTED.

The annual meeting of the Surrey Women's Institute was held in the Municipal Hall, Cloverdale, on January 9, with the president, Mrs. B. R. Whiteley in the chair.

The annual report stated twelve regular meetings having been held during the year, with an average attendance of 38. Sixteen addresses and demonstrations were given.

The institute gave two concerts, held a tag day, and also made a junk collection. A very successful flower show was also held.

The total receipts for the year, including the government grant amounted to \$308.80.

The institute is now supporting three prisoners of war at a cost of \$5 each per month.

Budgets of news from home have been sent to the men at the front twice per month since May.

Votes of thanks were given the president and secretary for their faithful and efficient services during the year.

The following officers were elected for the year 1917: President, Mrs. B. R. Whiteley; vice-president, Mrs. A. G. Stevens; secretary-treasurer, Mrs. H. P. Currie; director, Mrs. Jas. Loney.

The next meeting will be held in the Municipal Hall, Cloverdale, on Tuesday, February 6, at 2:30 p.m.

COWICHAN.

There was an enthusiastic gathering at the Cowichan Women's Institute on Tuesday, January 9, to hear reports of the year's work, a paper on Duncan hospital by Miss

To the Farmers of British Columbia

UPON YOU, gentlemen, depend in great measure the prosperity of the province, for, of course the soil is the source of all prosperity. You were called upon to produce for the Nation greater abundance of crops during the past year and you responded nobly. "Patriotism and Production" is a slogan which has meant much and will mean more, than ever in the coming year. Your efficiency, upon which we all depend so greatly, in turn depends very vitally upon your teeth. You are exposed to the elements and sound teeth are absolutely necessary to your health and comfort.

I have prepared an illustrated booklet which describes in detail my "Perfect" Crowns and Bridges, which I believe to be the ideal method of replacing the lost natural teeth, because they are far superior to the plate and may be used in nearly every case where a plate is now used. In fact as many as 14 teeth in either jaw may be replaced in this way providing the remaining teeth or the roots are sound. I shall be pleased indeed to send you your copy of this booklet. It is free.

DR. LOWE

Phone or write for free appointment. **Vancouver's Greatest Dentist.** **HASTINGS AND ABBOTT STREETS** **Opposite Woodward's** **Phone Seymour 5444**
Vancouver, B. C.

NOTICE HIDES WANTED

We wish to call farmers' attention to the fact that we are now in a position to purchase HIDES for the Fraser River Tannery, which we have secured and enlarged.

We will pay highest market prices for calf and light cow hides.

Ship to **LECKIE TANNERY**
New Westminster, B. C.

And notify **J. LECKIE CO., LTD., Vancouver, B. C.**

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| 7:00 p.m. | Leave..... VANCOUVER..... | Arrive a.m. 11:00 |
| 9:45 p.m. | Arrive..... Chilliwack..... | Arrive a.m. 8:15 |
| 11:00 p.m. | Arrive..... Hope..... | Leave a.m. 7:00 |

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Wilson, and to elect officers for 1917. Mrs. Blackwood-Wileman was re-elected president Mrs. Hayward, vice-president, and Mrs. Whidden, secretary. The directors at

present are Mrs. Leather and Mrs. Hamish Morten. Seventy-three members have renewed their fees. A full report is held over.

TO INVESTORS

THOSE WHO, FROM TIME TO TIME, HAVE
FUNDS REQUIRING INVESTMENT
MAY PURCHASE AT PAR

DOMINION OF CANADA DEBENTURE STOCK

IN SUMS OF \$500, OR ANY MULTIPLE THEREOF

Principal repayable 1st October, 1919.

Interest payable half-yearly, 1st April and 1st October by cheque (free of exchange at any chartered Bank in Canada) at the rate of five per cent per annum from the date of purchase.

Holders of this stock will have the privilege of surrendering at par and accrued interest, as the equivalent of cash, in payment of any allotment made under any future war loan issue in Canada other than an issue of Treasury Bills or other like short date security.

Proceeds of this stock are for war purposes only.

A commission of one-quarter of one per cent will be allowed to recognized bond and stock brokers on allotments made in respect of applications for this stock which bear their stamp.

For application forms apply to the Deputy Minister of Finance, Ottawa.

DEPARTMENT OF FINANCE, OTTAWA
OCTOBER 7th, 1916.

IF you can talk with crowds and keep your virtue,
Or walk with Kings—nor lose the common touch;
If neither foes nor loving friends can hurt you,
If all men count with you, but none too much;
If you can fill the unforgiving minute
With sixty seconds' worth of distance run,
Yours is the Earth and everything that's in it,
And—which is more—you'll be a *Man*, my son!
—Rudyard Kipling.

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CITY COMFORT FOR COUNTRY HOMES

WHAT appeals to the whole family more than a warm comfortable home—a house well heated—every room toasty warm—from the hall through the big living room and right back into the kitchen, in the cold evenings? This is obtained through a modern hot water heating system—it's no fad or novelty but a real home necessity. You can have this kind of heating with one central fire in the cellar—no coal or wood to carry upstairs—no ashes to carry out or soil your carpets—no dust making that adds work all round.

You have all those acres, your splendid stock, horses, implements, barn; what for? For the comfort now and later of you and your family. Your property represents thousands of dollars and you only get the best of it seven months in the year.

In the Winter, well you "get along." Winter time is one third of all our time. Put in this outfit now and your family and yourself will get twelve months enjoyment of your splendid place. You'll all have even better health and your property will be more valuable.

It's the recognized best way to provide winter warmth for one's home. Today many houses are provided this way and many more are being added all the time. Why not yours? In the older more densely settled parts of Canada, three quarters of the Farm Houses have it. Look at the Real Estate Ads in the city dailies. They all say "Hot Water Heating" in describing their most attractive offerings.

A Gurney-Oxford Hot Water Heating System means no more work than running a Kitchen Stove.

Write us for further information.

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