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THE FARMER'S ADVOCATE

AND HOME MAGAZINE

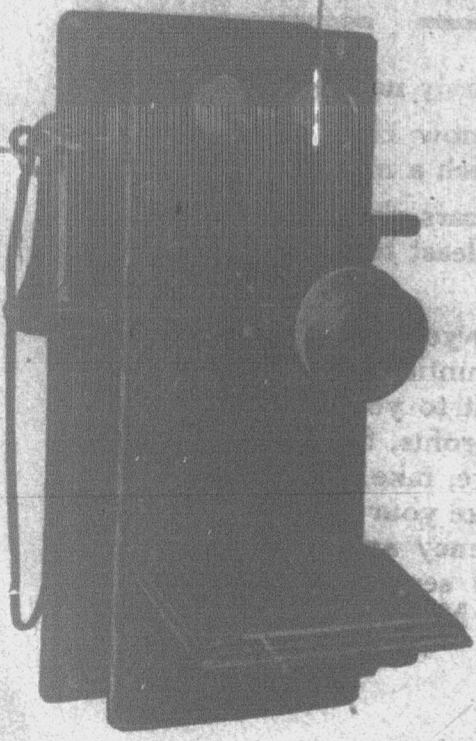
* AGRICULTURE, STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME CIRCLE *

Vol. LIII.

ENTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1917.
LONDON, ONTARIO, JANUARY 3, 1918.

No. 1319

Business in 1918



THE year just closed has been a prosperous one for the Canadian farmer and manufacturer. Products of the farm have brought record prices, and, with a great shortage of food in Europe, indications point to a continuation of high prices for grains and meat.

With farm conditions as they are to-day there should be no hesitancy in building new telephone systems or extending old lines. While prices are higher than before the war, telephones are such time, money and labor savers that the extra cost of building and equipping a system for your locality is not worth considering, compared with the benefit you will derive from it.

Notwithstanding the scarcity of materials, shortage of labor, and other present-day difficulties of manufacturing, we are able to give good service and to maintain the high quality of our telephones. We already have a supply of goods coming through our factory to insure deliveries for the first part of the year. We carry everything required for constructing and equipping a telephone system, no matter how large or how small.

We are gratified with the business we secured during the past year, and look to this year with confidence.

Write for prices and any information you may desire.

Bulletins Free

- No. 3 tells how to build rural lines.
- No. 6 describes our rural telephones.
- No. 5 describes our Presto-Phone automatic private systems for large factories.
- No. 7 describes our small private telephone systems for homes, garages, etc.

Canadian Independent Telephone Co.

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261 Adelaide St. West, Toronto

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Everything That Counts for Your Profit and for the Future of Your Family Is Moving at Motor-Car Pace and Radius

You can't shut your eyes to that. Are you going to stick to horse-pace, one-fifth the pace of motor cars, and to horse-radius, one-fifth the radius of motor cars?

Are you content to see others seize the golden chances that are offered now and the untold chances that are coming in the next few months? Or will you join your neighbors who are moving at motor-car pace?

A little delay now may have results that all your future cannot repair.

Take this up now. Be fair to yourself, to your girls and boys, to your wife. Look into the changes of the last few months which have placed the whole question of motor-car service vs.

horse service in an entirely new light. We say—

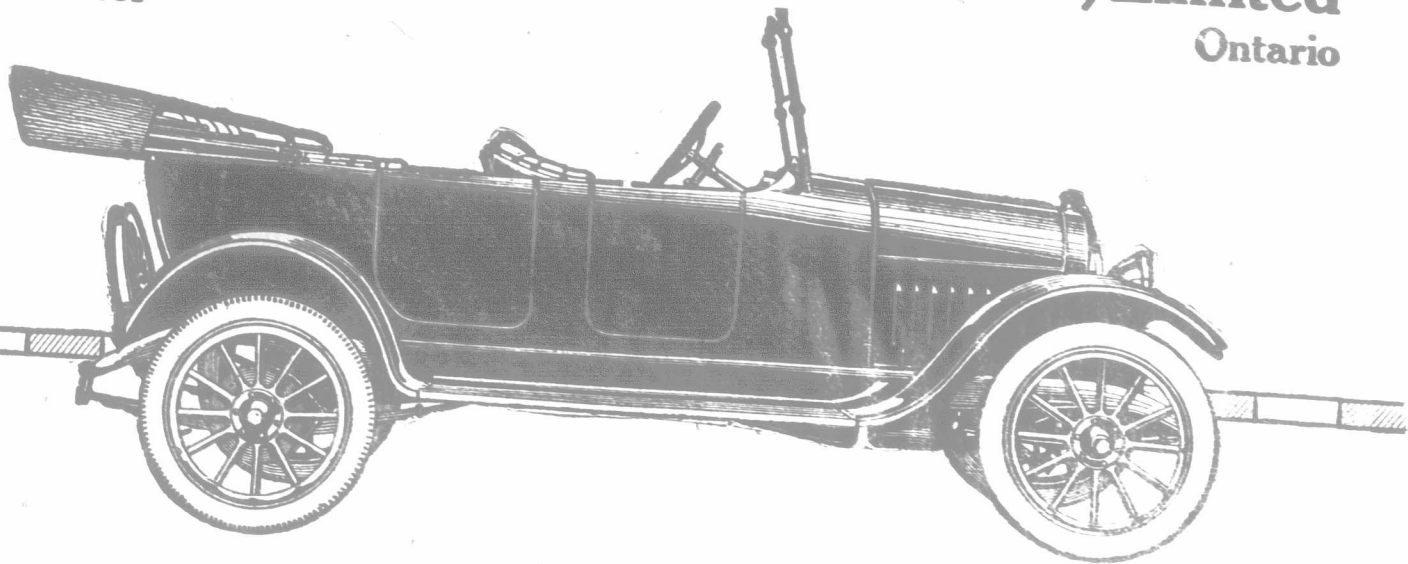
1. Motor cars are now cheaper to use than horses for all work which a motor car can do.
2. Of all the motor cars giving maximum service the one that costs least to run and use is the Maxwell.

That ought to make you think. We don't expect you to act on it until we have proved it to you. We can prove it to you. For the sake of your own work and profits, for the sake of your girls and boys and wife, take this up now. Send us a letter today. Make your decision while these cars of greatest efficiency and economy are still procurable. We will send you the name and address of the nearest Maxwell dealer.

Touring Car \$1045; Roadster \$1045; Touring Car with Winter Top \$1200
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The Farmer's Advocate and Home Magazine

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LIII.

LONDON, ONTARIO, JANUARY 3, 1918.

1319

EDITORIAL.

Make 1918 Canada's greatest year.

More is generally accomplished by working with men rather than against them.

Class consciousness without leadership leads to disorganization and disintegration.

We heard a speaker declare, the other day, that the people can be fooled all the time.

Canada desires that all the pages in the 1918 diary of affairs be kept "clean sheets."

The organized farmers of Ontario are growing in numbers. Like all such organizations in their infancy they require leadership.

Any class of people which allows others to do for them what they should do for themselves can never fill a commanding place in the affairs of men.

Farmers realize that the Food Controller has a big task, but they often wonder how it is that the bulk of the price fixing is confined to farm products only.

The people of Canada have spoken at the polls. Now they expect pre-election promises to be carried out, and they are in no mood to be fooled with this time.

Registration of the workers and putting each at what he or she is most capable of doing toward necessary industries to win the war would be a long step forward.

The "knocker" knocks and remains out in the cold. The diplomat tries the door, enters softly and is welcomed. He succeeds while the "knocker" fails miserably. This is human nature.

The Canadian farmer should watch the progress of public affairs more closely than ever before. He is ready to pay his share of the country's debt, but is not willing to pay the other fellow's too.

If there should be any of those young men who received telegrams a short time ago informing them that they would be exempt from military service drafted, they will wonder what the telegrams were sent out for.

In proportion to population, agriculture has least representation in Parliaments. Farmers keep on complaining about it but remain quiescent when men are chosen to represent their ridings. It is the electors' own fault if they choose a lawyer or doctor to represent them.

East of Manitoba, Canada elected an exactly even number of representatives belonging to the two political parties—Unionist and Liberal. The great West gave a majority of nearly 50 to the Unionist side. The West will rule, and the West wants duty-free farm implements and machinery. Will the Canadian farmer get what he asks?

The speaker who, at the United Farmers' Convention, advised farmers to change work was right. While every available laborer should and will be used, greatest results come from the best use of the men now on the farms. There is much work on the farms that one man cannot do alone. At this labor two experienced farmers are generally worth more than half a dozen inexperienced men. Co-operate in work as well as business.

Canadians All.

Canada is entering upon a new year. It does not promise to be a year of great happiness. The war appears to be still far from won. It will mean another year of separation and sorrow for thousands. It is the duty of those left behind to see that it does not cause greater privation to many. And yet the year 1918 may bring peace to the warring nations. Everyone hopes that it will see the dawn of a lasting period of good will toward men. And in this respect we might bring the matter right home to Canada. Let us all be Canadians in 1918. This is no country for hyphenates—this is Canada and the people of this Dominion are Canadians. True, Canada is divided into provinces and is the home of people of many different tongues, but they are none the less Canadians. Canada will have no race problem if all forget the past and remember the best interests of the Dominion.

While it is necessary that there be no race prejudices in this young country, it is just as imperative, particularly under conditions which have arisen out of the war, that there be no class differences and distinctions. Farmers are the great producing class and are doing a necessary work at any time. Right now food production is war work. Without it the Allied cause would be lost. Farmers expect a square deal. They have not always had it. They have borne heavy burdens, and financial returns for efforts expended have been comparatively small. Moreover, some of those living in cities have not been disposed to treat farmers as altogether human. Sometimes city consumers still say hard things about producers—call them profiteers and blame them for being tightwads and poor business men—tell them their wives and daughters ought to get out and work in the fields and pig pens that they in the cities may be sure of plenty to eat, and so on. The farmer resents all this, and justly. And on the other hand, sometimes we as farmers criticize too severely the people of the cities. We think they have all the money with little work, that they reap undue profits, that they control everything to the disadvantage of the men on the land, and that they are a pretty mean set of individuals. Both viewpoints are wrong. The great mass of people living in the farming communities are good people, honestly trying to do what is right and make a living. There are a few of the wrong kind, that is true, but they are few. The same is true of the cities. The great rank and file of the people we meet on our city streets are good people, earnestly striving to make an honest living and this country a bigger and better Canada. There are a few bad ones among them, but they, too, are few.

These being the facts, Canadians should get together for better things in 1918. Because one farmer has done wrong is no reason why city people should brand all farmers as hogs, and because some city man has manipulated wheels within wheels is no reason why farmers should condemn all city people. There is room right now for a better feeling between city and country. Neither can prosper without the other. It is time, then, that city people stopped telling farmers and their wives what they should do in this crisis. The people on the land know better what they should do than any city folks can hope to, and are doing it. No class works harder and longer hours than the farmer, his wife and family. Some statements have been made about what the farmer and his wife and daughters should do which have been insults to the hardest working men and women of the land. City people should stop this in 1918 and lend a hand at the work, rather than keep up the worn-out and useless practice of giving advice. And on the other hand, the farming community should be fair to city people. Canadian cities have responded nobly to the many calls made upon them. Men, material and money have been forthcoming in ever increasing quantities, and the people are anxious to accomplish more. City people are human and prone to err just as

country folks are. Farmers should remember that the great bulk of the people of the cities are right at heart and anxious that all Canada, farmers and city dwellers, should prosper. They do not wish a wider breach between producer and consumer. This being true, farmers should strive to get better acquainted with city people, and the people of the cities should make an honest effort to know more of the country districts and their conditions. Getting together will bring better results than drifting apart. What is good for rural Canada is good for urban Canada. This should be remembered. This is an agricultural country first, and when agriculture prospers all Canada prospers. Mr. Cityman, when you feel like telling the farmer to work longer hours and get his wife to work outdoors, ask yourself to work longer hours and exhort your own wife to work in the fields. And, Mr. Farmer, when you feel like condemning everything that city people do, be careful. You can spend your time to better advantage in productive effort. We believe in organization, city and rural, and that these organizations should ultimately work together for the good of all the people of Canada regardless of whether they live in city or country. In 1918, then, let us be Canadians all. Let us strive to know one another's problems, and to work together toward their solution. This will be an eventful year.

Organize Now.

Never before in the history of Canada was it more necessary that farmers be organized than at the present. These are trying times on the farms of this country, but there may be a more strenuous period ahead if those responsible for looking after the interests of agriculture are not on the alert, and it is farmers themselves who should see to it that their industry is in a position to hold its own with all other industries of the country. It is a matter of organization and representation. All other industries of any size are organized. They have been organized for years, because their leaders understood that by getting together they were able to build up stronger industries. It has been a case of building up rather than one of tearing down, and farmers should profit by the experience of the other industries.

Farmers have been slow to get together. Disloyalty to their own cause, lack of patience and distrust have broken many a promising organization. All these must pass away if farmers are ever to unite for the common good. The time is now ripe for the movement to get on its feet. Not a moment should be lost. Big men are needed to guide the ship. Farmers' rights must be safeguarded and when the war is over the agriculture of this country must be on a firm footing, for it will be to agriculture that those at the head of affairs will look to carry the burdens of the country during the period of reconstruction. Without organization, and by this we mean the proper kind of organization, of course agriculture will be at a disadvantage. At the recent meeting of the United Farmers of Ontario one of the speakers representing the organization in Western Canada made the statement that capitalistic industries in the Dominion are forming an organization within themselves against the organized farmers and organized labor now and after the war. If this is true, farmers should benefit from the hint. And whether it is true or not, an industry of the size and importance of agriculture should present an organized front, to work with other organizations representing other industries for the ultimate good of Canada. We believe that all industries should be well organized, not for the purpose of gaining the strength to stab weaker industries in the back, but that all might work together in the interests of the country and people generally. All organization should be brought about with the purpose of construction rather than destruction, and now that it has reached the high standard in other industries it becomes absolutely necessary that agriculture be organized, else the

The Farmer's Advocate

AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE DOMINION.

Published weekly by
THE WILLIAM WELD COMPANY (Limited).

JOHN WELD, Manager.

Agents for "The Farmer's Advocate and Home Journal"
Winnipeg, Man.

1. THE FARMER'S ADVOCATE AND HOME MAGAZINE is published every Thursday. It is impartial and independent of all cliques and parties, handsomely illustrated with original engravings, and furnishes the most practical, reliable and profitable information for farmers, dairymen, gardeners, stockmen and home-makers, of any publication in Canada.
2. TERMS OF SUBSCRIPTION.—In Canada, England, Ireland, Scotland, Newfoundland and New Zealand, \$1.50 per year, in advance; \$2.00 per year when not paid in advance. United States, \$2.50 per year; all other countries, 12s., in advance.
3. ADVERTISING RATES.—Single insertion, 25 cents per line, agate. Contract rates furnished on application.
4. THE FARMER'S ADVOCATE is sent to subscribers until an explicit order is received for its discontinuance. All payment of arrears must be made as required by law.
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12. WE INVITE FARMERS to write us on any agricultural topic. We are always pleased to receive practical articles. For such as we consider valuable we will pay ten cents per inch printed matter. Criticisms of Articles, Suggestions How to Improve "The Farmer's Advocate and Home Magazine," Descriptions of New Grains, Roots or Vegetables not generally known, Particulars of Experiments Tried, or Improved Methods of Cultivation, are each and all welcome. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned on receipt of postage.
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THE WILLIAM WELD COMPANY (Limited),
London, Canada.

problem of the man on the land is likely to be misunderstood by those engaged in other industries, and the man engaged in farming may have to bear more than his just share of the burdens of the country. Organize now and guard the interests of your calling.

Electric Power for the Farm.

Farm power is one of the first subjects in the mind of the twentieth-century agriculturist. It is necessary to, in so far as possible, replace hand labor with power machinery. At the present time, too, heating, and lighting is a problem on the farm as well as in town. All signs point to an even more rapid development of electricity for use in city and country, and if we mistake not the time is coming when every water-power in this country will be properly harnessed so as to develop and deliver for those living in the rural districts as well as those living in urban centres, cheap power for heating and lighting and for operating the necessary machinery, on farm and in factory. Already Hydro has solved the power problem in many of our cities. The farm is yet to benefit as it should from this class of power. However, there are some farmers living adjacent to towns using electric power, who have availed themselves of the opportunity of having it installed. In this issue an account is published of one farm upon which electric energy is used. It was cheap and efficient power. It lighted the farm house and barn, pumped the water, pulped the roots and separated the milk for a year for \$15.57. It threshed 56 large loads of grain and cut 38 of these for \$15.67. The power bill for each month of the year is given in the account and is very interesting at this time. Every farmer should be a booster for cheap power, and should, at every opportunity, do all he can for the development of more electric energy from the water-powers of this country.

Investigation reveals facts favorable to the use of hog cholera serum in infected areas. a

The Work of the Women of the Farms.

We have heard considerable during the recent months regarding what the women on the farms should do at the present time. There are those who do not understand the life of the women in the farm home, who contend that farmers' wives and daughters should, at this time, work in the fields and stables as well as in the house. During the past summer, in travelling over this Province, we have seen many women at work in the fields, and most of these were doubtless doing a woman's work in the house as well. It is too much to ask of the women of the farms of the Province, and is not being asked by any who know what they are already doing. We contend that no person, man or woman, in Canada is doing more work through the present crisis, according to their strength, than the women of farm homes in this country. There are those, who know of this work and are competent to speak, who think that they are already doing more than they should and more than is in the best interests of the land. The work in the farm house is not light, yet the women have done it cheerfully; have given of their time freely to Red Cross work, and have also, where strength at all permitted, aided in the outdoor work on the land. They deserve credit. They have done and are doing their share. At a recent meeting of farmers, it was lamented by one of the speakers that more women were not present. Someone said they were too tired and overworked to get away. Some wives were doing the chores to allow their husbands to attend the meeting. It would be too bad if the women in the farm homes of this country became so fatigued through over-work that they could not properly fill the place which God intended them to fill in the homes. And, while on the subject, it is no more fair that the wives and daughters of farmers should break themselves down in an extra effort to produce food, than it is that men and women living under other circumstances should do likewise. It is the duty of all to do the best they can and not to assign tasks for others.

Favors Large Farms.

BY ALLAN MCDIARMID.

Can the fixing of the price of farm produce by the Government be carried on indefinitely? If it can, what is it going to lead to? The answers to these questions should be of considerable interest to farmers as a class. The tendency of those in control of the machinery of government to dictate to the individual at the present time is contrary to our ideas of a Democracy, though present world conditions may give them some ground for their action. But what we are concerned in finding out is if the thing is practicable. Will it fit in with our other methods of doing business? Can it be continued indefinitely without cutting down production? Can the Government go this far logically without going farther?

There is a law of supply and demand that has kept the civilized world from starving for several thousand years and which has never been seriously interfered with up to the present time. More things than we have any idea of affect the working out of this law. To deal with it in any arbitrary way one should be prepared to deal with all these other things as well. If they are not so dealt with the chances are that there is trouble ahead. The fact of the matter is that this whole problem concerning the rise in the cost of living and the effect of changed conditions in one industry or another, is simply beyond the mind of man to grasp or in any practical measure to foresee.

Now, what would one naturally suppose would be the effect of fixing the price of any product and making that price less than it would otherwise be, while at the same time other lines of produce were left to the law of supply and demand? Would we not say that the result would be to stop or greatly lessen the output in the line affected? When market conditions are such that all kinds of food products have a tendency to rise in price it would be only natural to expect the grain-grower, or the farmer in any other line, to grow what had a chance of increasing in value. To ask for an increase in the number of bushels of wheat grown, at the same time to take action that will prevent that wheat from reaching its natural price-level on the market, is foolish and illogical. It may bring temporary relief to the consumer but if the tide is held back at one point it will inevitably rise higher at another. And in the end the barriers will have to be taken down. If the price of cheese is retained at its level and other milk-products continue to rise in value, how long will cheese-factories continue to exist? In two years there wouldn't be one in the country. And suppose all farm products went through the price-fixing process and the farmer had still to compete with the city wage-market. Where would he get his hired help? And how would he prevent his own children taking advantage of city salaries as soon as they were old enough to be of any service? Not only this but the difference in the prices of what he had to sell and what he was compelled to buy would be so great that he would practically be forced out of business. That is, of course, unless the price of absolutely every-

thing was fixed. And it is pretty evident that the human brain has not yet developed to the point where a task of that magnitude is within its capabilities.

If the various Governments are in earnest in their efforts to bring about a general lowering in the cost of the necessities of life there is one practical method open to them, which has already been outlined in these columns. That method is the encouragement of scientific, commercialized farming on a large scale. Men with the necessary education and ability to undertake this work could be secured by the payment of adequate salaries. Such men are at the head of their professions in other lines of work, and if the business of farming is to be made a success from the standpoint of increased production and financial profit, similar efficient and capable managers will have to be employed. The majority of farmers are on comparatively small farms, making a living for themselves and their families and very little more. Fancy, or the force of circumstances made farmers of them, regardless of whether they were likely to succeed at the business or not. The consequence is that the world is faced at the present time with a shortage in the food supply. With such management as some business concerns have, and are willing to pay for, this situation could be overcome. Why couldn't part of the recently floated Victory Loan be utilized in this way? Land acquired, expert and efficient managers hired and all necessary equipment installed. After the first year the enterprise would, in all probability, become self-supporting, and later return a good interest on the investment. As to interfering with individual enterprise, this would not necessarily follow. All men in the business of farming would be free to carry on their work as usual and that without the handicap of price-fixing. Should the time come when the food situation was relieved and the necessity for these Government farms not so apparent as it is to-day, they could be divided up into individual holdings, or disposed of in any way that seemed advisable. But for several years to come, and we might say for many years to come, these large farms could hardly fail of being a practical means of overcoming what is the Empire's greatest problem, the securing of an adequate food supply. Three things are necessary for the carrying out of this idea, men, money and land, and we have them all. Why not combine our forces and stop taking chances on losing the war?

Nature's Diary.

A. B. KLUGH, M.A.

Canada From Ocean to Ocean.—I.

In the next few articles I shall make what would technically be termed a biological cross-section of Canada, or to render it in everyday parlance, we shall take a little trip across the Dominion from the Atlantic to the Pacific and observe the main characteristics of the plant and animal life of the various regions.

If we stand on the shore of the Atlantic in Nova Scotia and look out over the water we shall undoubtedly see certain forms of animal life—Gulls, Terns, Cormorants and probably Seals. But we are looking out over the home of a vast and teeming life which we do not see—in the water, and at the bottom of the water, are myriads of plants and animals, minute plants, microscopic animals, shell-fish, lobsters, crabs, worms and fish of very many species. These we shall not see unless we use nets and trawls, plankton-nets and dredges, and so for the present we shall simply mention them and recognize their immense economic importance in passing.

The gulls are perhaps the most constant feature of the animal life over the ocean. We have on our Atlantic coast many species of gulls, the commonest being the Herring Gull, a bird of very wide distribution, being found in Europe, on both our coasts, and on inland waters right across the continent. The gulls are the scavengers of the surface of the water, and are ever on the look-out for edible floating material.

The seals which we see off the coast of the Maritime Provinces are not the valuable Fur Seals but the Harbor Seal, a species about four feet in length, yellowish-grey above irregularly spotted with black, and yellowish-white beneath with small black spots. Like all the seals this species is gregarious, and they are usually to be seen in little groups on the rocks or else three or four round heads bobbing up and down, appearing above the surface of the water and disappearing, reveal a little colony engaged in fishing. The food of the Harbor Seal consists of fish, and while this animal is clumsy, in fact almost helpless, on land, it is wonderfully active and graceful in its movements beneath the surface of the water, following with ease every twist and turn of its finny prey. Young Harbor Seals are, at birth, covered with a thick, white woolly coat, which is later supplanted by the ordinary hair, and until this change takes place they do not take to the water.

Turning now to the shore we find such an abundance of animal life as to almost bewilder one who is used to inland habitats. Unlike inland habitats the life which we see on the sea-shore depends upon the state of the tide, when it is full flood tide we see only the comparatively sparse life of the beach, the Sow-bugs and the active little Beach-beas which jump about among the dried sea-weed thrown up above high-water mark. But at ebb tide a strip of the ocean floor is uncovered, and we see many interesting kinds of plants which are collectively termed "sea-weeds." These plants, which belong to the higher groups of the Algae, vary much in color and in shape. One of the commonest is the Rock-weed, (*Fucus*), which is olive-brown in color, with fronds a couple of feet in length, and with bladders in the fronds. These bladders are filled with air and cause the fronds to float when the plant is covered by the tide. The fruiting bodies, at the ends of the fronds, which

contain the spores somewhat resemble little pointed gurlins. Another common species is the so-called "Sea-lettuce," a plant with thin, flat fronds of a bright green color. A peculiar looking species, which has no common name, and which bears the scientific name of *Enteromorpha*, meaning "intestine-like," is tubular, with numerous constrictions, and is green in color. Other species are red, purple, and some almost black. Others are long and ribbon-like or cord-like, with a rubber-like consistency. All these plants occur on the rocks and on sandy shores we find only specimens which have been torn loose by the waves and cast up on the shore.

When we pass on to consider the animal life of the shore we can only touch upon the very commonest and most characteristic species, and what these are will depend upon the character of the shore, whether it is rocky or muddy. Taking first the muddy shore, the main species are the clams, mussels and worms. The marine clams differ from the fresh-water clams in the fact that they remain buried in the mud with only the tip of the siphon projecting. This siphon is a double tube, one passage being used for taking in water and with it the food, which consists of minute floating organisms, and the other for ejecting the water and waste material. The mussels occur in huge beds, attached to stones, old shells, etc., by a thread-like organ known as the byssus. The worms of the sea-shore are of many species, some of them, such as the Sand Worm, being from one to two feet in length. They remain in the mud when the tide is out, but swim about in the water at high tide.

(To be continued).

Efforts Appreciated.

Each year we publish a number of testimonials from our readers, while thousands are received at this season and never find their way into print. It is gratifying to know that the efforts of the staff of "The Farmer's Advocate" are appreciated by those who follow the paper closely. Following are a few examples of the many letters of their kind we are receiving just now:

The Best Farm Paper.

EDITOR "THE FARMER'S ADVOCATE":

Please find postal note for six dollars. Your paper is the best farm paper I can find, and we certainly wish to continue it.

P. E. I.

JOSEPH R. MCINTYRE.

Must Have It.

EDITOR "THE FARMER'S ADVOCATE":

Please find enclosed one dollar and fifty cents to renew The Farmer's Advocate, which runs out the end of the year. We farmers cannot get along without "The Farmer's Advocate."

Algoma District, Ont.

M. I. JOHNSTON.

Don't Miss a Copy.

EDITOR "THE FARMER'S ADVOCATE":

Please find enclosed cheque for \$1.50 to renew my subscription to "The Farmer's Advocate," so I won't miss a copy. I cannot speak too highly of the magazine, and then I recommend it to all my friends and pass it on to an old friend in England when I have read it.

N. B.

JOANNA M. HUDSON.

They All Read It.

EDITOR "THE FARMER'S ADVOCATE":

We consider the Advocate the best farm magazine published. All the family read it.

Lanark Co., Ont.

JAMES A. TURNER.

An Old Friend.

EDITOR "THE FARMER'S ADVOCATE":

I am forwarding you one subscription for a friend who is interested in farming, and as I have been lending him some of my Farmer's Advocates he has been delighted with them, so I feel I would like to make him a Christmas present. I believe he would be delighted with it, and I am sure he would feel like being a regular subscriber after this. I am always on the alert for new members, as I have taken your paper for 24 years and feel everyone should have it in their home.

Que.

ROBERT HARVEY.

Splendid.

EDITOR "THE FARMER'S ADVOCATE":

I wish to compliment you on the splendid number which you have gotten out for the Christmas season of 1917. It is full of not only interesting but very instructive discussion of the broad field of agriculture. The illustrations are splendid.

Ill., U. S. A.

HENRY G. BELL.

The Best of All.

EDITOR "THE FARMER'S ADVOCATE":

I have been a subscriber to the best farm publication in Canada, "The Farmer's Advocate," for several years and find some of the articles in its columns of especial interest, particularly on dairying and poultry. I would not be without "The Farmer's Advocate" for a good deal.

Victoria Co., Ont.

A SATISFIED SUBSCRIBER.

Delighted With Christmas Number.

EDITOR "THE FARMER'S ADVOCATE":

We are much delighted with the Christmas Number and would like to have two extra copies, for which you will find enclosed \$1.00.

Brant Co., Ont.

DAVID PATTON.

Farm as it Teaches.

EDITOR "THE FARMER'S ADVOCATE":

This makes over 20 years we have taken "The Farmer's Advocate," and many of our farming methods are a result of its teaching. It is our agricultural college and is much looked for and appreciated every week.

Annapolis, N. S.

J. H. DUNN & SON.

Christmas Number Splendid.

EDITOR "THE FARMER'S ADVOCATE":

My father has been a subscriber to your valuable paper for some time, and we feel that we could not get on very well without it. Your Christmas Number is splendid and so was last year's. I think Nature's Diary by A. B. Klugh, M.A., is fine and very educative.

CLIFFORD EMPERY THOMPSON.

Stormont Co., Ont.

Sending it to Friends.

EDITOR "THE FARMER'S ADVOCATE":

Please find enclosed \$1.50 for one new subscription for one year, please send him the Christmas Number; it is, I think, the best yet.

Bruce Co., Ont.

FLETCHER BUCKLAND.

A Subscriber 45 Years.

EDITOR "THE FARMER'S ADVOCATE":

Please find enclosed three dollars to pay for my paper for another year and also for a new subscriber. I'll be one of your old subscribers. I have had 45 years of "The Farmer's Advocate" without a stop, and like the good old paper better than ever.

Simcoe Co., Ont.

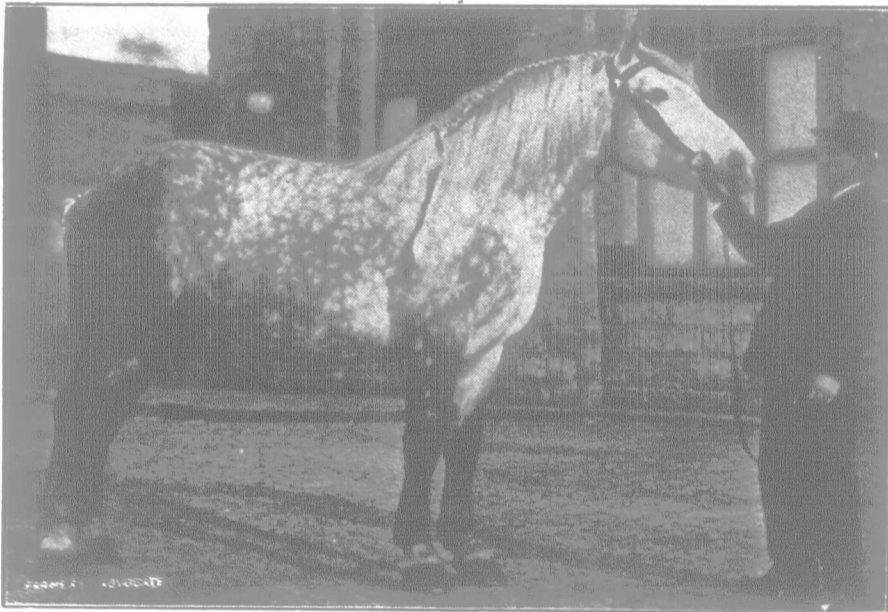
JOHN ANDERSON.

EDITOR "THE FARMER'S ADVOCATE":

I wish to congratulate you on the Christmas Number of your valuable paper. It seems to me excellent, both as to matter and form. It is always a welcome reminder of my old Canadian home on the farm, where I still spend my summers.

Yale University.

D. C. MACINTOSH.



Leste.

Champion Percheron mare at Guelph for T. S. Shantz, Kitchener, Ont.

THE HORSE.

Diseases of the Feet—VI.

Sidebone.

Sidebone is quite a common disease of the feet in heavy horses. It is especially a disease of the forefeet, but in rare cases is noticed in the hind feet, but seldom if ever, causes lameness when so situated. While the lighter breeds and classes of horses are not immune, they seldom suffer. Sidebone consists of conversion into bone of a cartilage called a lateral cartilage. The posterior aspect of the os pedis (the bone of the foot) presents on each side a somewhat pronounced ridge of bone, called the wings of the os pedis. Each of these wings is surmounted by a somewhat irregular quadrangular-shaped cartilage, with a somewhat semi-lunar shaped superior border. These are firmly attached to the wings and are called the lateral cartilages. The lower portions of these cartilages are contained within the hoof, but the upper portions project well above the foot, are covered only by skin and can readily be felt and their outlines followed by pressure with the thumb or finger over each heel. They are quite elastic, yield readily to pressure, and resume their original position immediately when pressure is relieved. Some claim that these cartilages assist in the expansion of the foot, but it is generally conceded that they have little or no action in this respect. No doubt they expand and spread outwards when weight is put upon the foot, in order to accommodate the expansion of the soft tissues that are situated between them which is caused by the weight, and so soon as the foot is lifted from the ground they regain their former position. In their expansion they are simply passive agents, being pressed out as described. They may, however, be considered as active agents on the contraction of the heel, as, when pressure is removed from the inner surfaces they assume their natural positions by virtue of their elasticity, and

the pressure they exercise upon the sensitive frog forces the heel into its original shape. Briefly, they may be said to be forced to expand when the foot is on the ground and that they actively assist contraction when the weight which forces the frog upwards and outwards is removed from the foot. It must not be understood that the foot expands and contracts upon its inferior surface, but at the coronet and heels; not the horny foot, but the soft parts of the heels and coronet. To prevent undue expansion of these, the lateral cartilages are placed as elastic sides. The process of ossification is often very slow, often unaccompanied by inflammatory action, causing the animal no pain, hence not causing lameness. But lameness may appear at any time, when well-marked, exciting cause is given, as hard or fast work on hard roads. Lameness, no doubt, is caused by the constricted space causing undue pressure upon the soft parts in their tendency to expand each time weight is put upon the foot. At the same time many horses with sidebones never show lameness, although continuously subjected to the ordinary exciting causes, but on account of the danger of lameness a horse with sidebone should be considered unsound, although he may never have shown lameness or tenderness.

The causes may be said to be hereditary predisposition, and shoeing with high calkins. It is generally admitted that the predisposition is hereditary, hence it may be considered unwise to breed an animal of either sex if he or she be affected. High heels prove a cause—first, because the shock received by the heels when the foot comes to the ground is transmitted directly to the cartilages; second, because the pressure upon the heels of the wall is unnatural and excessive, and the frog is prevented from bearing its proper proportion of weight; third, because they are pulled inwards and downwards by the sensitive frog being pressed downwards, while its horny covering being removed from the ground forms no column of support. Direct injuries are often blamed for causing sidebone. This may be possible, and, as they usually exist in pairs, if the cartilage of one heel be normal and that of the other ossified and there be any symptom of

previous injury, we may be justified in giving the horse the benefit of the doubt, and decide that the trouble was accidental. Opinions differ as to just when a horse should be condemned as having sidebone. The process of thickening, hardening and ossifying is gradual. Some claim that a horse should not be condemned until ossification is complete, and there may be reasonable grounds for this contention, as a horse really has not sidebone until bone is really formed. At the same time, we are of the opinion that a horse in which the symptoms plainly indicate that ossification has commenced should not pass as sound.

Symptoms.—In many cases the symptoms are solely local; in others there is more or less well-marked lameness which is usually characterized by the toe of the foot being first brought to the ground; and, (when

both feet are involved) a shortness of step and want of elasticity of action. During the process of ossification the cartilages gradually become harder and less elastic, thick and, in many cases, altered in outline until when ossification is complete they are quite hard and will not yield to pressure. In clean-limbed horses the enlargement can be noticed, but in the hairy-limbed classes a manipulation is necessary in order to even cause suspicion of its presence. The disposition of bone may be uniform, involving the whole substance of the cartilage, or it may be in isolated spots, either at the junction of the cartilage to the bone anteriorly, or involving the posterior border first. In most cases the process is slow.

Treatment.—It is doubtful if any treatment is beneficial. When the process of ossification has commenced it cannot be checked. The advisability of endeavors to hasten the process by counter-irritation, as blistering or firing is doubtful. The removal of the deposits by an operation has been practiced without the desired results. In cases where lameness is extreme the operation of neurotomy by a veterinarian may be justified. This consists in removing the nerve supply to the part. It is well to bear in mind that while the condition in many cases does not cause lameness, the horse's gait loses that elasticity so essential to good action, but in the lighter classes it is of great importance, not only as a question of soundness or unsoundness, but of the usefulness of the horse and the safety of the driver or rider.

WHIP.

Breeding Problems.

Of the two evils it is better to breed from a filly than from a very old mare, as there is certain to be more vitality in the offspring of the former. There is one precaution which it is necessary to take before a three-year-old gets heavy with her first foal, and that is to see that she learns to work, otherwise she may grow up to be a non-worker, or very difficult to manage. This applies to light as well as heavy fillies. Then, if they

fail to breed in later years they are still useful for other purposes.

With regard to light-horse breeding there is no reason why a foal should not be bred from fillies while they are maturing. Either at three or four years old they could rear a foal and still be accessible for the purpose intended at five years old, which is soon enough in normal times for the hunting field, the carriage, or the Army.

It is very necessary to prevent waste of any kind on the farm, and fillies which are physically fit should be given the chance to pay their way at not later than three years old, while many breeders commence a year younger, and the best results are obtained from mating fillies of that age with two or three year old colts rather than with older stallions.—Live Stock Journal.

LIVE STOCK.

Over Two Decades of Good Work.

A short time ago the announcement was made that Prof. G. E. Day, for over 24 years on the staff of the Ontario Agricultural College, Guelph, nearly all of which he was at the head of the Department of Animal Husbandry, had resigned to take the position of Secretary-Treasurer and Publicity Representative of the Dominion Shorthorn Breeders' Association. Prof. Day took over his new duties January 1, and so it is fitting and timely that a little sketch of his career be published in "The Farmer's Advocate" this week.

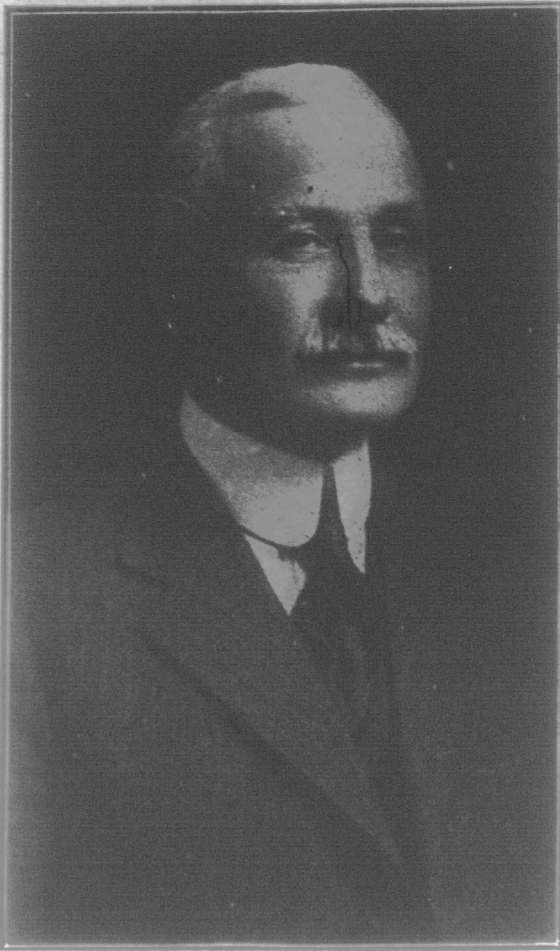
Prof. Day was born on a farm in Wellington County, Ontario, and like most successful men in professional agriculture gained an intimate knowledge of general farming and live-stock breeding through spending his early life working on the farm where he was born. The farming practice on his home place was based on best cattle as a specialty, and the breeding operations carried on gave him, as a young man, the foundation from which so much of real value to the live-stock industry of Canada, yes of North America, has arisen.

After learning farming from the practical side, the young man, who was destined to become the most widely known authority on live-stock subjects in the Dominion, left the old home farm at the age of 21 years, and for a time attended Guelph Collegiate Institute. Like many another farm-bred boy, Prof. Day earned his first money, after leaving the land, by teaching in a rural school. He spent several years at this but not enough to wean him away from those things which he cherished most, viz., memories of the farm and particularly of the good live stock it carried.

The Ontario Agricultural College was situated in his native county. A course at that Institution offered opportunities. A wider knowledge of farming and live stock would surely be the result of combining the practical experience gained on the home farm with the scientific knowledge to be obtained at the College. Reasoning in this manner, Prof. Day gave up his school and entered upon his course at the O. A. C. in the fall of 1901. The late Hon. John Dryden was then Minister of Agriculture in Ontario, and Dr. Jas. Mills, one of the greatest men of his time for agriculture, was President of the Institution. Both took a keen interest in the advancement of the College and the welfare of agriculture in this Province and Dominion. Prof. Day entered at an opportune time. As a student he was brilliant. He had the foundation upon which to build—practical experience and earlier education. He took the first two years of the course concurrently and was Gold Medallist in 1902, a record of which any student might well feel proud. The College course was at that time a three-year one, so he graduated in 1893. His ability was recognized in October of that same year when he was appointed Lecturer in Agriculture at his Alma Mater, a position which he held for a short time only, for he was soon selected to do the bigger and better work for which he was eminently fitted, viz., that of Professor of Animal Husbandry and Farm Superintendent, a position which he has held with the undivided support of college staff, students, graduates and live-stock men generally. Prof. Day was the man for the job. He had ability and a thorough training on a Canadian farm; he had education before he went to Guelph, and was from the beginning of his career at the College a forcible public speaker with a pleasing manner. His work at the O. A. C. will live after him.

Prof. Day has been recognized for many years as one of Canada's most competent judges of bacon hogs, beef cattle and sheep. Perhaps he is most widely known through the swine investigation work which he carried on while at the College. He is the author of "Productive Swine Husbandry," the best book of its kind and widely used as a text book in the United States as well as in Canada. No small portion of the progress which the bacon hog has made in Canada is directly due to his work.

Beef cattle were always strong favorites of Prof. Day, and, of the breeds, Shorthorns were the apple of his eye. Small wonder, then, that the Shorthorn Breeders' Association, when looking for a man to boost the breed, selected Prof. Day. He has always been a safe, careful, conscientious worker for the good of live stock. He will surely succeed in even greater measure now that his efforts are confined to one breed. All who know him are pleased that he is not leaving Canada. His advice will still be available to young live-stock breeders of this country. Revered and honored, he has left the College for his new duties. The best wishes of thousands of ex-students of the O. A. C. and thousands more farmers and stockmen who have benefitted from information which emanated from Prof. Day, go with him.



Prof. G. E. Day.

Who has just severed his connection with the O. A. C. to become secretary-treasurer of the Dominion Shorthorn Breeders' Association.

Blood Tells in the Feed Lot.

Practically everyone likes to look upon a prime bullock, whether he be in the feeder's lot or in the showing. While many stockmen make a success of raising and finishing bullocks for market, comparatively few are able to get them prime. Feeding stock is an art that is not acquired by everyone. No matter how hard some men try they do not appear to be able to get the desired form in their animals, nor to cover that form with an even layer of flesh. They raise or purchase good stockers and they feed liberally, but yet the flesh is patchy, is too harsh or too soft. At fat stock shows breeders are out year after year with animals that stand at the top of their class, which goes to prove that prime stock is not the product of chance but of definite plans of breeding and feeding. Blood tells every time. While the champion fat steer may be a cross-bred, his very make-up shows breeding. He usually is the product of a pure-bred sire mated with a cow which is pure-bred or nearly so. One reason why so many of the cattle going on to the market lack finish and form is that they are of non-descript breeding. They will not respond to good feed and care like a breedy animal. If a little more attention were paid to the breeding end of the business, more high-quality bullocks would be found to fill the demand for beef. It cannot be expected that a cow of no particular breeding will drop a calf which will develop and put on flesh as uniformly as the well-bred calf, even though as much feed be consumed. The use of higher quality sires is one of the first steps toward improvement of the stock in the feed lot. Then care must be taken that the youngster is kept ahead from the time it is dropped. Too many calves are neglected during calf-hood. Through lack of attention and proper feed in sufficient quantities they become stunted or unthrifty. Once they come to a standstill in development it is no easy matter to get them started again, and even then they never make as good animals when mature as they would have had they been kept gaining right from the start. If desirous of turning off individual animals, or car-load lots of bullocks, of the quality and finish seen at the fat-stock shows, it is necessary to select the progeny of two animals which come up to your ideal as beef animals, and then never let that calf lose its calf flesh. Growth and development must be continuous from the time the calf is dropped until it is prime beef.

Some animals lay the flesh on in patches. This is due more to the individuality of the animal than to any inferior method in feeding. The smooth, evenly-fleshed bullock is the one that is in greatest demand, especially when that flesh is deep and firm yet not harsh to the touch. Not everyone is capable of feeding a bullock to get the best results. A man must know his animals and cater to their likes and dislikes. It is the little attentions which count for so much in the feeding of animals. Two men may have cattle of equal quality and feed on the same kinds of grains and yet there will be a marked difference in the results. This is accounted for largely by the art of the feeder; the one man practically lives with his stock and knows them, the other throws the feed into the manger but does not pay attention to the individuality of the members of his herd. It seems to come natural to some men to be good feeders; others do not become so successful, even after years of practice. Feed will not make up for lack of breeding nor will good blood give the desired returns without proper feed.

The Fallis Shorthorn Sale.

On Friday, December 21, Jas. R. Fallis disposed of a goodly number of Shorthorns, by public auction at his farm near Brampton, Ontario. Some of the lots catalogued were of dual-purpose character having showing honors to their credit. Unfortunately a number of pedigrees had been delayed and this handicapped the sale to some extent, making it difficult to obtain full value for some choice things. Following is a list of those selling for \$100 or over and the names of the purchasers:

Cows and Heifers.

Lady Braemar, McKinnon Bros., Rockwood.....	\$450
Lady Gray 2nd, Elgin Armstrong, Malton.....	175
Gladys Ida, Archie McMeekin, Norval.....	320
Mayflower, Ontario Government.....	280
Village Ruby, Thos. Andrew, Brampton.....	300
Norval Maid 2nd, Archie McMeekin.....	230
Roan Superbus, L. J. C. Bull, Brampton.....	200
Princess of Norval, Thos. Andrews.....	205
Humber Beauty 2nd., J. Pickney, Cooksville.....	230
Crimson Maid, W. F. Cooney, Laurel.....	210
Josephine, H. A. Jeffreys, Bolton.....	190
Bonnie Rose, J. A. Fletcher, Brampton.....	125
Kilblean Beauty 11th, Robt. Amos, Moffat.....	220
Lot No. 14, (female), Arthur Fletcher, Brampton.....	150
Queen Mary 22nd, McKinnon Bros.....	320
Primrose Blossom, W. A. Russell, Hannon.....	165
Braemar Queen, Ontario Government.....	235
Prioresse, Arthur Fletcher.....	225
Erin Beauty, Wm. McLean, Kerwood.....	135
Daisy, G. I. Smith, Meadowdale.....	150
Butterfly Rose, Wm. McLean.....	175
Mayflower 2nd, Greenaus Bros., Clarkson.....	155
Jilt of Ontario 2nd, Wm. McLean.....	145
Scottish Primrose, H. A. Jeffreys.....	190
Golden Primrose 2nd, Jas. Dunnet, Lythmore.....	130
Nonpareil of Lakeview 12th, Wm. McLean.....	355
Lady Braemar 2nd, Thos. Andrews.....	250
Gladys Ida 2nd, Jas. Brown, Norval.....	105
Mayflower 3rd, Ontario Government.....	125

Bulls.

Ramsden Chief, Geo. Mason, Lisgar.....	145
Monkland Laddie 3rd, E. Robson, Ilderton.....	205
Royal Sultan, Wm. Westlake, Beeton.....	185
Proud Sultan, Wm. Dinnison, Churchville.....	120
Emer, Thos. Pawley, Brampton.....	215
General Byng, Edward Scarlett, Malton.....	185
Braemar Chief, W. W. Baldock, Malton.....	100
Broadhooks Stamford, Thos. Andrews.....	310

In addition to those listed, lots No. 27 to 31 (all females) sold at prices ranging between \$100 and \$200 each.

The Self-Feeder in the Piggery.

On practically every farm a number of hogs are raised and fattened each year. The number kept is largely regulated by the price and availability of suitable feeds for growing and finishing them. Labor is also a factor. It requires considerable time feeding and tending to a bunch of hogs. They demand their feed regularly, and if it is not forthcoming they voice their disapproval in no uncertain terms. Regularity in feeding is one thing which tends toward success in hog raising. It matters little whether twice or three-times-a-day feeding is followed, provided the feed is given at nearly the same time each day. Some stockmen have found that more economical gains are made at a saving of labor by twice-a-day feeding than by giving three meals. The aim of most feeders is to have the hogs weighing around 200 pounds at between six and seven months of age. Some secure this weight at less than six months, while others run over seven. To grow 200 pounds of pork in the time mentioned necessitates careful and good feeding. There must be no going "off" feed or crippling. The nature of the pen and kinds of feed greatly influence the thriftiness of the hogs. Dampness and poor ventilation in the pen are the forerunners of crippling and unthriftiness. Heavy feeding of grains which are of a heating nature, shortly after the pigs are weaned, tends to cause indigestion. Once a pig gets a set-back in development it is slow to recover. It is not economy to put a pig on short rations after it is four and a half or five months of age because of the high price of feed; it takes longer to get them to marketable weight, and in the end more grain is consumed. Up to four and a half months pigs can be carried along fairly cheaply on grass and a little grain during the summer, or on roots and grain in the winter. Finely ground oats and shorts are splendid feeds on which to start young pigs. They seem to contain the nutrients required for the growing of bone and muscle. As the pigs grow older, barley and corn may be added; in fact, some find it very difficult to finish hogs without corn, barley, or peas. This year oats are the most plentiful of the grains and it is possible to carry the pigs along and even prepare them for market with a ration composed mainly of oats. It is necessary to have them ground finely.

Whether or not pigs do better when fed their chop and water together than separately is a debatable question. Some feeders like to mix the chop and water one meal in advance so as to avoid waste, and they claim that the pigs do better than if fed on dry chop. When dry chop is put into a shallow trough the pigs certainly do waste a certain amount, as they grab a mouthful and back away from the trough. The more crowded the pen the greater the waste. It is almost impossible for a person to prevent them as usually a few minutes

elapse between the time and pouring the water.

Last winter, R. farmer, had thirty sho have trough-room to p As he was crowded fo not see his way clear congestion in the pig feeder. This is a box jecting out a foot on e give the hogs a chance it on the floor; thus, in dimensions which In the centre a partit an inverted V, so as t the feeder so that th hogs fed out of this a six and a half month small trough so that wished. Recently w Farmer's Advocate' had seventeen shotes feeding on the plan a concrete floor and th concrete. However, from crippling. For necessary to fill this present he is using a one bag of feed flo pigs can help them and they certainly their ration and me have to go a long way pigs. Under this m a given space than if of our visit some of drinking, and others w of the pen. It does n of chop into the hopy are required each day the trough with wat grain is not clogging i So far as feeding is co he would not be bothe ing; it saves time, th is able to make more old system of feeding. Under the present the "hopper" metho Any handy man can chop or millfeed can b bin. It has its grea bunch of hogs about pig has a much bette he is forced to fight a limited quantity of feeder system each pi it wants which is no placed in a trough tw gorges itself when fee not so liable to, as w endeavor to get its sl dry chop tends to bett it is eaten quickly. T with a number of feed points.

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A Resume of

EDITOR "THE FARMER'S ADVOCATE"

The first of the spring being in good condition lot of seeding was done after the middle of between May 24 and ward June, grain, esp fast.

At the last of June be a very heavy crop along with a few good as if by magic, and w was a good average cr

Harvest was late, before August 10. of good quality. Bar wheat was extra good yield. There were a quite a percentage of did not give quite the be accounted for by levelled a good many they had well matur year, but the warm w it along rapidly. The and some very poor very good reasons for cob well, and very fe However, many more year than last.

The early sown b much of the late sown

Beans are not grow a rather risky crop, b obtained. The troubr mature well and even

The root crop was give twice the yield of Auction sales are cows selling from \$75

Public Sale.
Hogs disposed of
at public auction at
some of the lots
after having show-

- List of hogs with prices:
Hog.....\$450
.....175
.....320
.....250
.....300
.....230
.....200
.....205
.....230
.....210
.....190
.....125
.....220
.....150
.....320
.....165
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.....250
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.....125

- List of hogs with prices:
.....145
.....205
.....185
.....120
.....215
.....185
.....100
.....310
.....27 to 31 (all
\$100 and \$200

Piggery.

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pigs certainly
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a few minutes

elapse between the time of putting chop in the trough and pouring the water on.

Last winter, R. R. Cameron, a Middlesex County farmer, had thirty shotes but he found that he did not have trough-room to permit of all getting a fair chance. As he was crowded for room in the stable, and he could not see his way clear to fix another pen to relieve the congestion in the piggery, he decided to try the self-feeder. This is a box 6 feet long and 3 feet wide, projecting out a foot on each side at the bottom in order to give the hogs a chance to get the chop without scattering it on the floor; thus, there was a feed box 3 by 6 feet in dimensions which would hold several bags of grain. In the centre a partition was built at the bottom like an inverted V, so as to slide the feed to the outside of the feeder so that the hogs could get it. The thirty hogs fed out of this and weighed 200 pounds apiece at six and a half months of age. Water was kept in a small trough so that the pigs could drink when they wished. Recently when a representative of "The Farmer's Advocate" called on Mr. Cameron he had seventeen shotes, averaging around 100 pounds, feeding on the plan above mentioned. The pen had a concrete floor and the pigs were forced to sleep on this concrete. However, Mr. Cameron has had no trouble from crippling. For the seventeen pigs he finds it necessary to fill this hopper about once a week. At present he is using a mixture of one bag of oat chop, one bag of feed flour and two bags of shorts. The pigs can help themselves at any time of the day and they certainly appeared to be doing well on their ration and method of obtaining it. One would have to go a long way to find a more thrifty bunch of pigs. Under this method more pigs can be kept in a given space than if fed out of a trough. At the time of our visit some of the pigs were eating, some were drinking, and others were contentedly resting in a corner of the pen. It does not take long to empty a few bags of chop into the hopper and then only a few minutes are required each day to look after the pigs. Filling the trough with water and possibly seeing that the grain is not clogging in the hopper is all that is necessary. So far as feeding is concerned Mr. Cameron claims that he would not be bothered with any other method of feeding; it saves time, there is little waste of feed, and he is able to make more economical gains than under the old system of feeding.

Under the present scarcity of labor others may find the "hopper" method of feeding hogs a time saver. Any handy man can make a suitable hopper and the chop or millfeed can be emptied into it instead of into a bin. It has its greatest value where there is a big bunch of hogs about equal age. However, the small pig has a much better chance to obtain feed than when he is forced to fight for a place at the trough where a limited quantity of feed is placed. Under the self-feeder system each pig has a chance to get all the feed it wants which is not the case when so much feed is placed in a trough two or three times a day. A pig seldom gorges itself when feed is always available; in fact it is not so liable to, as when it gulps down its feed in an endeavor to get its share at a trough. Picking at the dry chop tends to better digestion of the feed than where it is eaten quickly. The self-feeder has given satisfaction with a number of feeders. It has several commendable points.

THE FARM.

A Resume of the Year in Victoria County.

EDITOR "THE FARMER'S ADVOCATE":

The first of the spring was warm and dry, the ground being in good condition when the grain went in. Quite a lot of seeding was done in April, with very little to do after the middle of May. Corn was nearly all sown between May 24 and June 5. Owing to a cold, backward June, grain, especially corn, did not come on very fast.

At the last of June hay did not look as if it would be a very heavy crop, but warm weather setting in then, along with a few good warm showers it started to grow as if by magic, and while not so heavy as last year it was a good average crop.

Harvest was late, nothing much being done at it before August 10. There is an abundance of straw of good quality. Barley turned out well, some marquis wheat was extra good while goose wheat gave a medium yield. There were a lot of good plump oats, and also quite a percentage of them on the light side. They did not give quite the yield expected. This may partly be accounted for by a very heavy wind storm which levelled a good many fields of oats to the ground before they had well matured. Corn got a poor start this year, but the warm weather of July and August brought it along rapidly. There were many good fields of corn and some very poor ones. There are usually some very good reasons for the real poor ones. Corn did not cob well, and very few of the cobs reached maturity. However, many more silos were filled to the top this year than last.

The early sown buckwheat was fairly good, while much of the late sown was not worth cutting.

Beans are not grown extensively. They seem to be a rather risky crop, but where grown a fair yield was obtained. The trouble seems to be to get them to mature well and evenly.

The root crop was very good. I think potatoes would give twice the yield of 1916.

Auction sales are going very high this fall, milk cows selling from \$75 to \$130 per head, and some extra

good ones as high as \$180. These prices are for grade cows. Yearlings and two-year-olds are selling high. Calves no better than seen on the average farm bring \$25 to \$35. Pigs of 50 or 55 pounds sell at \$9.50 to \$10.25, and those of 100 pounds at \$21 each.

Sheep are selling extremely high. Good grade ewes at from \$30 to \$37. Ewe lambs from \$20 to \$26.

Horses seem to be going the flattest of all farm stock, and with no great demand at any price. Most of the farmers around here could spare a horse or two, and it is to be hoped that the market for them will soon brighten up.

With an abundance of straw, plenty of hay, a fair amount of corn and roots with a limited amount of grain, stock should be brought through the winter in good condition.

On the whole it has been a good year for the farmers of West Victoria. They deserve good prices for everything they can produce, for with the scarcity of help they have to work hard.

Victoria Co., Ont. LAWRENCE NUGENT.

Reflections on the Past Season.

EDITOR "THE FARMER'S ADVOCATE":

Disregarding the way the pendulum swung on election day, the farmers and not the politicians we believe, will have most to do with Canada's successful participation in the great struggle during 1918, and handicapped as they undoubtedly will be by scarcity of help they will answer the call for increased production by giving of their very best in planning and labor.

In the publishers' message in the superb Christmas Number just to hand occur these words: "Canadians on the farms have a great deal for which to be thankful." Yes, I think that is true. I know it is so in my case. As I look back over the season now closed I can return thanks for many things. I am thankful for health and strength that has enabled me to complete a strenuous season's work. I am thankful for helpful neighbors who came in times of emergency and for one especially who stood ready to help me during the busy season. I am thankful for the love of wife and children, an incentive and inspiration in the days of toil. Even as I sat down to write this article my oldest boy must needs have a romp with "papa" ere he journeyed to slumber-town. After years of wandering and experiencing all the loneliness incidental to a bachelor's life, this is worth while. God grant that ere he reaches manhood the battle flags may have been furled. I am thankful for having a home in Canada and never was I prouder of her than I am to-day—"Our fatherland our motherland, our true north strong and free." I am thankful for the Christ of the Christmas season the spirit of whose life shall yet transform this blood-drenched, sin-cursed earth and make the desert places to blossom as the rose. I am thankful for the spirit of unity revealed among our people as never before, and for the great democracies banded together in holy alliance, wielding the sword of freedom and driving back slowly but surely "with countless blows" the Hun invaders. I am thankful for fairly good crops, due in measure perhaps to planning and industry but more to a kindly Providence without whose bounty all our efforts would fail.

I would like to write a little about my farm experience the past season. There are plenty of men I know who can produce more than I can from the same number of acres and who have outstripped me in the season's work. When I think what I have failed to accomplish I can say with Cecil Rhodes, "So much to do, so little done", and yet perhaps a few words about what has happened on this little piece of brown earth during the season of 1917 will not be amiss.

First, about potatoes—if "pigs is pigs" then just as truly "spuds is spuds". The lowly potato has come to its own. Time was when the writer hawked them around town and considered himself lucky to dispose of his load at 30 cents a bag. But that time has gone forever. Now at \$2.25 a bag they are still comparatively cheap but it is hard to make city purchasers think so. With flour and oatmeal at 6 cents a pound, sugar and corn-meal at 10 cents and everything else in the food line higher still, "spuds" are reasonable enough in price. If those who think differently had the work of growing and marketing them they might have another idea coming.

Last spring an acre and three-quarters was prepared for a potato crop. Part of this which afterwards yielded

the finest samples but not the heaviest yield, was fall plowed and given a good coat of barnyard manure in the winter. This was well disced in before harrowing the ground. The other part an acre and a quarter was sod manured and plowed deep in the spring. Afterwards the land was thoroughly disced and harrowed. Twenty bags of Camrens, sound but not too big or too small, and which cost me \$70 I carefully cut and dropped single pieces about 10 inches apart in every third furrow. Plowing was done from June 10 to 15. I did my cultivating with a one-horse scuffler and when the bugs started to appear in the busiest part of the haying season I went over the big patch with Paris green, afterwards giving it an application of bluestone to prevent blight. The other patch I simply treated with lime water, which gave as satisfactory results. The tubers had to be dug before they were fully ripe owing to heavy frosts that nipped some that were too close to the surface. I had a boy and a man's help for a few days in cultivating and digging. The total yield was 308 bushels which was about 120 bushels to the acre. The land was rolling, sandy loam and the potatoes, while not so many to the hill, were beauties, large, clean and regular; the finest in fact in all my experience with potatoes. About half the crop was sold this fall at prices ranging from \$1.10 to \$1.40 a bushel. The rest I will keep for seed and help meet running expenses during the winter.

And just a word here about my turnip crop. A great many farmers claim they have been too busy to raise either mangels or turnips the past season. This be true but I have not found any work on the place to pay better for the amount of labor expended. About half an acre that last year was in corn was well manured this spring and the turnips were sown by hand in rows 2 1/2 feet apart. By zigzagging the cultivator as I went through the rows there was very little thinning left to do with the hoe. In fact I did it all in half a day. The season was a good one for turnips. No insect of any kind bothered them and they yielded a bumper crop. About November 1st I pulled them with the harrows. This is the ideal way of getting them out of the ground. By going over them two or three times they are cleaned and pulled together in piles. It is an easy matter then to load them on a truck wagon with a pitchfork. I have been feeding them for several weeks out of a pit by the stable once a day to the milk cows and they have helped to keep up the flow of milk as nothing else in the food line would. Most dairymen are not getting a Niagara of milk now at the end of December but the supply we believe could be greatly increased were more roots grown and fed.

Our bean crop was something of a disappointment. We planted an acre with the very best seed procurable, but owing to the long, cold, wet spell in the early summer some of the seed rotted in the ground. However, from three-quarters of a bushel planted we had a yield of about 8 bushels. These were flailed out on the barn floor and brought to the house and dried by placing on a screen above the stove. They were then hand-picked a job which requires infinite patience. We are keeping a bushel for our own use, which will be one means of keeping down the fish and meat bill. What we will have to sell at from \$6.50 to \$7.00 a bushel will more than pay the expense of buying seed and looking after the crop.

In regard to the corn crop it, too, promised to be a failure owing to unfavorable weather conditions in the forepart of the season but later it picked up well and being cut before the frost got it made splendid fodder. I have no silo and at the risk of being called a back number will say I am not very desirous of having one. Between threshing and silo filling and delays incidental to bad weather many a farmer gets but very little time to do fall work on his own place. Owing to long waits for a machine, corn often lies on the ground till it is half rotten. I crossed a field not many days ago where a lot of corn was lying just where the binder had left it. It had lain there for weeks moulding and covered with snow. I don't think that would make very good silage. I would much prefer mine cut when green and carefully stooked with a good supply of ears to feed the hogs. It is a well known fact that so much twine in the silage is bad for the digestive organs of cattle. We knew of one case where a fine milk cow died suddenly and the owner not knowing the cause had a veterinarian open her stomach. Then he soon discovered the cause of the trouble—a large bunch of twine. A neighbor of mine, like myself, has no silo, but yearly he has a



Champion Short-wooled Pen at Guelph. Exhibited by Hampton Bros., Fergus, Ont.

fine piece of planted corn. This was the first time in many years that the crop was even a partial failure. This man goes into hogs extensively and the corn that he has grown has gone a long way toward fattening successive bunches of pigs that for a good many years now have brought a high price on the market.

Even this year the corn that we fed out of hand kept down the feed bill on a bunch of hogs we were getting ready for market and sped them on to the two-hundred-pound mark in quicker time than they would have made feeding solely on shorts and oats. We may be wrong, but we don't think so, when we say that corn ground at the mill and mixed with other grains, or even fed out of hand to hogs that bring \$17 per hundred live weight, pays better than silage fed to dairy cows, when the price of milk is \$2 per hundred. We might also state that it does not take as long or cost as much to get into hogs as it does into dairy cows. By raising my own sows and growing as far as possible my own feed I have found the hog business even on a small farm a paying one.

We would like to say something about the pleasure and profit of vegetable gardening, poultry raising and other lines of farm work but space forbids.

Just a word about money matters. We find it pays to keep a record of expenses and income. By looking over my books at the close of the season I am in a better position to see where certain expenses might be curtailed and where the income might be increased. Besides it makes a business diary that is handy for reference. R. A. Finn, local representative of the Ontario Department of Agriculture, some time ago made the statement that the average Ontario farmer did not clear more than \$200 yearly. We believe in making that statement he was well within the mark.

Middlesex Co., Ont. MORLEY L. SWART.

A Newsy Letter from Saskatchewan.

EDITOR "THE FARMER'S ADVOCATE":

Many people regard Canadian prairies as altogether tree-less. Only recently a London Journal is reported as saying, "On the prairie there is no wood", while it is a well-known fact to most Canadians that our northern prairie grows trees of considerable size.

In Saskatchewan there are persons who never burn anything but wood. This wood bearing country has its beginning not very far north of Saskatoon, and for some miles the smallness of growth designates the groups of young trees as bluffs. Yet even the bluff trees attain sufficient size to allow of the cutting of splendid firewood. Practically everybody in the bluff section of the country uses bluff wood for fuel in the summer and some use it in their cook stoves even in winter. This region of bluff country, on account of its nature, does not permit of extensive grain growing until cleared from bluff and this process of clearing, especially of willow bluff, is at once a painstaking and arduous job. Therefore, it is that farmers, for a time, plow only the clear portions of their farms for cropping while fencing the most bluff corners for pastures. Thus we find the northern, bluff prairie of Saskatchewan has come to be recognized as the ideal country for mixed farming.

Agriculturists at the present time are bending every energy to the problems of intensive production. But wheat raising is not the only factor in the game. The three great B's—bread, beef and bacon—so urgently needed by our Allies can only be intensively produced by a scientific and systematic co-operation in mixed farming. Therefore the fact that our great north country, our bluff prairie comes at last into its own.

Our experts and officials turn their thoughts to ways and means of inducing our mixed farmers to realize to what extent they are responsible in the gigantic struggle for existence—existence as some one said, not only for the physical but for the moral and spiritual as well. The call to arms for greater production has not been called in vain. Our north country is responding. A wonderful autumn has speeded the plow until practically all farmers are ready for the drill when the spring comes.

Cattle raising has received a remarkable impetus. Farmers in the bluff region have always kept cattle but the past year has seen practically all farmers increasing their herds. Those, who before had never given the matter a thought have lately bought or rented quarters or even entire sections of land, fenced their holding and used it for pasturing cattle.

In the bluff region known to the writer large herds of cattle roamed the banks of the North Saskatchewan River up until 1911, when settlers coming claimed these banks as homesteads. The herds, comprising all the young stock of the neighborhood became of the past. So the public herd has gone only to be succeeded by private herds, and where once the whooping cow boys managed dexterously, a barbed wire fence keeps guard. The quality of the herds has also changed. More grades and pure-breds are kept. There is one great drawback to certain sections of this bluff country and that is the lack of proper shipping facilities. In one instance a branch line of the C. N. R. taps a region for about 40 miles, but, having only one mixed train which runs north one day returning the next, the transportation is necessarily exceedingly slow. Cattle raisers who go in for "beefs" are usually forced to sell to local dealers and at prices which spell handsome bargains for the butchers.

Farmers who specialize in dairy cattle are greatly interested in the vigorous campaign which has been conducted the past few weeks throughout our Saskatchewan by the Board of Directors of the Saskatchewan Co-operative Creameries, Limited. Cold storage plants have been established at various points such as Regina and Saskatoon. The Co-operative system has 20 creameries in the Province but the bluff north country is most inadequately represented. Great stimulus would be afforded this ideal cattle raising country if creameries were established at certain strategic points.

Some districts of this northland are especially noted for the raising of hogs. There are all sorts and sizes but the Berkshire seems a favorite. Every farmer in these parts keeps a large number of pigs. Often more would be kept were transportation facilities encouraging for shipment to a profitable market. As it is, each farmer keeps enough to keep his own pork barrel well supplied and to occasionally, as opportunity offers, ship a carcass. It is certainly a fact that were these farmers once aroused and put in easy connection with

a fair profit market the output of bacon would be surprising.

There is a very satisfactory system practised among the raisers of hogs in some localities. This system is in operation at the present season. One family sets apart a day for butchering hogs and invites such of friends and neighbors as they wish to help in return. The "meet" takes place at sunrise and finds everything in readiness for a start. Nearly every farmer possesses an up-to-date supply of tools and other equipment. The ease and skill which much practice gives is theirs to a remarkable degree. If possible, enough animals are slaughtered to last at least during the winter and spring months. No portion of the pig is allowed to be thrown away which can by effort be made clean and eatable. For instance the stomach is scrubbed and kneaded in successive baths of water, then salted until it emerges pink and shining and altogether wholesome looking, when it is stuffed, baked and served as a most appetizing dinner. Nightfall generally finds all work completed which can be accomplished in one day. The meat is cut and put to chill for the morrow's curing. There are also great strings of fat sausage, tins of white, flaky lard, bowls of tasty headcheese and crocks of nutty "pork butter".

This domestic co-operation might easily be organized into a co-operative plan for marketing. First-class equipment and experience the farmers have; more hogs could be easily raised; needed the encouragement which leads to successful marketing; result a great bacon industry for the north country.

One might add, "In Times Like These", that the last two years have seen marked decrease in the number of animals butchered for domestic use. It is not uncommon to find hogs butchered, sold and the proceeds given for patriotic work while no one grumbled if the pork barrel was thus allowed to stand empty for months. Among the bluffs, as elsewhere, the demand for well-bred horses is on the increase while more have been asking for Clydesdales, yet owing to the difficulty for horsemen to get this breed at present from Scotland, Percherons are in most cases in majority. The supply is, however, by no means shipped here from Ontario.

It is interesting to note the line of improvement brought about by the exit of the horseflesh scrub. The owners, naturally, feel a thrill of pride when attending to their noble beasts. They try best methods of feeding, while rude stables give place to sanitary, comfortable barns. There is in the Province of Saskatchewan a sort of back-to-the-horse movement. The craze for big tractors seems to be on the decline, in many parts, particularly the bluff regions.

Much of the improvement noted can be readily traced to the influence of our university at Saskatoon. The north country is benefiting greatly through its close proximity with the students from the great school's portals. Fairs also have helped in the matter of uplift and send many a farmer home with the fixed intention of doing better than the other fellow. The bluff north country is ready and waiting the necessary guidance to become one of the greatest factors in the win-the-war campaign for a bigger and better production of the three big B's.

Saskatoon District, Sask. MRS. JOHN I. FUNK.

How Electric Power Can Help on the Farm.

With the decrease of farm help has come great development of farm power. Necessity is the mother of invention, and as the need presented itself the solution has been forthcoming, until to-day inanimate machines do much of the work about the farm which, at one time, was done entirely by human power. The evolution has been gradual; the sickle gave way to the reaper, the reaper to the self-binder. The flail has been displaced with large threshers which greedily devour the sheaves and put chaff, straw and grain in their respective places with comparatively little assistance from man. And so the change has been all along the line, but it is the advancement in power to drive the machines that attracts the most attention. The horse-power and treadmill did effective work in their day, and a few are still in use. The wind has been harnessed and a few years ago windmills for developing power to grind grain, cut straw, saw wood, etc., were quite common. To-day few are to be seen. The uncertainty of the wind and the perfecting of gasoline engines led many to install them to furnish power. When windmill masts started to decay, or parts of the windmill engine commenced wearing, they were not replaced. The new power is more satisfactory. It is ready for us at all times. Of course there are disagreeable features; for instance, water-cooled engines must be protected from frost in winter. It takes considerable cranking to start some engines, etc., but, taking everything into consideration, it is reliable power and can be used to run machines varying in size from a cream separator to a large thresher or silo-filling outfit. Now, electricity is supplying power to drive the mechanical help on many farms. By merely pressing a button or turning a switch the machinery is set in motion.

Electricity is man's servant, and yet his master; it is simple, yet very complex; it is safe, yet exceedingly dangerous; it has ever been in the world, but largely as a destructive agent. It is only during recent years that it has been harnessed and made to work for man. Electrical energy is utilized in operating the telephone, telegraph and wireless telegraphy. For a number of years it has proved a most effective power for driving

street cars; it is used for operating machinery in many factories; it lights the streets, public buildings and private dwellings; it assists in many ways in the homes. For a time it was thought that electric power was for the city only, that its force could never be carried to the rural districts. During the last few years rapid strides have been made in electrical development. The large waterfalls of our great country have been forced to develop electric energy as they tumble over the precipice and roll down the decline. The energy is now made available for country as well as city.

On many farms electric power will be found doing its bit day by day, but there are still numerous doubters who are pessimistic regarding the practicability, efficiency and economy of this the newest of farm powers. What can it do? What will operating expenses be? These are questions which are being asked, and they may be answered by relating R. R. Cameron's experience during 1916-17. Mr. Cameron is a successful Middlesex County farmer who works 150 acres of land, which yearly grows feed for over 40 head of cattle, four horses and two sows with their progeny. A year ago last fall he installed an electric motor, which he connected to the power wires passing his farm, and it has been doing satisfactory work ever since.

The electric power wires are strung along the concession on which Mr. Cameron lives. As the buildings are only a few rods from the road, the expense of bringing the energy to the barn and house was slight. Fuse box, meter, etc., are encased in a metal box in one corner of the granary, and from there the power is distributed. By merely pushing buttons the interior of house, stables and barn become a glow of light and a ray of light guides the footsteps of the person going from house to barn, even on the darkest night. The light is a great convenience, and those who have been used to choring by the light of a smoky lantern wonder how they got

along as well as they did, after working under the rays of an electric bulb for a few evenings.

It is the power plant which attracts most attention. A five-horse-power motor is used, and it is fed by a heavy wire from the connections in the granary. This cable is eighty feet in length, which permits of moving the motor to all parts of the barn and even using it near the house for sawing wood. Mr. Cameron hitched his motor to all kinds of machinery. He does his own grinding, using a ten-inch plate grinder. The cutting box, saw, thresher, pulper, pump, cream separator, etc., are all driven by electricity, at a cost which is considered reasonable. The larger machines run direct from the motor on which is a six-inch pulley. Those which are required to run at a comparatively slow speed have the revolutions per minute reduced by means of a jack and different sized pulleys on a line shaft. The motor runs at 1,450 revolutions per minute, but by using the belt to a 36-inch pulley on a jack and a 12-inch from there to a 28-inch on the line shaft, the speed is reduced to 100 revolutions. By different sized pulleys the pump, pulper and cream separator are each run at the speed at which they give greatest satisfaction. While the motor is on the barn floor, Mr. Cameron does not have to go up in the barn every time he wishes to pulp turnips or separate milk. He attached a spring to the switch on the motor which prevents the power being connected up, but a light rope runs from the switch to the stable so that when power is required it is only necessary to pull the rope; when the rope is released the spring pulls the switch out. This is a little contrivance that is a labor-saver, which the owner of the farm fixed up himself. From December 1, 1916, to November 30, 1917, lights in the stable—a total of twelve bulbs—house lights, pumping, pulping, and separating used 207.7 K. W. H., which at a flat rate of 7½ cents per hour would cost \$15.57. What other power would give the service for that sum? Of course, electric power may not be secured at that rate in all localities; this farm is on the edge of a town which is supplied by Hydro.

For threshing, a 24-inch cylinder machine with

carriers is used and is motor. A year ago the winter, but last season was drawn from the field harvest, but when the la was in the bin and the home exchanging work was ated as Mr. Cameron. and his father gives a g for threshing he secured from the town. Two m and all four assisted in p then while another load two men put the straw was exceptionally well c of extra work and rather harvest, but Mr. Camo trying the same system a not heavy enough for r blower, self-feeder attac it-keeps the small mach and thirty K. W. H. w loads and cutting 38 of t ing bill would be \$24. number of hours are ex duced. In fact, when the rate is less than hal of costing \$24.75 the se light supplied to house a

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carriers is used and is driven by the five-horse-power motor. A year ago the threshing was done during the winter, but last season the grain was threshed as it was drawn from the field. This system prolonged the harvest, but when the last sheaf was garnered the grain was in the bin and there was no time taken away from home exchanging work for threshing. All are not situated as Mr. Cameron. He keeps help the year round, and his father gives a good deal of assistance. Then, for threshing he secured the help of an elderly man from the town. Two men go to the field for the load and all four assisted in putting it through the thresher, then while another load is being brought in the other two men put the straw through a cutting box, and it was exceptionally well cut. This may seem like a lot of extra work and rather a slow way of getting in the harvest, but Mr. Cameron is satisfied and purpuses trying the same system again next year. The power is not heavy enough for running a large separator with blower, self-feeder attachments, cutting box, etc., but it keeps the small machine humming. Three hundred and thirty K. W. H. were used in threshing 56 large loads and cutting 38 of them. At 7½ cents, the threshing bill would be \$24.75. However, when a certain number of hours are exceeded the rate is greatly reduced. In fact, when 90 hours a month is exceeded, the rate is less than half that amount, so that instead of costing \$24.75 the season's crop was threshed and light supplied to house and barn for \$15.67.

There is a 14 by 32-foot silo on the farm, and by using a cutting box with carriers the five-horse-power motor gave sufficient power. It took 65 K. W. H. to fill this silo to the top.

Close account was kept of the power used in doing the various tasks. There were two seasons' threshing in the year, owing to having left the 1916 crop until December. The following gives the monthly power bill for the twelve months. In December, besides supplying power for light, separating, pumping, etc., there was threshing, grinding and sawing wood. The cost was \$5.68. There was considerable threshing and grinding in January, which increased the bill to \$10.34; February, threshing and grinding, besides lighter work, \$7.44; March, threshing, grinding, sawing wood and running fanning mill, \$5.28; April, threshing, grinding, fanning mill, \$6.80; May, grinding, sawing and fanning \$4.58; June, grinding, \$3.91; July, light work only, \$3.46; August, threshing, \$15.67; September, grinding, fanning, \$5.70; October, grinding, sawing, silo filling, \$3.70; November, grinding and sawing, \$5.98, bringing the total cost of power for twelve months, including two years' threshing, up to \$83.54. It will be noticed that in July for light work only the bill was \$3.46; now, three dollars of this was service charge and must be

paid whether any current is used or not. According to the meter, only 46 cents' worth of electricity was used.

There are other uses, besides those enumerated, for electric power. In some dairies it is used to work the mechanical milker, heat water, run the churn, etc. Then the lady of the house can utilize it to operate the vacuum sweeper, run the washing machine, and sewing machine. An electric stove, iron, toaster, percolator, and numerous other conveniences are as applicable in the country home when connected up with the electric current as in the city house. Electricity helps to take the drudgery out of farm work. It is a convenient power. At a moment's notice machinery can be put in motion, provided of course that connections are all intact. Since installing the service, Mr. Cameron has experienced little trouble beyond the burning out of a fuse or two, and this does not necessarily cause much delay. An electric motor is small, compact and requires little attention. It can be used anywhere within the length of the heavy, covered cable connecting it with the service box. The first expense of purchasing the motor and bringing the power to the farm is considerable, but what power will permit of having so many labor-saving devices and conveniences on the farm? Electric service for the farm is comparatively new as yet in Canada, but as wires carrying high enough voltage for doing farm work are strung across the country, it will bring the service within reach of more rural dwellers. With only one or two farms on a concession taking power, it naturally makes the cost of installation high for the few, but with many users dividing the cost of erecting poles and stringing wires to carry the right voltage, from the reducing stations, for farm use, the first cost to the individual decreases. Electric power is applicable to the country, and its many satisfied users are proof of its efficiency.

Agricultural Conditions in India.

The following extract from a letter recently received by an Ottawa reader of "The Farmer's Advocate" from Sam Higginbottom, M.A., B.S.A., a graduate of the Ontario Agricultural College who is now in agricultural missionary work in India:

We have had good rains in our part of India and the season is now far enough advanced for us to feel reasonably sure of a bumper harvest, and all our silos will be full. Last year at this time the floods came and we saw our standing crops washed away. This year the river has been normal and so our crops are better than ever because of the silt left by last year's floods, and we will get great gain out of our loss. We are growing for the silo, giant millet (some of it is 6 feet high already)

and sorghum and a little corn. We mix with these cowpeas, and sun hemp, a legume to enrich the food.

The last two home mails have cheered us greatly as we have heard of six American agricultural missionaries who are going to help us tackle the great problem of feeding India's hungry and clothing her naked. Three of these will teach here in Allahabad and three will go to the native states to carry on the work there which has begun so well.

I think India must be the most fortunate country on earth, certainly the least affected by the war. Last year we had bumper harvests of everything and owing to our distance from European markets and the difficulties of shipping, prices have been pretty low, and the poor people have actually been getting cheaper food than before the war.

We are much interested in the great task of America in trying to feed the Allies, and I do not believe there is another country on earth so well situated to help the United States in this as India. India is the second in the quantity of cotton she grows. Owing to bad methods and bad seed, India produces only eighty pounds of clean cotton per acre, against two hundred pounds for the U.S. and four hundred pounds per acre for Egypt. Last year I was on a committee to improve the cotton production of India. In Gwalior State, where I act as Director of Agriculture, we have over a million acres of good cotton land waiting for the application of intelligence and skill. The poor farmers are living a miserable hand-to-mouth existence, on a soil capable of growing magnificent crops of cotton, sugar-cane, and wheat. It is mostly land formerly occupied by opium and I rejoice greatly that it falls to my lot to turn these fields to the production of crops useful to man. So you see why I rejoice at the coming of these six American agricultural missionaries and why I pray that we may get six hundred more. We have the land, the climate, the farming population, but the people are cursed with ignorance, poverty and superstition and can do little to help themselves at first. A lot of enthusiastic American missionary farmers could to-day do for India what a few years ago they did for the Philippines, i. e. Help it to help itself.

Owing to the ship he was on being sunk we got a new teacher, Kenneth McAfee. We are sorry the ship went down but we are glad to get him, and hope this work is God's providence for him. We are still praying for class rooms and a laboratory. I often wonder how Cornell or Michigan Aaggie or Ohio State would teach agriculture without these things. The boys we have trained and turned out are in great demand and with our present staff and equipment we can turn out so few, where we ought to be turning out scores.

During the last month I have seen on the farm seven dead snakes, only four of them were cobras.

Canada's Young Farmers and Future Leaders.

Food For Thought.

Make a New Year's resolution and then strive to keep it. An effort must be made to attain a certain goal if success would be attained.

Lost time is never found.

Diligence is the mother of good luck.

Strike while the iron is hot is an old saw; it would be well to make the iron hot instead of waiting for somebody else's hot iron.

It doesn't strengthen you to let the other fellow do your thinking.

To indulge in self-pity is self-destruction.

Men have become authorities on certain subjects by reading and studying during odd moments. Your future depends a good deal on how you spend your spare time. A few paragraphs of a good book, read in the morning or at the noon hour, gives you something worth-while to think about for the remainder of the day.

It is easy enough to be pleasant
When life flows along like a song.
But, the man worth while,
Is the man with a smile
When everything goes dead wrong.

You can never become a public speaker by merely listening to the other fellow, practice is essential.

The things that never happen are often as much realities to us in their effects as those that are accomplished.—Dickens.

Organization of the Young Men of Our Industry.

The following paragraphs are from a paper read by Jos. A. Snider, Provincial Secretary of the Junior Farmers' Improvement Association, before the annual meeting of the United Farmers of Ontario:

A doctor was conducting a friend through an Insane Asylum on a certain occasion "Are you not afraid that sometime they will unite and turn against you", he was asked. "Insane people," said the doctor, "do not unite upon anything." Insane people never unite upon anything, that was a bitter commentary on the farmers

of the olden times. Each of them stuck to his solitary furrow, ignoring the very existence of his fellow farmers. Meanwhile he was exploited right and left, loads of unmerciful tonnage were laid on his shoulders, and maternal governments aided in making his life harder and more intolerable. At his expense, protected combines were founded and flourished, and fabulous fortunes were built out of his backache and perspiration. Meanwhile his industry became the least profitable to the worker of any in which it was possible to engage.

Insane people never unite on anything, that is a high compliment paid to the farmers of to-day. Their purpose and power to form an effective union of forces indicates that to say the least they are sane. But it means more, it shows they have been able to lift their eyes from their own farm lane, to look around on the world, losing their narrowness or prejudice and developing breadth of outlook. Farmers hereafter are not to be mere "hewers of wood and drawers of water" but members of a powerful fraternity which shall lift their industry to the place where it rightfully belongs, as the most ancient, most necessary and most honorable of them all. There is an old saying which says, "If you lie down the world will drive out of its way to run over you; but if you stand up and look severe it will give you half the road at least". Members of The United Farmers of Ontario know that the organization of our basic industry is one of the biggest organization schemes ever attempted. The drift to the Northwestern Provinces and to the cities leaves our fair land either totally uninhabited or else farmed by people who don't know and care less about organization. Because of this an aggressive educational campaign is necessary. This would not present such a problem if a farmer's work was sociable. But it is not. The enforced isolation of our business creates an individualism equalled by no other industry. These difficulties, however, are being overcome. A township now in old Ontario without A Farmers' Club is the exception, not the rule. Co-operation has become a necessity to preserve conditions so that food can be produced at a living wage. These co-operators belong almost solely to the farm manager class, the men who finance the business. They were led to organize to keep their business from absolute decadency. When they saw how the men with whom they dealt were organized, and that organization militated more disastrously against an individual than against a society, they wanted to organize. Right there we have the key to all organization. The want must be apparent. The receptive mood must be present. If we apply the same principle to our young men what do we find?

Their case is different.

Behold the child by nature's kindly law
Pleased with a rattle, tickled with a straw
A little livelier plaything doth his youth engage
A little louder but as empty quite.

Alexander Pope gives us another very pregnant thought. You can't catch the young men with the same bait as you catch their elders. They do not want to organize for any economic purpose while the father holds the purse strings. The stress of adverse conditions, poor crops and long hours does not bring them together. It only tends to send them from the farm where they are lost indefinitely to farm organizations.

We have to seek in another direction for an agency to bring them together. If favorable conditions do not exist, by some manner of means they must be created. It is only a few years ago that every school section had some form of organization for young men. This mostly took the shape of football, baseball or lacrosse. But, now since rural depopulation has emptied our countryside, such organization is only possible in a very few places. Therefore to have a Young Farmers' Association of any appreciable size, a larger area of land must be covered than was formerly necessary.

In Ontario we owe it to the District Representatives of the Department of Agriculture for the opportunity and favorable atmosphere that has been created for our young farmers to organize. Most of them were farm boys themselves. All have taken a course at the Agricultural College and appreciate the value of education for farmers. Their work consists in helping the farmers in any way possible. Therefore, as a course at an Agricultural College is only possible to a small percentage of farmers. A local short course would seem to be well worth while. So with a view to giving a better understanding of the fundamental principles of Agriculture, the short courses were started. The young farmer up to this time was not possessed of any organization, he simply wanted to know more about his business and availed himself of the first opportunity.

A few weeks of school life to the average live farm boy proves to be a revelation. Hitherto his work has restricted his view to the school section area. He has had little time for relaxation. After all he does not see much use in sticking to the old farm anyway. But here at the short course he is enthused with the possibilities of better methods and systems. Meeting as he does with boys from the other side of the county, he learns of their ways. New friends are made—friends who know what a hoe handle is—unconsciously his sympathies are broadened. It is here that the boys find themselves—not so many units meant to drive horses, milk cows and feed pigs—but an important part

of the greatest of industries—Agriculture. It is here during noon hour, when the weather is stormy, that they sing the songs the college boys sing. It is here when their war whoop classical echoes again and again that they feel they are living to some purpose. It is here that unknown to themselves they develop that class consciousness so essential to any permanent organization.

The actual organization takes place towards the end of the course when the college spirit is at its height. By this time the boys have become well acquainted and have pretty well decided who is their class leader. The banquet with which the course is wound up is the final step of consolidation before the class breaks up. To it the boys look back as the time when they left their alma mater. That banquet was the closing scene of the best time they ever had in their lives. Never again do they regard one another as farm boys from the next concession merely. They are the fellows of the old gang—the lads who studied, lost and won together—who laughed, sang and scrapped together—the boys who stuck together once and shall do so again at their next opportunity.

As sure as the boy of to-day is the man of to-morrow, the Junior Farmer in Ontario to-day is the United Farmer of Ontario to-morrow. As soon as the United Farmers of to-day can work with the Department which founded the Junior Farmers movement, so much the sooner shall the organization of our industry be not divided

against itself, but be united in truth before the whole world.

Corn Experiment.

EDITOR "THE FARMER'S ADVOCATE":

This year I conducted an experiment with corn and the following are the results: Seven varieties were grown, the seed being sent out by the Ontario Agricultural College, Guelph. Golden Glow, White Cap, Bailey, and Wisconsin No. 7, were the four dents that were grown; and Longfellow, Compton's Early and Salzer's North Dakota were the flint varieties. The plot of ground on which they were grown was a clay-loam, fall plowed, on which barnyard manure was applied in the spring. Barley was grown on the field the previous year. The seed was planted on May 30, but shortly afterward a cold wet spell set in which gave the plants a serious set-back, and it was quite a while before they recovered. When they did start to grow they certainly made up for lost time.

It was interesting to watch the different varieties. Golden Glow was first to show above the ground and it was not long before it could quite easily be picked out from the rest. It seemed to be a faster growing variety. When the corn was cultivated the last time this variety was about six inches taller than any of the others and it kept this lead right up to the time of cutting. The corn was cut on October 13, and Golden Glow gave

the best results. It reached a height of 10 feet, and the entire crop on the plot weighed 276 pounds. There were 51 pounds of freshly-husked ears. White Cap was second; it averaged 9½ feet in height and weighed 260 pounds, of which 40 pounds were husked ears. Bailey was next. It was about 6 inches shorter than the White Cap and the crop weighed two pounds less. The ears weighed 35 pounds, which was five pounds less than the White Cap. Wisconsin No. 7 was 8 feet high weighed 244 pounds, of which 34 pounds were husked ears. Longfellow was the best flint grown. Although it was only 6 feet high, the crop weighed 211 pounds and had 36 pounds of husked ears. Compton's Early averaged 5½ feet in height and weighed 183 pounds, of which 33 pounds were husked ears. Salzer's North Dakota was a little higher than Compton's Early and the entire crop weighed 196 pounds, but it was the lightest in husked ears, as they only weighed 31 pounds. These varieties were grown in plots three rows wide and three rods long.

The results might have been somewhat different had the corn got a better start in the spring. It was an experiment well worth trying, as it showed the difference in yield of the seven varieties. I think it would be interesting if different varieties were tried out on every farm, as it would show which was most suited to the soil. The results on one farm might be different from those on the next.

York Co., Ont.

BERT KANE.

Automobiles, Farm Machinery and Farm Motors

Keep a Diary.

In all probability there is no business the customers of which supply less authentic information than the automobile trade. This has been largely due to the fact that owners and chauffeurs have, in a great many cases, regarded the car as a purely pleasure proposition. A change is taking place, however, and a new era is dawning, for gasoline and electric vehicles are coming more and more to be counted upon as part of the business of life and as essential as perambulators and horse-drawn rigs were in the last decade. A few owners of automobiles have kept records regarding them and are, in consequence, well informed regarding cost of maintenance, but the vast majority do not know from week to week or month to month exactly what benefits have been derived and what expenses incurred. You will be making a good many resolutions at this period of the new year, and we want you to add another one that will include the keeping of a diary about your car for 1918. Such a book is sometimes retained in a little desk of the garage, but its most convenient place will be in one of the front door pockets of the car itself. In the back of the diary a financial statement can be recorded, and in the daily spaces notations relative to the purchase of supplies and their value.

Perhaps the most important items will be those referring to gasoline, oil and grease. The makers and the agents of the car you purchase can advise you of the mileage you should receive from certain quantities of fuel and lubricant. When you find that the distances covered are falling below the average, an investigation of the car should be made without delay, and every effort put forth to bring the averages up to where they belong. In this way, if in no other, the diary will pay you well. The best service in any restaurant is given by the waiter who not only brings you what you ask for but who anticipates your requirements. In the same way a good diary will not only be informative at all times, but also provide advance information regarding the condition of the motor. Should you find that 10 gallons take you 200 miles on one trip and that subsequently the same amount of fuel only motors you 140 miles, then it is a certainty that some condition has developed which is cutting down the mileage you should have. Perhaps the carburetor is out of adjustment, the front wheels out of line, the spark plugs fouled, the valves sticky or the cylinders carbonized.

Your diary should be a continuous story recording the tires. Make notes regarding them at least once a week. Of course, before you can jot down any items you will of necessity be compelled to carry out an inspection. The doing of this should lead to the discovery of tread-cuts, and blisters, etc., and as these are remedied do not fail to keep a history of the effective or ineffective manner in which each one was handled. Some owners believe that a tire should be put on a car and run until it falls off, but if you keep a diary you will soon discover that an ounce of prevention is worth a pound of cure, that a stitch in time saves nine, or in other words, that if you immediately attend to the little injuries that the tire is always receiving that you can add greatly and at little expense to the life of the casing. Keeping a record of your tires should also include memoranda about the alignment of the wheels, the number of pounds of air carried in the tubes, and the causes of punctures. Data about tubes is always interesting. You doubtless know that a tube has the longest life when it is cool. It is impossible, however, to keep these rubber retainers at a low temperature, for when the car is in operation the casing becomes warm and passes some of its heat into the tube. Very few owners ever pay much attention to tubes, but if they will get this idea of heat into their minds it will perhaps convince you that some action is necessary. Whenever you take a tube out of a casing it is always well to cover it with talc, which reduces the possibility of heat developing. Talc is not expensive, in fact, a quantity for the entire season can be procured for a few cents. It is not the

intention of this article to put our readers to any inconvenience, but in a passion for economy we mention the fact that a great many tires have been thrown away when, if reliners had been bought, considerable extra mileage could have been obtained. We know that owners hate to go on long trips with uncertain casings, but reliners when properly installed are very advisable. Use one in the next tire that you think of discarding and keep a record of the mileage in your diary. We think that you will find that the investment has been an extremely satisfactory one.

Your memorandum book should also contain a record of every movement made in connection with the battery. Such a history will keep you constantly advised as to when distilled water should be added, and the readings of your hydrometer will supply regular information regarding the specific gravity.

You have read enough to know now the value of a diary as applied to every part of the car. Start today, and at the end of the year you will have records in your possession that will not only be of great benefit to yourself but also to your fellow motorists. AUTO.

Gasoline Versus Kerosene Engine.

We are thinking of purchasing a gasoline or kerosene engine and would like to know which is preferable. Will gasoline give the cheapest power?

2. Which is better the two or four-cycle for a three-horse-power engine?

3. What is the best kind of ignition?

4. What is the best revolution per minute for running a three-horse-power engine?

5. What size of pulley would you advise for running a separator pumping water, etc.?

6. Is there more trouble with spark plugs in a kerosene engine than in a gasoline engine? L. R.

Ans.—1. Leaving out the question of cost the gasoline engine is more convenient and the nicer to work with, but if the kerosene engine is properly made it will give just as much power out of a gallon of kerosene as out of a gallon of gasoline, so that the cost of operation can be cut in two by using kerosene. As a matter of fact there is more power in a gallon of kerosene than of gasoline, but as yet, designers have not succeeded in producing a kerosene engine which will get all the power there is in it. However, some tests have been made which indicate that it is now possible to get about the same amount of power out of a gallon of each of these kinds of fuel.

2. It is generally conceded that the four-cycle engine is the better. It gives about 15 per cent. more power, although the two-cycle has the advantage of being lighter and easier to move about.

3. For a small engine, such as you mention, battery ignition is probably the best, using the jump-spark method.

4. This question cannot be answered definitely. It depends on the construction of the engine and also whether they are two-cycle or four-cycle. The two-cycle weighs only about one-third or one-quarter as much as the same power of four-cycle, but it runs on the average about twice as fast. However, even in engines of the same number of cycles the speed varies depending on whether they are heavy-built or light-built engines of that type. Probably about four to five hundred would be the usual speed of the heavier built 3 h. p. engines.

5. That depends on what size of pulley you have on your separator and pump. The separator pulley should run at, say, 60 revolutions per minute, and the same speed would give very good results in pumping. Therefore, if the speed of your engine were 600 r. p. m. this pulley should be 1/10 as big as the pulley on the separator or pump. If, on the other hand, the speed of the engine were 300 r. p. m. then the pulley should be

1/5 as large as that on the separator or pump. This is assuming, of course, that in both cases the engine is connected directly by belt, but if the engine were first connected to a line shaft then you could use on the engine any size of pulley that might be convenient, and the speeds could be controlled by the size of pulleys on the shaft and on the separator or pump.

6. In this connection see answer to query by J. S. E. in November 8 issue of Farmer's Advocate W. H. D.

Making A Wet Battery.

1. How is a wet battery made that will be the same size and strength as four or five dry batteries?

2. Where can the parts for a wet battery be purchased?

3. How is a wet battery renewed?

4. How long should a wet battery last?

5. Would you recommend a wet battery over dry batteries when the engine is never moved?

6. Will frost have any effect on a wet battery? A. G. A.

Ans.—1. There are many forms of wet cells, but they do not, as a rule, give as high current for the same voltage as dry cells, the reason for this being that the wet cells have a lot of internal resistance, that is, resistance in the cell itself, while the dry cells have very little.

To begin with you must have a glass or earthen vessel as a container, and then you must have two metallic plates of which zinc is always one. Sometimes the other is of carbon and sometimes of copper or a compound of copper, just depending on what salt is to be used in the solution. Some of the most common solutions used are Caustic Potash, Copper Sulphate and Salammoniac. As a matter of fact almost any solution will make a wet cell of a strength suited to that particular salt and the plates in it.

2. Any dealer in electrical supplies should be able to supply you with these parts.

3. It depends on how long the battery has been in use. If it is pretty nearly new the plates will still be all right, and all that it is necessary to do is to put in some fresh solution, but after a time the zinc plate becomes all used up and it is necessary to put in new ones as well as to renew the solution.

4. That depends on how much it is used and what care it receives. Dry cells have been known to run a 20 h. p. engine for three to four months, the engine running every day. On the other hand the same engine has used up a battery in a few days because of an accidental short-circuit or short-circuit through moisture. The same is true of wet batteries.

5. No.

6. It may when the solution is weak and the cold extreme. W. H. D.

Sends It Overseas.

EDITOR "THE FARMER'S ADVOCATE":

Will you kindly send me an extra copy of your Christmas Number. Let me congratulate you on the success of your never-tiring efforts to give to its many readers a treat which does not last for the time of just receiving but, like its weekly publications, is full of solid, worth-while reading, and this special number is fine on so many interesting subjects—a credit to its publishers. And let us not forget that a word of appreciation is worth passing and not offer our flowers after time passes away. I want this to send to a soldier who has been wounded and is now in a hospital in England. I thought it would be a fine remembrance and give him many hours of good reading.

Grey Co., Ont.

MRS. GORDON WILEY.

THE DAIRY.

There are slackers in many herds. Are you harboring them in yours?

Liberal feeding is necessary to enable the good cows to show up. It is the feed given over and above that required for maintenance that gives results.

At Brattleboro, Vt., 115 Holsteins, including a number of calves, were sold by auction for an average of \$262. The top price was \$1,205, for Delia Homewood De Kol.

Heifer calves from the best cows should be saved and well fed and looked after. The future milk supply depends on the number and quality of heifer calves saved now.

Keep accurate breeding records. You will then know when to commence drying off a cow, and it may enable you to take better care of both dam and calf at time of freshening.

What are your cows returning for every dollar's worth of feed consumed? Keeping feed and milk records will reveal the information. The beginning of the year is a good time to commence keeping accounts.

Because the bull calf has a pedigree is no reason for saving him for breeding purposes if he lacks individuality or is out of a dam that has failed to make good at the pail. It may be better for you and the dairy industry if you beef him. Too many scrub purebreds are in use now for dairymen's own good.

A pure-bred bull of good type and individuality with the right kind of backing is the one to place at the head of your herd. The bull whose ancestors have not made good or that is a poor individual will likely turn out to be a liability rather than an asset. You will never improve your herd by using a poor bull, even if you do get him cheap. He is dear at any price.

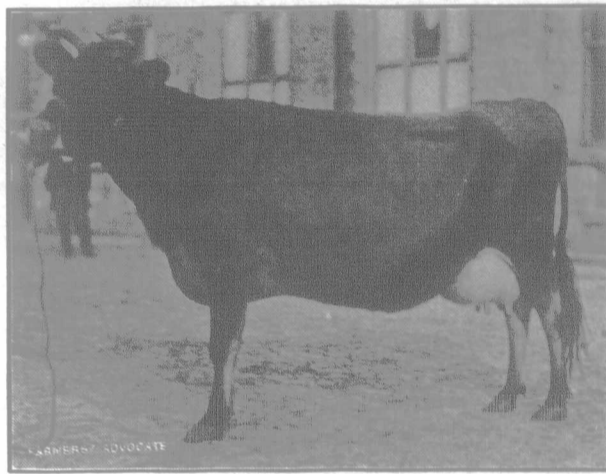
Cable advice from New Zealand announces that arrangements have been made on behalf of the Imperial Food authorities to take the exportable surplus of New Zealand cheese for the season of 1917-18 at 20 cents net per pound, free on board steamer, the factory to pay the first three month's storage and insurance, and to receive 90 per cent. payment in 28 days. The factories also make an allowance of 2 1/2 per cent. on the marked weight of the cheese to cover shrinkage.

A Successful Sale at Brantford.

The Brantford-District Holstein Breeders' Club held a successful sale at Brantford on Wednesday, December 19. Notwithstanding that this was the fourth sale of dairy stock for the week within a radius of 100 miles, buyers were quite numerous and paid a total of \$8,150 for the forty-three head sold. This was an average of \$189.53 per head. Greta Favorit Posch, a seven-year-old cow from the consignment of E. C. Chambers went to J. N. Currison, of Brantford, for \$395. This was the top price of the sale, and the consigner made the highest average with seven head selling for \$1,620. The consignment of Chas. Haviland & Son followed closely with nine head averaging \$210.55. Thirty-three cows three years old and over averaged \$202.27; seven heifers under this age averaged \$153.57, and three bulls brought \$395. The sale was under the management of R. J. Kelly, Culloden, with Col. W. Almas as auctioneer. Following is a list of the animals selling for \$100 and over, together with the names and addresses of the purchasers:

Table listing dairy animals and their prices, categorized by consigner (Chas. Haviland & Sons, E. C. Chambers, Chester C. Lee).

Table listing dairy animals and their prices, categorized by consigner (Robt. Shellington, W. H. Shellington, Nelson Clement, Thos. W. Craig, F. C. Smith, J. N. Currison, E. Plant, C. Duff Nelles, Wm. D. Burch).



Mabel of Edgeley. Highest scoring Jersey at Dairy Test, Guelph. Exhibited by Jas. Bagg & Son, Edgeley, Ont.

Bull Calf Brings \$2,700 at Welland.

On Tuesday, December 18, just one week later than the original date set for the event, the Niagara Peninsula Holstein Breeders' Club held their first annual sale of pure-bred Holsteins, and in the way of high averages established a record that the majority of the older clubs throughout the Province will find it hard to equal this year. Whether prices would have been still higher, had not the storm that raged through the Western Ontario Peninsula the week previous made postponement necessary, is hard to say. As a rule, any delay in sale dates is not promising, but despite the many adverse circumstances the management was able to report a net return of \$11,790 cash for the 47 head sold, or an average of \$250.85 per head throughout. The 41 females brought \$8,460, or an average of \$208.87 each, and the 6 young bulls sold made an average of \$538.33. Consignments from Pine Grove Farms, Elma Center, N. Y., saw the top prices in both bulls and females; the former, a 9-months, 32-lb.-bred son of Rag Apple Korndyke 8th, went to an American buyer at \$2,700, and Roslyn Leila Pontiac, a two-year-old heifer, in calf to Rag Apple Korndyke 8th, went to W. H. Dentenbach, of Chippewa, Ont., at \$750. The names of those consigning animals to the sale are as follows: Cecil Hagar, Chas. H. Claus & Son, Colver Robbins, Oliver Cabana Jr., W. C. Houck, Dr. F. G. Hutton, F. Hamilton, McLeod Bros., J. W. Moote, Jas. Dyer, Warren Stringer, P. S. Moote, Ridley College, Paul Merritt. A list of the animals selling for \$100 or over, together with the names and addresses of the purchasers is as follows:

Table listing dairy animals and their prices, categorized by consigner (J. N. Currison, Chas. Haviland & Son).

Table listing dairy animals and their prices, categorized by consigner (Spring Brook Queen, Queen of Oxford, Superba Rag Apple, Riddle Meadows Pearl Pontiac, Lillith De Kol, Uniform De Kol, Roslyn Leila Pontiac, Lienroc Prince Johannes, De Kol Snowball, Lienrock Lady Pieterje, Lady Ormsby, Lienroc De Kol, Countess Josephine Korndyke, Colantha Ormsby, Aaggie Ormsby, Lulu Colantha Favorit, Pearl Colantha, Altona Falk, Hulda De Kol, Lady De Kol, Canboro Sylvia, Spotty Hengerveld, Sir Cornucopia, Mabel De Kol, Mercena Lass, Cornucopia Lass, Inka Hengerveld, Bright Inka, Inka Artis, Elsie De Kol, Kitty Posch, May Favorit, Nettie Wayne).

Southern Counties Ayrshire Breeders' Club Sale.

The fifth consignment sale of Ayrshire cattle, held under the auspices of the Southern Counties' Ayrshire Breeders' Club, at Woodstock, on December 18, was considered a success. A large crowd was in attendance and the auctioneer had little difficulty in securing bids. A number of show-ring champions and winners under test have been produced by Ayrshire breeders belonging to this Club. Record-breaking cows have changed hands at these consignment sales, which is proof that the breeders offer their best rather than using the sale as a means of unloading surplus stock. Ayrshire cattle are coming to the front; they are making good. It was an exceptionally choice lot that was brought out at this sale, and they were all in fine condition. The fifty animals sold, including a number of calves, averaged \$148.40. The highest-priced animal of the sale was Scotch Lassie 3rd., consigned by J. A. Morrison. She went to the bid of John McKee for the sum of \$290. Among the consignors were: Wm. Thors, W. E. Robinson, E. B. Stansell, R. J. A. Smith, McConnell & Ferguson, J. A. Morrison, McVicar Bros., F. H. Harris, Collier Bros., T. Dennis, R. Brown, T. Merritt Moore was the auctioneer. Following is a list of the animals selling for \$100 and over, together with the names and addresses of the purchasers:

Cows Three Years Old and Over.

Table listing dairy animals and their prices, categorized by consigner (Selwood Brown Queen, Woodlawn Flora, Lassie 6th, White Star of Norfolk, Pride of City View, Fancy of City View, Elma of Sunnybrook, Aaggie's Pride of Trout Run, Annette 5th, Mayflower, Selwood Blossom, Jean McNeil, Scotch Lassie 3rd, Bluebell, Lady Hydro, Annie of Byron, Victoria Douglas, Pride of Darlington, Duchess of Hillcrest, Aylmer Pearl 2nd, Garclaugh Daisy Queen, Fairfield's Beauty, Jessie of Mapledale, Selwood Beauty Girl, Queen Bess of Wardend, Brookside Daisy 2nd).

Two-Year-Old Heifers.

Table listing dairy animals and their prices, categorized by consigner (Otterhill Snowdrop, Sprightly 3rd, Trout Run White Floss, Betsy 3rd, White Star of Norfolk 3rd).

One-Year-Old Heifers.

Table listing dairy animals and their prices, categorized by consigner (Victoria of Mapledale, Advance's Maggie, Maple Pride).

Heifer Calves.

Table listing dairy animals and their prices, categorized by consigner (Jean's Lassie, Selwood Flirt, Selwood Orange Lily).

THE DAIRY.

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Keep accurate breeding records. You will then know when to commence drying off a cow, and it may enable you to take better care of both dam and calf at a time of freshening.

What are your cows returning for every dollar's worth of feed consumed? Keeping feed and milk records will reveal the information. The beginning of the year is a good time to commence keeping accounts.

Because the bull calf has a pedigree is no reason for saving him for breeding purposes if he lacks individuality or is out of a dam that has failed to make good at the pail. It may be better for you and the dairy industry if you beef him. Too many scrub purebreds are in use now for dairymen's own good.

A pure-bred bull of good type and individuality with the right kind of backing is the one to place at the head of your herd. The bull whose ancestors have not made good or that is a poor individual will likely turn out to be a liability rather than an asset. You will never improve your herd by using a poor bull, even if you do get him cheap. He is dear at any price.

Latest advice from New Zealand announces that arrangements have been made on behalf of the Imperial Food authorities to take the exportable surplus of New Zealand cheese for the season of 1917-18 at 20 cents net per pound, free on board steamer, the factory to pay the first three month's storage and insurance, and to receive 90 per cent payment in 28 days. The factories also make an allowance of 2 1/2 per cent. on the marked weight of the cheese to cover shrinkage.

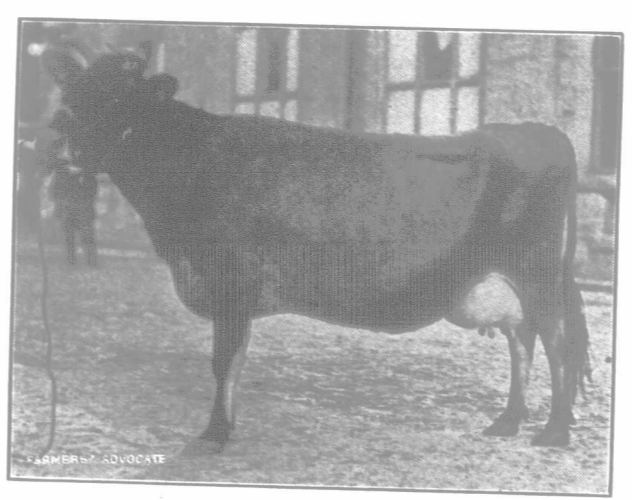
A Successful Sale at Brantford.

The Brantford District Holstein Breeders' Club held a successful sale at Brantford on Wednesday, December 19. Notwithstanding that this was the fourth sale of dairy stock for the week within a radius of 100 miles, buyers were quite numerous and paid a total of \$8,150 for the forty-three head sold. This was an average of \$189.57 per head. Greta Favorit Posch, a seven-year-old cow from the consignment of E. C. Chambers went to J. N. Currison, of Brantford, for \$395. This was the top price of the sale, and the consigner made the highest average with seven head selling for \$1,620. The consignment of Chas. Haviland & Son followed closely with nine head averaging \$210.55. Thirty-three cows three years old and over averaged \$202.27; seven heifers under this age averaged \$153.57, and three bulls brought \$305. The sale was under the management of R. J. Kelly, Culloden, with Col. W. Adams as auctioneer. Following is a list of the animals selling for \$100 and over, together with the names and addresses of the purchasers:

- Consigned by Chas. Haviland & Sons: Willowbanks Countess Korndyke, A. S. Snider, Kitchener \$165; Cecile Korndyke Pet, W. H. Hurd, Cainsville 215; Willowbanks Beauty Korndyke, Biggar Bros., Oakville 180; Willowbanks Katie Korndyke, Geo. Edward, Copetown 195; Teake May Abbekerk, F. Morris, Brantford 205; Flora Fayne, W. H. Shellington, Harley 305; Flora Fayne Baroness, W. Webb, Caledonia 175; Elva's Beatrice DeKol, H. H. Edmonson, Brantford 330; Beards Prince Segis, H. Bartholemew, Vanessa 125; Consigned by E. C. Chambers: Greta Favorit Posch, J. N. Currison, Brantford 395; Princess Julian of Middleton, W. G. Bailey, Brantford 300; Adatto De Kol, C. Howey, Scotland 160; Mercedes Butter Girl Leigh, Hamilton Health Society 195; Blanche Pontiac Korndyke, I. Shaver, Cainsville 275; Cherry Pontiac Korndyke, A. W. Shaver, Cainsville 120; Cornucopia Perfection Hermes, J. Pepper, Copetown 175; Consigned by Chester C. Lee: Adonna Posch 2nd, B. Mason, Cainsville 195; Mercedes, A. Ferris, Brantford 180; Larkie Girl Bonheur, A. S. Snider 155; Corndyke Lark, J. A. Kennedy, Paris 150; Kol Countess, J. H. McCormick, Burlington 160; Calissa Korndyke, A. W. Shaver 105

- Consigned by Robt. Shellington: Matilda Pauline Brook, P. Purdy, Cainsville 225; Bessie Ione Grant, A. C. Hallman, Breslau 200; Houwtje De Kol Pet 2nd, R. M. Robb, Troy 190; Consigned by W. H. Shellington: Utica Lass De Kol, S. Brubacher, Kitchener 160; Consigned by Nelson Clement: Pansy Schuiling, H. W. Parkinson, Hagersville 230; Consigned by Thos. W. Craig: Mary Hartog, D. Thomson, Cainsville 175; Consigned by E. C. Smith: Smithdale Acme Schuiling, W. Syrie, Mohawk 185; Consigned by J. N. Currison: Rosella Sarcastic, Biggar Bros. 145; Consigned by E. Plant: Little Perfection Royal, S. Brubacher 250; Miss Axie De Kol, G. Forrester, Mitchell 185; Consigned by C. Duff Nelles: Jean Pontiac Korndyke, G. Edworthy, Copetown 150; Consigned by Wm. Burtch: Prince Pat Ormsby, W. H. Hurd 200; Ravana Teake De Kol, E. Plant, Burford 170; Consigned by Chas. H. Van Loon: Beldina Pearl, S. Smith, Mohawk 165; Maud Schuiling Mercena, C. Howey 165; Bessie Maggie De Kol, G. Forrester 160; Aaggie Pauline Mechthilde, G. Forrester 145; Consigned by Frank Chapin: Snowflake Abbekerk Canary, A. W. Cooke, Brantford 200; Rosie Schuiling Sarcastic, Fred Mitchell, Brantford 155; Consigned by Wm. D. Burtch: Teake Wayne Deboer, H. Sharp, Troy 165

- Spring Brook Queen Canary 2nd, F. G. Hutton, Welland \$150; Queen of Oxford, F. G. Hutton 110; Superba Rag Apple, G. E. Pierce, Buffalo 2,700; Riddle Meadows Pearl Pontiac, W. H. Detenbach, Chippewa 375; Lilith De Kol Clyde 2nd, G. E. Pierce 430; Uniform De Kol, W. H. Detenbach 410; Roslyn Leila Pontiac, W. H. Detenbach 750; Llenroc Prince Johanna Rue, J. H. Moore, Welland 165; De Kol Snowball of Llenroc, J. S. Logan, Hamilton 265; Llenrock Lady Pietertje, Jno. Moote, Canboro 300; Lady Ormsby of Llenroc, Jno. Moote 350; Llenroc De Kol Ormsby, Cecil Hagar, Pt. Robinson 260; Countess Josephine Korndyke, A. W. McKenny 145; Colantha Ormsby Jessie, Robt. Ramey, Humberstone 160; Aaggie Ormsby Calamity, R. J. Thomas, Pt. Robinson 175; Lulu Colantha Favorit, Jas. C. Bald 205; Pearl Colantha, G. S. Winger, Ridgeway 220; Altona Falk, F. R. Breckon, Bronte 140; Hulda De Kol of Riverside 2nd, W. G. Houck 210; Lady De Kol Fayne, W. G. Skelly, Welland 140; Canboro Sylvia Posch, Fred Neville, Wellandport 155; Spotty Hengerveld Posch, Paul Merritt, Beamsville 275; Sir Cornucopia Mercena, W. R. Fry, St. Catharines 190; Mabel De Kol of Prospect Hill, Wm. Munroe, Thorold 205; Mercena Lass of Prospect Hill, Jas. C. Bald 125; Cornucopia Lass of Prospect Hill, Jas. C. Bald 145; Inka Hengerveld Lass, W. Teal, Ridgeway 145; Bright Inka De Kol, E. Sauer, Chippewa 175; Inka Artis Hengerveld, Jas. C. Bald 160; Elsie De Kol Lady, Chas. Young, Pt. Robinson 135; Kitty Posch Favorit, Jno. Mawhinnee, Marshville 205; May Favorit Mercena, A. J. Emmett, Southend 185; Nettie Wayne of Mapleside, A. W. McKenny 155



Mabel of Edgeley. Highest scoring Jersey at Dairy Test, Guelph. Exhibited by Jas. Bagg & Son, Edgeley, Ont.

Bull Calf Brings \$2,700 at Welland.

On Tuesday, December 18, just one week later than the original date set for the event, the Niagara Peninsula Holstein Breeders' Club held their first annual sale of pure-bred Holsteins, and in the way of high averages established a record that the majority of the older clubs throughout the Province will find it hard to equal this year. Whether prices would have been still higher, had not the storm that raged through the Western Ontario Peninsula the week previous made postponement necessary, is hard to say. As a rule, any delay in sale dates is not promising, but despite the many adverse circumstances the management was able to report a net return of \$11,790 cash for the 47 head sold, or an average of \$250.85 per head throughout. The 41 females brought \$8,460, or an average of \$208.87 each, and the 6 young bulls sold made an average of \$538.33. Consignments from Pine Grove Farms, Elma Center, N. Y., saw the top prices in both bulls and females; the former, a 9-months, 32-lb.-bred son of Rag Apple Korndyke 8th, went to an American buyer at \$2,700, and Roslyn Leila Pontiac, a two-year-old heifer, in calf to Rag Apple Korndyke 8th, went to W. H. Dentenbach, of Chippewa, Ont., at \$750. The names of those consigning animals to the sale are as follows: Cecil Hagar, Chas. H. Claus & Son, Collier Robbins, Oliver Cabana Jr., W. C. Houck, Dr. F. G. Hutton, F. Hamilton, McLeod Bros., J. W. Moote, Jas. Dyer, Warren Stringer, P. S. Moote, Ridley College, Paul Merritt. A list of the animals selling for \$100 or over, together with the names and addresses of the purchasers is as follows:

- Winnie Colantha, Ridley College, St. Catharines \$230; Josephine Paul Colantha, A. B. Colpitt, Pt. Robinson 190; Bessie Fayne DeKol, Jas. C. Bald, Welland 155; Susie Colantha, Geo. L. Younge, Pt. Robinson 220; Lady Mutual Ormsby, W. C. Houck, Chippewa 165; Pieterje Pan American Echo, W. Winger, Ridgeway 105; Ruth Echo, A. W. McKenny, Welland 120; Cora Countess De Kol, A. B. Colpitt 175; Mary Ann Mercedes, Thos. Hantley, Pt. Robinson 165

Southern Counties Ayrshire Breeders' Club Sale.

The fifth consignment sale of Ayrshire cattle, held under the auspices of the Southern Counties Ayrshire Breeders' Club, at Woodstock, on December 19, was considered a success. A large crowd was in attendance and the auctioneer had little difficulty in securing bids. A number of show-ring champions and winners under test have been produced by Ayrshire breeders belonging to this Club. Record-breaking cows have changed hands at these consignment sales, which is proof that the breeders offer their best rather than using the sale as a means of unloading surplus stock. Ayrshire cattle are coming to the front; they are making good. It was an exceptionally choice lot that was brought out at this sale, and they were all in fine condition. The fifty animals sold, including a number of calves, averaged \$148.40. The highest-priced animal of the sale was Scotch Lassie 3rd., consigned by J. A. Morrison. She went to the bid of John McKee for the sum of \$290. Among the consigners were: Wm. Thorn, W. E. Robinson, E. B. Stansell, R. J. A. Smith, McConnell & Ferguson, J. A. Morrison, McVicar Bros., F. H. Harris, Collier Bros., T. Dennis, R. Brown, T. Merritt Moore was the auctioneer. Following is a list of the animals selling for \$100 and over, together with the names and addresses of the purchasers:

- Cows Three Years Old and Over: Selwood Brown Queen, Geo. Whitesell, Kinglake \$155; Woodlawn Flora, G. L. Ackert, Belmont 115; Lassie 6th, B. G. Palmer, Norwich 165; White Star of Norfolk 2nd, F. Hallock, Woodstock 120; Pride of City View, M. B. Stafford, Shedden 185; Fancy of City View, D. Scott, Ottawa 150; Elma of Sunnybrook, H. L. Zufelt, Beachville 180; Aaggie's Pride of Trout Run, D. Scott 195; Annette 5th, D. Scott 200; Mayflower, G. Smith, Innerkip 140; Selwood Blossom, A. Schweitzer, Waterloo 160; Jean McNeil, G. L. Ackert & Son, Belmont 125; Scotch Lassie 3rd, John McKee & Son, Norwich 290; Bluebell, Wm. Hunter, Grimsby 240; Lady Hydro of Springbank, F. A. Ficht & Son, Curries 185; Annie of Byron, John McKee & Son 215; Victoria Douglas, McConnell & Ferguson, London 225; Pride of Darlington, J. R. Binkley, Waterdown 195; Duchess of Hillcrest, Wm. Hunter 265; Aylmer Pearl 2nd, A. Schweitzer 225; Garclaugh Daisy Queen, M. B. Stafford 130; Fairfield's Beauty, J. I. Ballantyne, Atwood 280; Jessie of Mapledale, F. A. Ficht & Son 155; Selwood Beauty Girl, A. E. Sadler, Mossley 135; Queen Bess of Wardend, A. E. Sadler 150; Brookside Daisy 2nd, Wm. Hunter 185; Two-Year-Old Heifers: Otterhill Snowdrop, G. Smith, Innerkip \$160; Sprightly 3rd, G. Syme, Ayr 150; Trout Run White Floss, D. Scott 155; Betsy 3rd, A. Schweitzer 190; White Star of Norfolk 3rd, D. Scott 145; One-Year-Old Heifers: Victoria of Mapledale, Wm. Muegge, Mitchell \$100; Advance's Maggie, Wm. Muegge 110; Maple Pride, D. Scott 125; Heifer Calves: Jean's Lassie, J. Howe, Straffordville \$105; Selwood Flirt, Wm. Hunter 170; Selwood Orange Lily, Wm. Hunter 140

Bulls.

Selwood Armour King, Theo. Beadoir, Leeds, Que.	\$110
Bull Calf, W. G. Hensman, Essex	115
Queen's Masterpiece, Wm. McKenzie, Maidstone	100
Garwood Prince, E. A. Whaley, Brownsville	105
Eureka Chieftain, Wm. Chute, Vienna	110

Milk Prices Not too High.

There has possibly been a greater variance of opinion over the price of milk than of any other food product. Milk is a food, and it requires considerable labor and expense to produce lactic fluid of good quality. Consumers find a good deal of fault when milk goes up one or two cents a quart, and there is sometimes a tendency to curtail in its use. If the price of milk were kept the same as in pre-war days, dairymen would not be able to make ends meet when increase in labor and feed prices are considered; consequently, they would go out of the business, which would result in a milk famine. A man must be paid for his labor or else he endeavors to find some other means of employment. A committee was appointed some time ago by the Food Controller to look into the milk situation in Canada. Their report, which was issued in November, is to the effect that the price of milk paid to the producers generally has not been found to be exorbitant, taking into consideration all existing circumstances. They have found that the average cost of cows has increased, since the beginning of the war, about fifty per cent.; feeds, seventy-five per cent., and labor seventy-five per cent. During this period the increase in price of milk has been under thirty per cent.; butter has advanced about forty per cent., and cheese about fifty per cent. It is almost impossible to obtain help on the dairy farm, even at the advanced price. If an amply supply of milk is to be secured, it is but reasonable that the producer should be assured of a fair profit. With milk at the present price, dairymen are not as well off as before the war, according to the figures given by this committee.

"Research work carried on by chemists and dietitians has proven that milk and all its products are the cheapest forms of animal food on the market to-day. The price of milk has not increased to the same extent as have the prices of other foods, and yet the increase in price of milk has been followed by a decrease in consumption in many places." The committee recommend that a campaign of education be undertaken emphasizing the relatively high food value of milk and the many ways of using it. It is reported that in Seattle, where milk has been provided for children in some of the public schools, a marked increase in efficiency and general health has resulted.

Investigation has revealed the fact that there is a wide 'spread' in the price of milk. The producer receives, for milk delivered at the dairy, from six to eight cents a quart, while the consumer pays from ten to thirteen cents. This 'spread' or difference between the producer's price and the consumer's price is due largely to the excessive number of distributors, and varies in about the same ratio as the number of distributors. The effects of unnecessary duplication, as given in the report, are: Excessive capital employed; excessive dairy costs; overlapping in delivery; excessive loss in bottles; diversion of a great number of men and horses from productive employment; excessive cost of milk to consumers; reduced consumption of milk, and consequent endangering of child health and life. If the town or city were divided into zones for delivery purposes the expense would be greatly reduced. At present there is a good deal of overlapping in delivery. We know

of one instance where seven dairymen delivering milk on a street having twelve houses. This must result in waste of time and increased expense. We see no reason why a system should be followed which give the retailer of milk almost as much as the producer gets. The latter has the bulk of the work besides the heaviest over-head expense and has to contend with unfavorable seasons for the production of crops. The milk yield is uncertain from month to month, but the retailer is sure of a certain return. Yet, if the retail price of milk, butter or cheese is raised a cent or two, city folk lay all the blame at the producer's door. The report of the milk committee shows that producers are not charging exorbitant prices, in fact, when the percentage increase in price of stock feeds and labor is compared with the percentage increase in price of milk, butter and cheese dairymen are not getting enough for their dairy products now, if prices were right before the war. If consumers think that milk prices are too high let them consider the delivery question before condemning the men behind the herds. Dairying is no light task, and there must be a fair profit in the business or herds will diminish and their owners will turn their attention to other lines of farming. It would be a bad thing for the country if the dairy output decreased. To keep the returns up to normal the price of the product must be commensurate with the cost of production. The efficiency of many herds might be improved by more judicious care and feeding. The quality of the herd, which largely influences the profits, depends on the man in charge. Organization has helped dairymen in many localities, not only in the purchase of milfeeds but in finding more profitable markets. The organization which has its own plant and is prepared to sell whole milk or make butter or cheese on short notice is in a position to render valuable service to its members. The milk can then be placed on the highest market. Organization has increased the price of many products; and it will aid in giving dairymen wages and a fair profit on their investment.

Dairy Competitions.

For a number of years an exhibition of cheese and butter has been held at the time of the Winter Dairy Conventions in Ontario. The show has created considerable interest and keen competition has been worked up. The dairy interests of Western Canada are planning this year to hold a Butter Competition in connection with their Dairy Convention, as it is believed that such competitions tend to improve the quality of the product manufactured. Alberta and Saskatchewan will hold competitions at their conventions which are held early in January, and the three winning lots from these provinces will meet the three winning lots from the Manitoba competition; thus it will be an Inter-Provincial Butter Competition among the creameries of the three Western Provinces. Each creamery will have five samples of fourteen pounds each, which have been made respectively in June, July, August, September and October, and are shipped to the cold storage. It is expected that each Province will have about two hundred samples at their competition. The holding of an Inter-Provincial Competition is new in the Dominion.

Through the grading of cream, better handling methods have been adopted on the farms of Western Canada, and a high average quality cream is delivered to the creameries. The grading of butter has encouraged the best methods of butter-making to be adopted by practically every creamery in the West. The result has been that the three Western Provinces are now turning out a quality of butter that is hard to excel.

Those in charge of the Competition not only expect that a keener interest will be stimulated in the making of better butter, but that by securing judges from the trade in the leading markets further improvement and standardization of quality will be effected. The judges are expected to discuss the samples and the peculiar requirements of the markets they represent.

While Ontario was somewhat behind her sister Provinces in inaugurating grading of cream and butter, the work is getting under way and undoubtedly will have a beneficial effect on the uniformity of quality of the product from our creameries. It is the duty of producers and manufacturers of dairy products to do all in their power to make the quality of Canadian butter such that will occupy the premier place on the most exclusive markets of the world. It can only be done by united effort. One poor lot placed on the market injures the whole trade. Is it not possible that all Canadian butter and cheese be made to score high?

POULTRY.

Don't forget to give the flock plenty of green feed. Mangels, turnips, cabbage or clover leaves are satisfactory.

If a bird's comb gets frosted, apply cold water to the affected parts and grease with vaseline or similar substance.

A mixed grain ration gives better results than feeding mainly on one grain. Dry and moist mashes should be fed regularly.

The dull, listless, inactive birds are not the money-makers; on the contrary, they may be disease spreaders. Get rid of them.

Hens must be furnished with material for making shell, and they use a lot of it when producing heavily. Oyster shell, ground plaster, or substances of a limy nature enter into the formation of egg shells.

A bird will stand a good deal of cold, provided it has become accustomed to it and the atmosphere is dry. Avoid changing of location during the winter unless conditions in the two pens are similar. Changes deter egg laying.

Birds must be well fed and looked after during the cold weather if eggs are to be gathered. When the temperature drops, increased feed is required to keep up body heat. Corn or barley, which are of a heating nature, may form a large part of the winter ration.

A poultryman who always found that his pens were damp and had a strong odor on a winter morning, has remedied this trouble by replacing part of the glass front with cotton. This gives ventilation without causing a draft, and ventilation tends to prevent dampness and foul odors.

If a bird has a cold or contracts roup, remove it from the flock as it may spread the disease and cause a heavy drop in production. A little potassium permanganate in the drinking water helps to prevent the spread of roup. Bathing the head in a five per cent. solution of permanganate, or in a solution of commercial roup cure, tends to relieve the trouble.

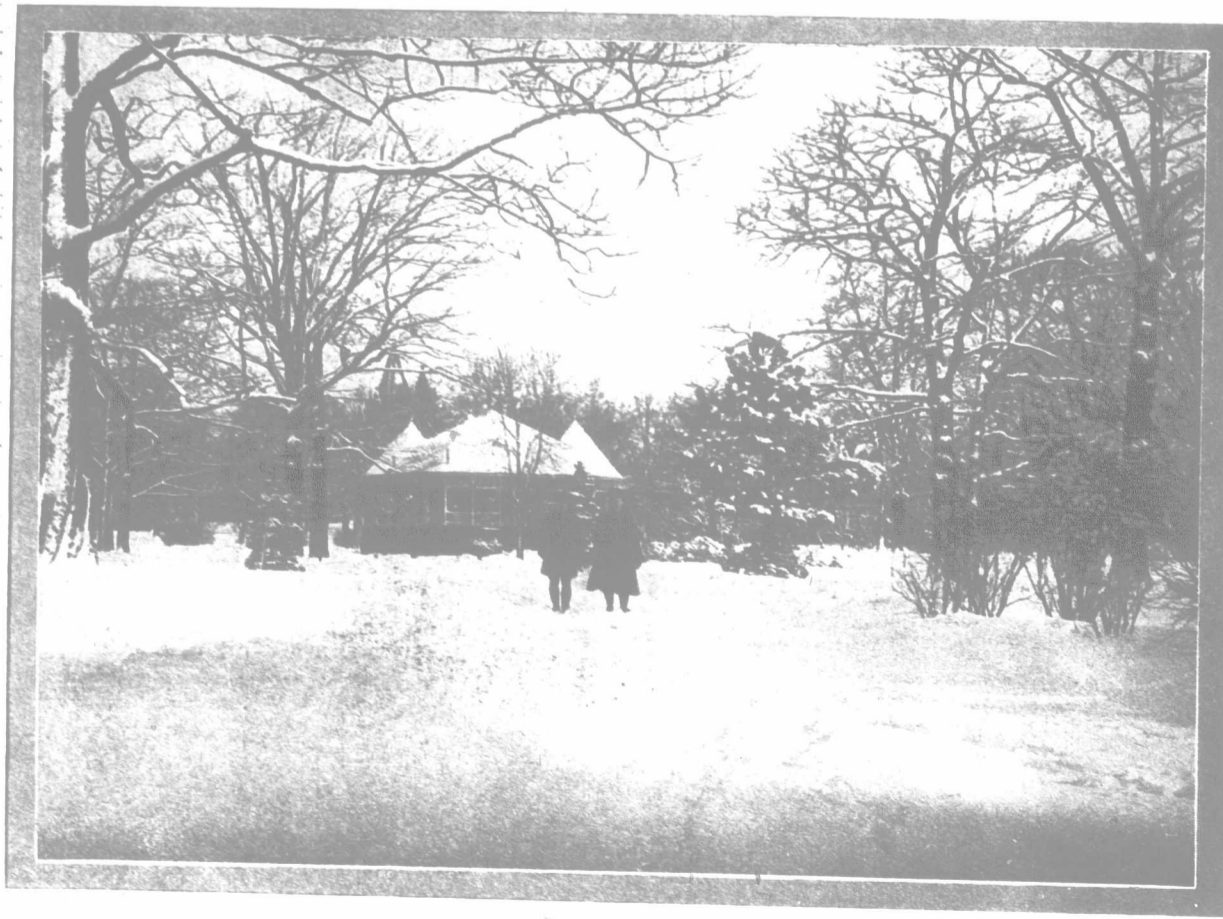
Have the pullets commenced laying? If not, there must be a cause. Some flocks have a fairly high percentage egg yield to their credit for December. Strain, feeding, housing, and fall care are factors which influence the egg yield. If mistakes have been made in the method of handling the flock the past season, plan to avoid them next year. In order to be profitable, the flock should produce a reasonable number of eggs during the winter.

Poultry Feeding.

The problem of economical production, with feed at the present prices, is a question that has been worrying producers during the past few months. The question of what to feed is one that requires more careful consideration than ever before. Feed is high, therefore, the flock should be culled closely, and nothing but the most vigorous birds retained. They should not only be fed heavily, but should be fed such feeds as will give results. For this purpose it is necessary to supply cereal, animal, vegetable and mineral feeds.

Cereal or grain feeds should form the principal part of the ration, and for best results a certain proportion should be ground. The question is what are the best and most economical feeds to use. During ordinary times, a mixture of corn, wheat and oats is popular, but under present conditions milling wheat should be conserved for human food and only the lower grades used for stock feed. Low grade wheat, oats and corn, buckwheat and barley, these are all feeds that may be used to advantage. The extent to which each is used will depend on prices. For ground feed "buckwheat screenings" may be used to advantage, also mixtures containing bran, commeal, ground oats or other similar grains.

Vegetable or green feed is absolutely necessary to keep the flock in thrifty condition. For this purpose sprouted oats is one of the very best. It not only supplies succulence, but grain fed as well. Mangels, turnips, cabbage, small potatoes or other similar waste products may all be used to advantage. Animal or



A Winter Scene in Queen's Park, Toronto.

meat feed is a form of food that poultry keepers frequently neglect supplying. It is not possible for a hen to produce eggs profitably on an all-grain ration. Sour milk is usually available on farms and no animal feed will give better results, as it not only supplies the necessary feed, but it also keeps the birds in good tone. If milk is not available, beef scrap, blood flour, green cut bone or similar feeds must be supplied to take the place of the grubs and insects which the birds get on range. Mineral feed.—Lime for the egg shells and mineral salts for the growth of bone must be supplied. Small quantities may be obtained from such feeds as clovers, but it is necessary to feed oyster shells or something similar to supply lime in sufficient quantities for a heavy egg production.

Sample Ration.

Morning.—A light feed of mixed grains scattered in a deep litter. Noon.—Green feed, mangels, vegetable parings or sprouted oats. Night.—Full feed of scratch grains.

The scratch grains should be a mixture such as low grade wheat, oats and corn,—barley, oats and corn,—barley, oats and buckwheat,—or whatever grains are cheapest at the time. So far this season, oats have been the cheapest grain food, so it is advisable to use them to as great an extent as possible. The present indications are that corn will be reduced in price. When this happens it should be used extensively, as, supplemented with a high protein feed such as sour milk or beef scrap, it is one of the most valuable of feeds. Besides the foregoing, a hopper of dry mash, such as ground buckwheat screenings three parts, blood flour or beef scrap one part, may be kept constantly before the flock, also hoppers of oyster shell and beef scrap. If sour milk is available the beef scrap may be omitted or green cut bone may be supplied in place of either. A good time to supply this is at the noon feed when a mash made from the kitchen scraps in which is mixed the green cut bone, at the rate of about one-half ounce per bird and dried off with the meal mixture, may be fed.

Because feed is high in price, don't stint the flock. It takes a certain amount of feed merely for maintenance. It is only the feed over and above this amount that can be used for production, therefore, feed and water liberally.—Experimental Farms Note.

Egg and Poultry Trade.

The Poultry Division of the Live Stock Branch, Dominion Department of Agriculture, reporting for the week ending December 26, state that there is no evidence coming from country points in Ontario and the Maritime Provinces of any increase in the production of eggs. Many of the cases arriving on the market contain stale, held stock, which are not wanted, as they are not as good as the average cold-storage eggs. The demand is keen for new-laid specials, and the retail price on the Toronto market the Saturday before Christmas was from 85 to 90 cents per dozen. The Middle West reports a slight increase in new-laid, due to favorable weather conditions; British Columbia shows a decided increase in pullets. The storage situation is gradually clearing up throughout the East and West. The United States markets are steady. Consumption has been extremely good, but prices are greatly influenced by weather conditions. Reports coming from the Poultry Division indicate that the market for dressed poultry has been good. Very little, if any, stock has been carried over the holidays, which is a marked contrast to last year, when a good deal of poultry went into storage. A few eggs are still moving for export via St. John and Portland. The British market is reported to be improving. The latest quotation from Great Britain was around 23 shillings per long hundred, which would net the shipper around 43 cents.

The egg and poultry markets' report for the week ending December 26, quoted the following ruling of the United States Food Administration regarding the disposal of storage stocks of poultry: "The Administration has ruled that packers may store turkeys as usual without interference as to prices paid, or quantity put in the warehouses, provided 40 per cent. shall be put on the markets before June 1, 30 per cent. between June 1 and August 31, and the remaining 30 per cent. before December 31.

Broiling chickens stored during the past summer and fall must be marketed, 50 per cent. before June 1 next, and the balance before September 1.

"Other chickens stored since last summer and to be stored later must be closed out 50 per cent. before May 1, 25 per cent. between May 1 and August 31, and 25 per cent. between September 1 and November 30.

"Old roosters, ducks and geese must be marketed 50 per cent. within six months of the date of storage, and the balance within twelve months.

"Dealers will be permitted to store poultry for their reasonable future requirements under the same restrictions affecting the time of marketing."

HORTICULTURE.

Is the Fruit Industry Waning?

There is no question as to the vital importance of wheat and meat in the great task of victualing the nations at this time, but it should not be forgotten that fruit and vegetables are staples with us and deserve recognition. In our concerted effort to produce those products in such demand overseas, we should not demoralize other industries unless by so doing we are sure to accomplish what may be viewed as a reasonable compensation. The fruit grower is usually so located and so equipped that it would be unfair to expect any

great changes in practice on his part. The apple orchardist is often a farmer as well, and he is in a position to add his quota to the grain bin or the slaughter-house, but the out-and-out fruit grower has peculiar soil, better suited to growing trees and bushes than wheat or corn. Furthermore, his implements and all equipment are adapted to his special line of work, and in that work he must continue.

There appears to be a cloud overhanging the fruit industry for which there is no reason. The growers are going on with their work as best they can, but there is no enthusiasm emanating from headquarters; the atmosphere is heavy. The experiment stations, we know, are doing their bit in war work; their staffs are weakened through loss of trained men, and labor for investigational work is not easily available. The whole situation has tended to stifle enthusiasm which is the driving force in any industry. The labor question is not so acute with fruitmen as it is in other lines of production where more than usual is attempted; for female help, when trained, is quite adaptable to the work. It is no time for great expansion in fruit lines, that is true, unless it be in planting for future production, but we should not slow down more than is absolutely necessary. It is quite important that we keep up-to-date in regard to spraying, cultivating, and everything that tends to keep an orchard or vineyard in proper condition. Anything to the contrary would mean retrogression and serious loss for years to come. It is to be hoped that a spirit of optimism will penetrate the fruit growers' meetings this winter, and that the fountain of enthusiasm will be caused to flow a little more freely. The provincial fruit branches and the experiment stations the country over would do well to lend all possible aid in this regard, for the fruit industry is not as healthy as it should be.

Bark Injuries Caused by Weather Conditions.

Frequently in the early summer, or even in the spring, it is noticed that the bark of several trees in the orchard is split or drying up with every indication of breaking away from the trunk. This is attributed to one cause and another, but Prof. Macoun has given a very clear explanation of such injuries in his recent Bulletin entitled "The Apple in Canada." Three different cases are discussed in the following paragraphs which we quote:

Bark Splitting.—This is an injury which usually occurs on young trees. It is due to the expansion caused by frost when trees are in a very succulent condition. It occurs when trees have grown late in the fall and there is a sudden low drop in temperature. It will occur when trees have grown late and there is a heavy fall of snow before the ground freezes. The soft snow appears to soften the bark of the trees, and when the temperature drops suddenly the bark is loosened. The injury is usually greatest near the ground. In Nova Scotia the Gravenstein and other apples are affected with what is known there as "Crown rot," which apparently destroys the bark about the tree near the ground. From what can be learned of this injury, which occurs mostly in well-cultivated orchards, and in moist ground, it is believed that the cause is that the Gravenstein grows too late and is subjected to the conditions just referred to, namely, of being too full of sap. Traces of disease have been found at these injured parts, but it is believed that the disease is secondary rather than the principal cause. Bark splitting can be prevented to a large extent by having the wood of the trees well ripened when winter sets in, and this can be brought about usually, by stopping cultivation in good time. When young trees are injured by bark splitting they may be saved if not too badly hurt by covering the injured parts with grafting wax.

Trunk Splitting.—Trunk splitting, while not a common injury in orchards, is not rare. It was long thought to be due to the expansion of trees which had been "hide-bound." This splitting is now thought to be due to the cells of the medullary rays contracting to a greater degree than those of other parts of the wood when there is a sudden lowering of temperature below freezing. The medullary rays are plates of cellular tissue which radiate from the centre of the trunk to the bark. It is trees which have made late growth and are well charged with sap that are usually affected, hence thorough ripening of the wood is necessary for the prevention of this injury also.

Sunscauld.—The injury to apple trees known as "sunscauld" is one of the most serious hindrances to successful apple culture, particularly in the northern and eastern parts of Ontario, in the Province of Quebec and other parts of Canada where there is warm weather in early spring followed by severe frosts. Newly planted or young trees are, as a rule, more seriously affected by it than older ones. The unhealthy appearance of the bark on the south and southwestern sides of the trunk of the tree and on the larger branches is the first indication of this injury. Afterwards the bark and wood dry up and fall away. Trees are often so badly affected that they die. Sunscald occurs during the latter part of winter or very early in the spring when there are warm days and cold nights. In the case of the apple tree, only a part of the trunk is thus affected, being that part which is exposed most to the sun. The hardiest varieties are the least affected. The injury may be prevented to a large extent by only planting trees which are headed low, thus exposing but a short trunk to the rays of the sun; also, by inclining the young trees somewhat to the southwest when planting, thus preventing the sun's rays from striking the trunk except for a short time each day. When trees have been planted and are liable to become sunscalded the trunks may be protected by using a veneer of wood which

encircles the trees, thus preventing the rays of the sun from striking the trunk. White building paper tied around the tree is also useful and as it is very good as a protection from mice is one of the best preventives. Boards, sacking and many other things may be used to protect the tree from sunscald. Nothing, however, that will be likely to harbor mice should be used.

Prevent Vegetables Spoiling in Storage.

When there is a plentiful supply of fruits and vegetables or, in fact, any food product, there is a tendency towards waste. The loss in weight or substance of potatoes, apples, etc., is not noticed, nor are a few rotten tubers cause for much alarm; there is usually plenty and to spare. This has not been the case the past year or two. In many cellars there is a scant supply of apples and vegetables, and it is necessary to make the quantity on hand go as far as possible. Under the best conditions potatoes will lose a considerable percentage of their weight by shrinkage, and the same is true of carrots and beets. Temperature, light and moisture must be controlled if vegetables are to be kept fresh. A dark, comparatively cool place is ideal for potatoes. They will not be injured if the temperature is kept to within a degree or two of freezing, but, of course, care should be taken to prevent frost entering the storage. Some things will stand a little frost, in fact it improves them, but this cannot be said of potatoes. Freezing causes a chemical action to take place which changes the starchy substance leaving it with a sweet flavor, which is undesirable. Not long ago we saw the beets and carrots which one man had put away for winter. Instead of being crisp and fresh they were all shrivelled up and practically worthless; a direct loss. Now, these might have been saved for use during the entire winter had they been packed in sand. A half load of sand would have been sufficient to cover the winter vegetable supply. We believe that there are many who take pains in growing vegetables so as to have a bountiful supply in the fall, but fail to take precaution for their preservation. It may not be too late even yet to save a portion, at least, of the vegetables from withering. If they are protected from the air so that the moisture does not evaporate they will remain fresh until near spring.

It is advisable to examine the vegetables in storage, occasionally and remove any showing signs of decay or mould. One diseased tuber, carrot or beet may infect those with which it is in contact, and in this way spread infection throughout the entire lot. With potatoes, vegetables and apples at the present price few can afford to run any risk of having disease exact a heavy toll, especially when it is possible to largely avoid loss by exercising a few preventive measures.

Where there is a furnace the cellar oftentimes becomes too warm for vegetables. It is not always easy to regulate the temperature, but it is possible to cover the vegetables so that they will be in the dark, and they can be placed in the farthest corner from the furnace. Some find the root cellar at the barn a satisfactory storage for the potatoes and vegetables. It is not quite so convenient as the house cellar, but it may more nearly meet the requirements of a good storage. A large quantity of vegetables might well enter into the diet in many homes. The supply may be limited this winter, but every effort should be made to keep what there is good and plan to have a greater quantity next winter. Decaying vegetables in the cellar not only cause a loss but are a source of danger to the health of the family. Remove them.

A Scarcity of Root Seed Predicted.

Canada depended for so many years on the foreign supply of root and vegetable seed that trade conditions in this line have been somewhat disorganized, or, more correctly speaking, reorganized since the war began. Seed production has been encouraged, and the Government subvention of three cents per pound has brought forth an effort on the part of growers that is likely to be the solution of what threatened to be a very serious situation. In spite of what has been produced here and what has been obtained from other quarters, there will not be any more than is needed to go round this coming spring, while the prospects for 1919 are even less bright. British Columbia is showing up well in vegetable seed production, and east of the Great Lakes there will be quite a substantial acreage of root seed in 1918. We have it from a reliable authority that the Dominion Sugar Company has 85 acres of sugar beet stockings pitted in the vicinity of Kitchener, and these ordinarily would plant in the neighborhood of 375 to 400 acres for seed. As a general rule, the crop of stockings from one acre will plant from 4½ to 5 acres for seed, and 1,000 pounds of seed per acre is a fair average. A Waterloo County farmer cleaned up 3,157 pounds of mangel seed from 2 and two-fifths acres this fall, bringing him a Government subvention of \$94.50, in addition to the value of his seed. The general average of seed production per acre in this case was considerably exceeded.

It is impossible to correctly predict the number of seasons over which the seed shortage will extend, and since the methods of seed production have been reduced to a workable basis in Canada it would not be unwise for those suitably located to ensure their own supply, at least, for the 1919 planting. Well-kept roots of good size and quality can be planted this coming spring, and with reasonable care and attention the results should be reward enough. As labor becomes scarcer the root acreage will decrease, of course, but we should never be without seed if it can be grown here as a practical proposition.

Potatoes From Seed.

EDITOR "THE FARMER'S ADVOCATE":
Some time ago I noticed an article by Allan McDiarmid predicting the ultimate disappearance of the potato, on account of its failure in recent years to produce seed. The writer should have been in Muskoka this summer when I could have shown him any quantity of seed balls on my Gold Coin potatoes, and, better than that, I had a very interesting patch of seedlings from the Irish Cobbler. The seed balls grew in an experimental plot of fifteen or twenty varieties in 1914. The first year I had the greatest difficulty to grow the plants on account of the flea beetle and the potato beetle. The second year, 1916, was a poor year for potatoes, but this year was better, and after weeding out some poor growers I had twelve varieties. Nearly all were remarkable for strength and vigor of growth. The different varieties were plainly shown by the color of flowers and leaves, as well as their habit of growth. On digging, some were like Cobblers, some useless with deep eyes, while there were several very promising sorts. The quality as far as tested was all that could be desired, but further trial will be needed for quality, yield and resistance of disease. I see that potato experts are trying to have a few standard varieties selected, which is a good idea as there are too many kinds grown, but there is always room for improvement, and perfection is hard to attain, even in a potato. I might mention this is my fiftieth crop of potatoes in Muskoka.
Muskoka District, Ont. T. W. K.

Early Cultivation of Orchards Necessary.

In many districts fruit-growers should take cognizance of the light rainfall of the late autumn and prepare to conserve as much moisture as possible by early cultivation this coming spring. Frequently we have seasons when the rainfall is excessive and in such a case the evaporation is light because the weather conditions are unfavorable for it. Under these circumstances one would not need to worry much, only in regard to some kind of a cover crop to check and mature the luxuriant growth. However, there is always the danger of running into a dry season, when the evaporation is sure to be heavy, and if we do not have a good reservoir of water in the soil resulting from a heavy rain or snowfall the growth of both fruit and wood is sure to be curtailed. Thorough cultivation in order to establish a dust mulch is the only and best solution of the problem where the moisture supply threatens to be inadequate. Irrigation is practiced by the vegetable grower with very favorable results but the extensive fruit grower must depend on his harrows to conserve what moisture the Weather Man has bequeathed upon the soil. Apples will vary in moisture content from 85 to 90 per cent, so it is obvious that we cannot get the size without ample water. The foliage of the tree itself evaporates a considerable quantity and if the soil is in such a condition that profuse evaporation takes place there the result will be small fruit and a poor crop. Unless a heavy fall of snow or rain takes place in many districts of Ontario this winter and in the early spring it will be necessary to start cultivation at the earliest convenient date in insure desirable results.

FARM BULLETIN.

Railway Rates Advanced in Canada.

The Railway Commission has given judgment on the application of Canadian railways for an increase of freight and passenger rates to meet the increase in cost of material, equipment and labor, and the rates will be advanced. General freight rates will be increased approximately 10 per cent, in the West and 15 per cent, in the East. Passenger rates will be increased 15 per cent, in all parts of the Dominion except British Columbia, where the rate is now 3 cents per mile. The railways will have to file new tariffs to be passed by the Board of Commissioners, so it is not possible to say at what date the new rates will come into effect. On coal an increase of 15 cents per ton is allowed, and an increase of 5 cents per ton is permitted on clay, sand, gravel and crushed stone. On grain to Lake Superior ports an increase of 2 cents per hundred pounds is allowed, or approximately 10 per cent.

"Grain and grain products, etc., in the West, other than for movement to Fort William, and also on the movement of these from Fort William east, are permitted an increase of 15 per cent., subject to a maximum of 2 cents per 100 pounds.

"The existing lumber rate basis in the West has been built up by agreement between the mills and the railways, the important matter being the extent of the rate difference between different groups of producers. A percentage arrangement would create disparities. From British Columbia mills to the different groups, increases from 3 to 5 cents, according to distance, are allowed. From northern Alberta and Saskatchewan spruce districts 15 per cent., with a maximum of 3 to 4 cents, according to distance. From British Columbia to Eastern Canada, 10 per cent. From Lake of the Woods and Rainy River, 3 to 4 cents, according to distance. From Port Arthur west, 3 to 4 cents, according to distance. Between points in Eastern Canada, a 15 per cent. increase, which works out a maximum of 3 cents.

"Transcontinental class rates may be increased 10 per cent. No increase allowed 14. Paris, Montreal and other points.

"In British Columbia an increase of 10 per cent. on freight rates is allowed; no rates to be lower than the present rate as increased.

"Railway tolls incidental to transportation, switching demurrage, re-consignment, sleeping or parlor car accommodation, weighing, refrigeration, heating, car diversion, or other special services, are not allowed any increase.

"No increase in passenger rates is allowed in British Columbia. A 15 per cent. increase is allowed in the territory where the maximum rate is 3 cents.

"It is at the same time pointed out that it is in the public interest, with a view to conserving coal, railway facilities and man-power, that passenger travel should be as light as possible, so as to facilitate efficient freight movement."

The Commission found that no greater profits will be obtained by the railways under the new rate schedule than in the past. The increased rates allowed will not, according to the Commission, equal the increase in costs to which the railways are subject, and which costs are in no way attributable to the railway management.

It was shown that the net revenue of the railways had dropped off greatly. In September, 1917, the net revenue of the C. N. R. was 41 per cent. less than in 1916. October, with a 6 per cent. increase in gross, showed 51 per cent. decrease in net. And it must be remembered that maintenance charges have been cut down with a view to economy, and as a result efficiency has decreased and accumulated maintenance charges will have to be met later. At the same time costs of labor, coal and materials have been increasing.

In September the net earnings of the C. P. R. decreased 28.3 per cent. In ten months, ending October, 1917, the gross revenue of the Grand Trunk increased 11 per cent., while expenses increased 22 per cent. In October gross increased less than 2 per cent., while net earnings decreased 49 per cent.

Concluding the Commission's report says: "It is found that there can be no question, in view of the actual results, that the railways require greater revenues, and must have them, if proper efficiency is to be maintained, and the demands of the country for transportation at all adequately met."

Australian Notes.

EDITOR "THE FARMER'S ADVOCATE":
Despite the advance of settlement and good seasons, live stock in Australia continues to decline in numbers. The war drain, of course, has been a factor, and the neglect to take up the system of fodder conservation is another. Twenty years ago Australia, with a smaller population, counted 100 million sheep, but to-day the aggregate is about 75. So far as wool is concerned however, the total production is quite equal to the output of the greater number, as a result of improved breeding. The worst enemy now, after drought, is the blowfly maggot, which causes great mortality during every moist season. Experts have been at work investigating this pest without much success. Fly traps are largely used and a small wasp is being distributed, while others rely upon baits which are spread to catch the larvae of the fly, which are then sprayed to destroy them.

In these days of price-fixing there are grave complaints that the articles the farmer raises are too low. Wheat, for instance, is only worth five shillings a bushel, only about half what it is in other countries. Price-fixing is arranged from the city consumer's point of view, based on the cost of living, but not so in the producer's interest. The cost of manufacturing butter, for one thing, has risen to nearly 2 1/2 d. per lb., and cheese to over 1 1/2 d. This is a rise of over 50 per cent. The selling prices have risen, of course, but not in the same ratio. Not only have the prices of all the farmer's needs gone higher, but increased land and income taxes load him. A keg of rennet which was £3 15s. before the war is now over £40.

It is expected that the Imperial Government will each year buy the whole wool clip until after the war. Some fear there will be a slump in wool after the war, but the Prime Minister offers expert opinion to the contrary.

Though the growers succeeded in inducing the Federal Government to appoint one of themselves as a member of the Wheat Board, there is a good deal of dissatisfaction. It seems that their representative has very little say, and it is feared that during the coming season many of the blunders of the wheat pool system may be repeated. Last season the woeful destruction of grain in the open stacks by mice would be prevented this year by the erection of silos, but so far little has been done in the erection of these structures. A good many think that the farmers should tackle the whole subject on a co-operative basis and take it out of the hands of the Government altogether.

After years of fighting and paltering with the subject, the N. S. W. Government has decided to enforce compulsory dipping for cattle tick. The pest is only in the north-eastern corner of the state, but for years it has prevailed all through coastal Queensland. The experiment will be watched with great interest.

The wheat farm experiment, started in N. S. W. by a former Labor Government, has been abandoned as a failure. They tried to farm 20,000 acres, but strikes were so frequent amongst the men that the enterprise was given up in disgust.

The fruit growers are heartened by the sale of their jam output 56 million pounds went to the United States and 12 million to the Imperial Government.
North Sydney, Australia. J. S. DUNSET.

The Mill Dam Drained.

EDITOR "THE FARMER'S ADVOCATE":

There are two verses of scripture which are being firmly riveted upon my mind. The one is, "There is a way which seemeth right unto man but the end thereof is death." The other is, "Many shall say to me in that day, Lord, Lord, have we not prophesied in Thy name and done many wonderful works. He shall answer and say unto them, I never knew you depart ye that worked iniquity."

A young man dreamed of going over a mill dam, and going to the mill watched the people come and go for flour. Toward evening as he started to return he found the water in the pond had risen and was overflowing its banks, and that a portion of the dam was gone, and he thought if he got back that way he would have to venture at once. Having ventured and looking back he wondered how it was he ever got over safely.

The old mill of Canada has been grinding out prosperity for years. Our great-great-grandparents came here for prosperity. Our fathers and uncles came here for prosperity. Our friends and neighbors came here for prosperity. The stranger from a strange land came here for prosperity. But alas! alas! a storm of wonderment has arisen. Wonderment as to who's to blame for the high cost of living. A breach in the bank over yonder has been filled with a "Laborer's Union." A breach over there has been filled with a "Manufacturer's Union." A breach over here with a "Trainman's Union." A breach yonder with a "Railroad Company Union." Another with a "Moulder's Union." Another with maiden ladies. Another with a "Ministerial Union" and the preacher's adequate salary. It's Bill's business every Monday morning to go to the dam and see that it is all right. He comes rushing back and tells the boss the dam is breaking out. "Yes," says the boss, "wife and I were just out yesterday beholding the beauties of nature" and we noticed it was looking weak. She suggested that nothing would save it but "Votes for Women." But alas! alas, the old mill dam is gone, the old mill pond is drained, the old mill has stopped. There'll yet be weeping and wailing in Canada unless there is a return to honest toil, and the soil from which cometh the maintenance of both peer and peasant alike. Honest competition is the life of trade, always has been and always will be.
Oxford Co., Ont. SUNSHINE.

Advice to Burn.

BY WALT MASON.

The farmer gets more good advice than any man beneath the sun; the magazines would treat him nice, so tell him once, and tell him twice, how all his duties should be done. And lecturers with bulging brows in country schools lay down the law; they tell him how to groom his cows, and how to raise blue ribbon sows by feeding artichokes and straw. The editors of weekly sheets, who never pushed a span of mules, sit in their chairs with leather seats, and tell him how to raise his beets, and for his guidance lay down rules. The men pursuing other trades, we all assume, know what to do; no man the merchant prince upbraids, or chides the lawyer till he fades, or to the plumber hands a few. The sexton he can dig a grave, we do not stop to tell him how, or show the barber how to shave, or tell the tightwad how to save; the dairyman can milk his cow. But every man in town believes no husbandman knows how to farm; and so we criticize his sheaves, and tell him how to shear his beeves, and treat the old mare for the heaves, and bore him till he has the peevs, and to his shoulders rolls his sleeves, and tries to do us deadly harm.

State Control of United States Railways.

At noon on Friday, December 28, President Wilson, of the United States, took over all the railways in that country as a war measure. Possession of the roads was taken through Secretary of War Baker, and William G. McAdoo, Secretary of the Treasury, took charge of their direction under the name of Director-General of Railroads. The new scheme is to unify all systems. The railroads will be pooled, and much time and money saved by sending all goods by the shortest route. Over 253,700 miles of road are taken over in the scheme, and the government is to guarantee earnings equivalent to the average net operating income of each road.

Permission Granted to Export Percherons.

"The Farmer's Advocate" is informed by Gerald Powell, Commission Agent and Interpreter, Nogent-le-Rotrou, France, that the Minister of Agriculture in the French Government has given permission to horsemen to export from France 140 Percheron stallions, three, four and five years old, and that a demand for fifty mares has not yet received a reply. Mr. Powell's letter was dated December 11, and reached this office December 28.

Moving Toward Total Prohibition.

The Dominion Government is moving toward a bone-dry Canada. An order has been passed prohibiting the importation of intoxicating liquors. After April 1 interprovincial shipments of liquor will be prohibited. It is generally expected that when the House of Commons meets a measure will be brought in enacting total prohibition for the duration of the war.

Toronto, Montreal, Buffalo, and Other Leading Markets

Week Ending December 27.

Receipts and Market Tops.

Dominion Department of Agriculture, Live Stock Branch, Markets Intelligence Division

Table with columns for Receipts and Top Price Good Steers/Calves/Sheep. Rows include Toronto, Montreal, Winnipeg, and Calgary for various livestock categories.

NOTE.—The total of the graded stock at each stock yard will vary from 1 per cent. to five per cent. of the actual receipts offered for sale. Any variations from this will be noted.

Market Comments.

Toronto (Union Stock Yards).

Owing to the holiday the market was very quiet during last week, while only seventeen hundred cattle were on sale, half of which were on the Monday market.

There was very little change in price but owing to the limited numbers, choice cattle commanded a premium of 10 to 15 cents per hundred over the previous week's closing prices.

Lambs were a trifle easier selling at \$17.50 to \$18 per hundred.

Hogs were on hand in limited numbers and were in active demand selling on Monday at \$18.50 per hundred and were steady at that level on Wednesday.

Cattle receipts for the past year are about on a level with those for 1916. Including the consigned and billed through cattle, approximately three hundred thousand head were received at the Yards.

Canadian shipments consisted of 14 calves, 34 milch cows, 185 stockers, 66 feeders, 511 hogs, 61 sheep, and 40 lambs.

The receipts from January 1st to December 20th, inclusive, were: 284,394 cattle, 45,131 calves, 159,805 sheep, and 436,295 hogs; compared to 298,216 cattle, 46,816 calves, 167,839 sheep, and 41,372 hogs, received during the corresponding period of 1916.

Montreal. The total receipts at the Montreal Yards for the week were lighter, being fifteen hundred head fewer than those of the previous week.

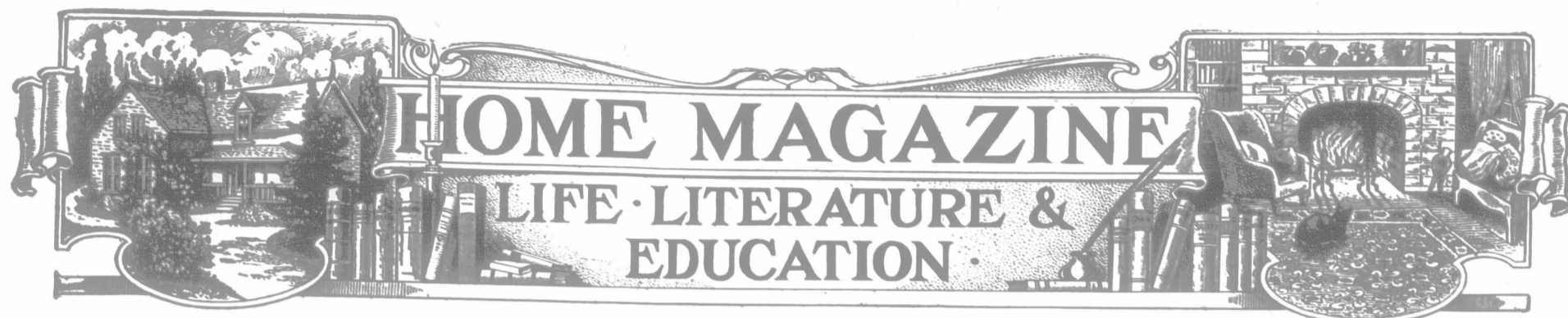
The disposition from the Yards for the week ending December 20th, Canadian packing houses bought 274 calves, 48 bulls, 2,534 butcher cattle, 18,885 hogs, and 1,636 sheep and lambs.

Table with columns for Classification, No., Ave. Price, Price Range, Top Price for Toronto and Montreal markets.

Canadian shipments consisted of 14 calves, 34 milch cows, 185 stockers, 66 feeders, 511 hogs, 61 sheep, and 40 lambs. The receipts from January 1st to December 20th, inclusive, were: 284,394 cattle, 45,131 calves, 159,805 sheep, and 436,295 hogs; compared to 298,216 cattle, 46,816 calves, 167,839 sheep, and 41,372 hogs, received during the corresponding period of 1916.

averaging price paid for fair to medium of dairy grades was from \$8 to \$8.75 per hundred; good beef bulls sold from \$9 to \$10.50. Stable-fed butcher steers have not yet commenced to arrive at the market, and receipts of all classes of steers are very light.

previous week, but as in the case of cattle, the lack in numbers was partially made up by shipments direct to packers. Prices were advanced over those of last week by 25 cents per hundred, selects selling at \$18.75 per hundred, fed and watered, while long-run hogs in some cases were sold at \$19.



Travel Notes.

(FROM HELEN'S DIARY.)

Einsiedeln, Switz.

Einsiedeln is a very small town, with about 5,000 inhabitants. Just as Switzerland lives (or used to—in pre-war days) on tourists, so Einsiedeln lives on pilgrims. The buildings are nearly either all inns or shops. The chief industry, apart from feeding pilgrims, is printing and the manufacture of devotional objects for pilgrims, such as: crucifixes, rosaries, medallions, prayerbooks, etc. They also make everything ornamental pertaining to churches such as images, banners, candles, paintings, stained-glass windows, religious symbols, laces, embroideries, priests' vestments, etc. One can buy images of any size, price, color, or substance. There are rosaries for paupers and rosaries for princes. And, of course, with so many printing establishments in the town—there are five, one of which employs 800 men—the output of picture postals is enormous. They stare at you from every corner of the town, they accompany you right up to the door of the sanctuary, and if perchance you saunter along any of the frequented mountain-paths in the neighborhood, which usually lead to the statue of some saint, there you will find a vendor of cards lying in wait for you.

The town of Einsiedeln is spread out on the steep slope of the hill just below the monastery from which it is separated by a large, irregular, stone-paved space called *Kloster Platz*, in the center of which is the fountain of the Madonna. It is the custom of the pilgrims to make the circuit of this fountain and drink from each of the fourteen streams. Some use cups, but the majority use their hands after the manner of a small boy at a pump.

While we were having tea in the hotel terrace in the afternoon we watched this strange performance. Mrs. Shaw declared she would die of a chill if she took fourteen drinks of ice-cold water, one after the other. It does sound pretty chilly. I must say though that I think this custom is only followed by the ignorant peasants, but of them there seemed to be a tremendous number.

After tea we visited the magnificent library of the Monastery which is quite noted and we also "did" the Hall of Princes. The Library contains 50,000 volumes and stacks of valuable manuscripts, some of them over a thousand years old.

An American lady whom we met in Einsiedeln told us of a rather interesting experience she had in the Library. She and an English lady were poking around peering at the treasurers in the cases, and exchanging remarks concerning them, when they observed a priest lagging along after them. They thought it odd and began to get a bit nervous. One doesn't like to be followed these days, as spies are going around in all sorts of disguises. The two ladies lingered at one of the cases to look at something which interested them and just as they were moving away they were confronted by the priest.

"Pardon me, Madame", said he, addressing the American lady, in English, "May I ask if you are an American?"

"I am," said she.

"And you have a brother named Stephen?"

"Yes," she answered, looking at him in astonishment.

"And you come from Missouri?"

"But why do you ask?" she inquired, beginning to feel rather nervous.

"Because I am an American", said he, "I am from Missouri, and your brother Stephen is an old friend of mine. I have seen your photograph in his room. And your accent is the same as his. I thought I could not be mistaken."

So they had a most interesting chat. He asked to be allowed to act as their

guide, and they had a delightful time. It seems there is a large school in connection with the Monastery and he was one of the professors.

No exciting adventure like this happened to us, although I was hoping something unusual would occur. All that happened was that Mrs. Shaw left her fur collar in the Library and didn't miss it till we got outside. Then of course, the usual hunt for the missing article took place and it was found just where she dropped it. Some of these days, I feel

sure, she will lose something and *not* find it. I hope it won't be her purse.

The Hall of Princes is a portrait gallery. The halls are covered with life-size portraits of royal personages painted by illustrious artists, and presented to the Monastery by the royal persons themselves. We recognized a great many of them on sight—Napoleon the III and the beautiful Empress Eugenia; the old Emperor Francis Joseph of Austria; the late king and queen of Roumania, and many others.

Mrs. Shaw, who had been studying the catalogue attentively, said:

"There are enough Hohenzollerns in this hall to populate Prussia. What a mercy they are all dead."

We went on several shopping expeditions at the village with the idea of "picking up a few little souvenirs". The shops are very interesting, each one is like a small private museum. I was obsessed with the idea of buying a rosary for a Catholic friend of mine. I almost bought one which the saleswoman assured me was made of wood from Jerusalem, but somehow I did not feel quite convinced about the wood story, so I let it go. Finally I gave up the search for a rosary because Mrs. Shaw kept humming snatches of that sung-to-death song "My Rosary" until it got on my nerves. She said she used to sing it to George. "George" was the late Mr. Shaw. He must have been a very patient man. She bought some trifle in every shop we went into, but all I have to display in the way of a souvenir from Einsiedeln is a large illustrated cotton handkerchief, with a gay red border and a picture of the church and Monastery in the center. These illustrated handkerchiefs are quite a feature in Switzerland—almost as universal as picture post cards. I have quite a collection of them ranging from grotesque representations of Alpine cows with collars and bells, pasturing placidly on the edge of awful precipices to really artistic views of noted historical places such as the Castle of Chillon.

"Tub views", Mrs. Shaw calls them, because they are washable.

The culminating spectacle of the 14th of September was the great procession and the illumination in the evening.

Mass was celebrated under the open sky in *Kloster Platz*. For this purpose an altar was erected opposite the church—an enormous altar it was, high and broad and glittering. It was backed by a huge framework of wood which must have been about 75 feet high, painted and decorated and ornamented with symbols of the faith. In the center was a large painting of the Madonna. All the rest of this colossal background was thickly starred with candles, each candle in a glass cup suspended by a wire. The effect of this brilliant altar against the black sky and blacker mountains was really startling and to the ignorant peasants must have seemed quite supernatural.

Illumination in Einsiedeln is an art perfected by years and years of experience. It is all done by means of candles, the method being to outline the windows, doors, walls, and roofs of the buildings with rows of candles. In this way all the buildings surrounding *Kloster Platz*, including the Monastery were rimmed with fire. The flickering light of these millions of candles had a beautifully soft artistic effect, quite different from the hard, steady glare of electric light.

In addition to these lights, there appeared high up on the black mountain a great cross of fire.

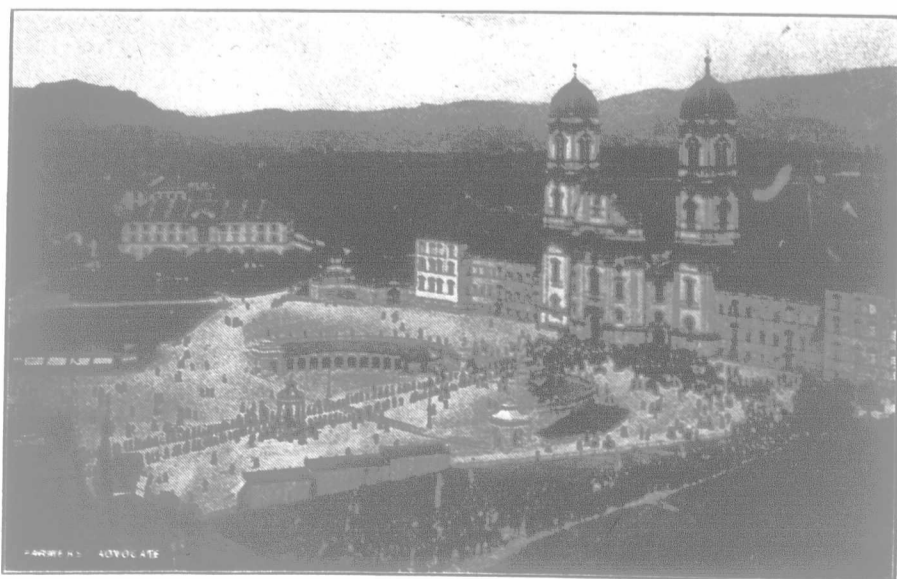
By a quarter past seven *Kloster Platz* was dense with people,—all waiting, silently, expectantly.

At half-past seven the church bells pealed. Simultaneously the church doors opened emitting a great shaft of light from the brilliant interior, and a long procession of chanting priests and monks emerged, each one carrying a lighted taper. Down the long steps they filed, and across the square to the shining altar.

It was a wonderful and impressive picture—one not soon forgotten—the flickering lights, the black encircling mountains, the long line of priests moving slowly through that vast throng of pilgrims towards the glittering altar, and the elaborate ceremonial culminating



The Fountain of the Madonna, in Front of the Church, from which the Pilgrims Drink.



Einsiedeln-Klosterplatz, Switzerland.

in that solemn silent moment when all the people assembled there bowed their heads reverently and knelt upon the cold, gray stones.

In an hour, all was over; the crowd had dispersed, the glory had departed, and *Kloster Platz* was empty save for a sentinel arc-light on night duty.

Lunches For School Children.

IN these war-days when caring for the health of the children who must soon carry the work of the world has become a matter of such vast importance, the item of school lunches is one that must not be overlooked. For, most certainly we humans, children and grown folk, are but animals, after all. We know that cattle and pigs and sheep fail to thrive and become comparatively useless if not properly fed. The same thing happens with people, and so the food of children, who are every day building up bodies, requires especial attention.

Some mothers give very little thought to the contents of the school-basket. The morning is a hurried time, getting luncheons is a nuisance, and so anything at all that will fill up is made ready, wrapped in a piece of newspaper and that is all there is to it,—not a thought as to whether the luncheon is "well-balanced" as regards foodstuffs or not, not a single twinge of conscience if it is unappetizing. The children eat it,—of course they do, if they don't throw it away; they can't help themselves. But they suffer in health, more or less, if it is not the right kind of food, and they look longingly at other, more attractive luncheons that are being eaten by other children. Better, if there is not time to be careful in the morning, get the basket ready the night before, wrapping anything that will dry out in waxed paper. In the end the luncheon so prepared will be more satisfactory than the fresh one thrown together without any care at all in the morning.

Balanced Luncheons.

REMEMBER, in getting school luncheons ready, that children require a somewhat similar balance of food materials as grown folk,—some protein, some carbohydrates, some bulk and mineral matter, and some fat. A full explanation of these terms has appeared many times in the paper, and, not so very long ago, in this very department. The protein will build up the muscles and flesh of the boys and girls; the carbohydrates will help to do this and will also produce energy; the fats will produce heat; and the minerals will act medicinally.

In passing, here are a few menus that are excellently balanced. If you understand the food-values you can think out many others for yourselves.

1. Vegetable salad, Graham bread with butter, cheese, fruit jelly.
2. Brown bread and baked beans, cup custard, an apple or two.
3. Meat or egg sandwiches, sponge cake, raw fruit of any kind.
4. Cheese or nut sandwiches, currant buns, marmalade.
5. Deviled eggs, bread and butter, apple and nut salad.
6. Chipped beef, bread and butter, baked apple, light cake.
7. Celery stuffed with cream cheese, brown bread with butter, pumpkin pie, an apple.

Putting up the Luncheons.

A lunch-box or basket with compartments is, of course, the best, and almost any handy man or boy can transform an ordinary basket into such a receptacle with an hour or two of work, some thin planed board, and a little saw for cutting. The compartments may be held in place by putting eyelets through them with a gimlet and lacing them to the sides of the basket with strong cord or raffa. There should be three compartments: one for the meat or egg sandwiches, etc., one for the sweet, and one for the fruit.

Waxed paper is always the very nicest thing for wrapping, but if it seems too expensive bits of white oilcloth may be substituted and carefully washed after each using. A few stout little jelly mugs should be kept ready, one for salad, etc., the other for the jelly or cooked fruit. Also each basket should be provided with a drinking mug, and,

unless there is a bubbling fountain in the school, the child should be required to use it; the "common" drinking cup is accountable for the rapid spread of many diseases. The best drinking-cup is made of aluminum, and collapsible; it is very light and requires very little space.

If possible, a bottle of milk, cocoa or buttermilk (if the child likes it) should be added to the lunch-basket. It is both food and drink. If one has not a bottle that stoppers tightly, a pint sealer that closes properly may be substituted.

Extra Ideas.

THE mother who really takes pleasure in preparing delightful lunches for her little ones may find some extra ideas here.

Nut-date Filling for Sweet Sandwiches: Wash some dates, remove the seeds and grind or chop the dates, with some nut meats. Moisten with sweet milk or cream to spread.

Stuffed Dates, Figs or Prunes: These fruits may be washed in hot water (the prunes must be stewed), stoned, and filled with nuts, maple cream filling, cream cheese, marshmallows or peanut butter. Roll in sugar and wrap in tissue paper.

Fish Sandwich: Spread bread and butter with mayonnaise dressing then put on a layer of flaked cooked fish.

Jam Sandwich: Children love jam sandwiches. Use white or brown bread put on plenty of butter (butter is an excellent food), and just enough jam to make tasty.

Never put heavy fruit cake or rich pie in the lunch basket. Cup custards are nice, or any light pudding that can be eaten cold; vegetable salads are good, if the child likes them, and nothing can be better than baked apples with sugar, or any kind of stewed fruit.

Hot Lunches in School.

A new idea that is being worked out in some places, if the teacher takes her luncheon also in school, or if there is any large girl to superintend, is to have hot lunches in the schoolroom. If the teacher is qualified (and she should be) she may make this an opportunity for a lesson in domestic science each day, but where this is impracticable, as in a very large school with a programme necessarily over-crowded, the "hot lunch" may have to be confined to a cup of hot water cocoa or weak tea with milk (each child brings milk for himself), a pot of hot soup, or beans, or stew.

A teacher "out West", Miss J. W. Wells of Swarthmore, Sask., tells in the *Winnipeg Farmer's Advocate and Home Journal* of her adventures in the experiment as follows:

"On taking over the school in August, 1915, I found that the trustees had had the school renovated during the mid-summer vacation. Among other improvements were two cupboards built into the wall where the children could put their lunch boxes, for lunches left in the porch in the winter would invariably freeze. These two cupboards are quite plain. We now use the larger of these for our lunch boxes, and the other for storing such things as the coal oil can, lamps, dusters, etc. The contractor had not yet taken the left over lumber away from the school grounds so we used some of this to make a table. There was a painter in the district from whom we got enough paint to give the table a coating. The table is not very strong but in view of the fact that they made it themselves the children are especially careful with it.

"It took us about a week working, during noon hours and recesses to make

the table, and before it was finished the children suggested that they bring dishes. By this time I could judge the feeling of the parents toward the hot lunch was favorable, so allowed the children to bring dishes. Each brought his or her own plate, cup and saucer, knife, fork and spoon. At this time we ate just our usual lunch at the table but the following week we planned to have something hot for lunch. The parents began to pass very agreeable remarks about the idea, and at the end of the second week the inspector, J. H. McKechnie, calling on us unexpectedly, also encouraged us in the matter of hot lunches.

"The children agreed to bring such things as raw vegetables, tea, sugar, milk, flour, and other necessities. Next we had to consider utensils. The children brought several articles and I provided others, also lunch cloths, and tea towels which the children hemmed in school during the sewing period. That year we used the school stove, a large Station Agent No. 22, which is very high, but the following spring the inspector suggested that we get a coal-oil stove. The Homemakers' Club (the equivalent of our Women's Institute) of the district very kindly bought us a New Perfection No. 2, and the trustees willingly agreed to provide the coal oil. This was the first request we had made for assistance from



This Cupboard Holds all Necessary Supplies.

the trustees. The coal-oil stove is used in May, June and September, and we have found that a gallon of coal oil will last a month.

"In the spring of 1916 we planted vegetable seeds in our school garden from which we had vegetables for use on our table before the vacation. These we used as greens or for salads. During the vacation the children took turns in looking after the garden. To do this one pupil came five miles, two came four, and the others came a distance ranging from one to two miles. The District Representative of the Department of Agriculture, J. G. Rayner, secured for us two lots of seed potatoes, three pounds each of Wee MacGregor and Rochester Rose. From the former we gathered a bushel which we sold for one dollar and the Rochester Rose potatoes together with the other vegetables such as carrots, parsnips, beets, turnips, and onions were used for our hot lunches after the opening of the school in the autumn. We used these until November when owing to lack of proper storage facilities our vegetables were frozen. After this time of the year the children took turns in bringing suitable provisions for the school lunch. Each family took a certain day of the week to send something which was either prepared at the school or partially prepared at home.

"The girls work in twos as much as

possible. They do the preparing of the dish and set the table at the morning recess. The two who prepare the hot dish and set the table on Monday wash up on Tuesday, while those who prepare the meal on Tuesday wash up on Wednesday. We have made a time table on this basis which is posted on the cupboard door so that each girl knows her turn, and there is no confusion whatever. The boys also have their day for carrying coal and wood and doing other chores. Our lunch cloths, tea towels and hand towels are taken home by the children of each family in turn and washed for us. The children proposed this plan themselves and it has worked well."

Included also in the report was a list of the dishes prepared up to date at the school containing in all 34 separate items. It would take too much space to give the list here, but it includes several kinds of soups and the preparation in various ways of vegetables, salads, meats and eggs. A list of utensils is also given which includes upwards of 40 separate articles in addition to each pupil's individual dishes. The accompanying photos will give some idea of the equipment.

"Speaking of the results obtained through the use of hot lunches" remarks District Rep. Rayner, in commenting on Miss Wells' experiment, "Miss Wells states that both she and the mothers have observed that the children are in better health. There seems to be no dull period in the classroom between 2 and 3 p. m. The children enjoy their lunch and eat better, and are very mannerly to one another at the table and in the classroom, and are more tidy in their habits. The hot lunch is a point of contact and seems to engender a more kindly feeling between teacher and pupils.

"The influence of the hot lunch on the health of the child is very apparent. The good does not lie solely in the food taken but largely in the manner of eating and in the associations at the table. Where no effort is made to control the eating of lunches the child is apt to eat lunch in perhaps four or five minutes, often just taking a sandwich and running off to play unconscious of the duty to the body. Here is where the wisdom of the teacher should enter in and modify. Plenty of good fun at meal time is said to be a valuable aid to digestion. The hot lunch would mean that the pupil would be given more suitably prepared food and would eat more slowly under more congenial surroundings.

"This report would seem to lend a new viewpoint to the possibilities that are latent in school garden work. Much has been said about linking up the school garden with the work of the class room. It might be that through the hot lunch idea the school garden could be made to reach through the class room to the homes of the community. Teachers with some training in household science could exert, unconsciously and unoffensively, a helpful influence on the home life of the community, perhaps introducing incidentally simple labor-saving devices and methods, and creating a bond of sympathy between the teacher and the mothers of the children. Undoubtedly the success of such work is dependent very largely upon the teacher, but too often the teacher is given no support or encouragement. The cost of suitable equipment for this work would not be high and our school boards would do well to provide such equipment. We venture to express the opinion that once this feature has been introduced into a school and its benefits made evident, both pupils and parents will give the teacher every encouragement. It is a movement



Two Little Cooks Busy at the Home-made Table.



The School Room at Swarthmore.

that so directly affects the lives of the children attending our schools that it should commend itself to the thoughtful support of all."

House Plants.

Paper III.

CHRYSANTHEMUMS.—Chrysanthemums are among the most handsome fall and winter flowering plants. They are very heavy feeders, therefore need very rich soil. Use well-rotted manure to enrich it. During the growing season give a great deal of water, also liquid manure once a week, and shower the foliage daily. Also give plenty of pot-room; chrysanthemums do not require confined roots to make them bloom. At all times keep the plants in a quite cool place as they bloom better and longer than in a warm place. When the flowering season is over cut the tall stalks away and put the pots in the cellar, giving no water during the rest of the winter unless the soil threatens to become bone dry. In March bring the pots up, and when the new growth is a few inches high divide the roots. When warm weather comes plunge the pots in the garden, and leave out as long as possible, until the frosts begin to come, then bring the pots into a cold room, removing them, later, into a warmer place.

To secure very large flowers all the buds should be removed except the terminal one on each stalk.

Farfugium or Leopard Plant.—Grown for its foliage, which is very handsome, the leaves being a glossy green spotted with white or yellow. Grown like Begonias.

Easter Lily.—These lilies do not have to bloom at Easter, although much forced for flowering at that time. Like most other bulbs they can be made to flower almost at any time by keeping the bulbs in cold storage and starting when needed. Leave in a cool dark place until the roots have developed, then bring to a brighter, warmer place. When potting place the bulb on a cushion of sand. Give plenty of water but good drainage. As a rule the plants do not flower very well the second winter.

Fuchsia.—Very beautiful plants and very easily grown. Give good soil of leaf-mould and a little sand in pots that are not too large, as, like geraniums, these plants bloom best when the roots are somewhat confined. Water as you would geraniums, and syringe the foliage every day, keeping the atmosphere as moist as possible (the kitchen is a good place). Give plenty of light but screen from bright sunlight. Fuchsias should never be kept growing the year round; they should be rested in the cellar for at least three months every year, beginning with November. In February or March bring them up, cut back at least half and let them begin growing again. Re-pot in fresh soil

each spring. Never let the plants dry out at the roots at any time, else the foliage and buds are likely to drop off. If preferred fuchsias may be planted out in the garden in summer, in a shady or half shay place where few other things will grow or flower.

Gloxinia.—This plant, which seems like a glorified cowslip, is a great favorite with many people. The flowers are very large and velvety, and range through many shades of crimson, rose, purple, yellow, and blue, some even being pure white. The plants may be started in March or April, and should be in bloom by June. Give them a light soil, 1 part fibrous loam (grass roots) and 1 part

leaf mould 1 part, sand or pounded charcoal to make loose. During winter let it grow very slowly, withholding water somewhat, and keeping the plant in a cool place of about 50 degrees temperature, but towards spring bring it into a warm room and give plenty of water, also, occasionally, some weak liquid manure. The Hoya may be easily propagated by cuttings taken from the top growth in spring. The flowers develop very curiously from what appear to be little brown stems at the axils of the leaves. When the flowers wither and fall from them do not cut them off, for next season new flowers will be produced on them.

which he—and his home— will be largely judged when he goes out into the world. Ella Frances Lynch, a great educator in the United States, says that the period between the ages of three and seven is the one that usually determines whether the child is to become a useful citizen or a loafer, and that, therefore, "For the mother to neglect this responsibility or to shift it to the school, is, perhaps, the most destructively far-reaching phase of modern civilization."

And yet how many mothers there are who think their whole duty is done when they clothe the children, give them plenty to eat, and pack them off to school as soon as possible!

To emphasize the statement, she says again, "The period between the ages of three and seven is more important than the entire consequent school course"; and then, like all good teachers, she gives some concrete ideas on which the mothers may work. They should begin, when the child is three years old, to give a period of five minutes instruction daily. This will give him the habit of learning and train him in a vocabulary that creates ideas. In this way the child can be taught to read a little and to spell a number of words, but, still better, he will have learned to work and to concentrate, and so, when he goes to school, will be able to make the best use of his own time and spare that of the teacher. —Only five minutes per day, or ten, or fifteen, as time can be afforded, but, all the rest of the time, as the little one chatters about, there will be opportunities for incidental teaching—incidental and natural. The child will ask questions which should be answered. Now and then a little story can be told, or attention can be drawn to a bird, a butterfly or a flower. (The mother should know much about these). As the little one sews a doll's dress, or makes a pie with a little board and rolling-pin, or manufactures a wagon from a cigar-box and empty spools, opportunity will come for a start in domestic science, manual training, measurements, accuracy and the quality that is known as "handiness".

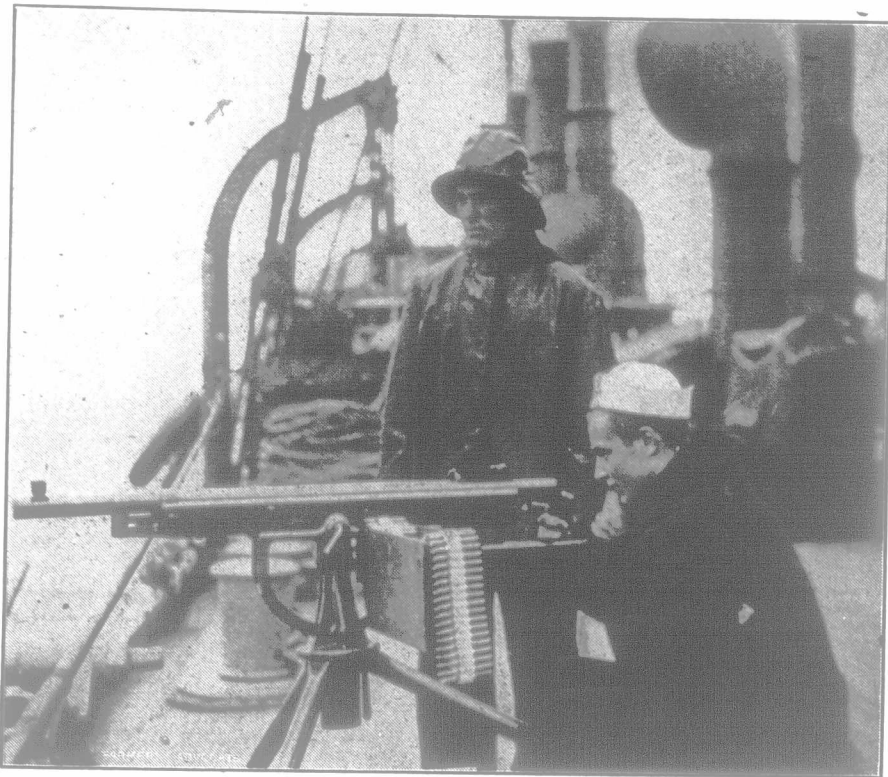
"The very best teaching the little child can have," says Miss Lynch, "is that given by the busy mother while she is doing her housework. The very best lessons for the child are those dealing with its home surroundings, which seem commonplace to us, but in the eyes of the little child are new and wonderful, as if newly created for his joy and use." The little child is all eyes and ears. He is learning now, faster than he will ever learn again in his life.— And his mother has the privilege of being his teacher.

I know a young mother who was once a school teacher, and who now has a school of one, a bright little girl of four years. She is working out an experiment with her, in incidental teaching. When they go through the fields she tells her the names of the wonders in sight—timothy and Kentucky blue grass, wild asters and golden rod, hepaticas and trilliums and the funny little "Dutchman's breeches". If a bird sings she tells her what is the name of the bird—bobolink or oriole or song-sparrow or whatever it may be—and tries to get a look at his coat. At the pond little four-year-old is told of the wonderful development of the frog; a big fat toad on the garden walk forms a similar object lesson. By and by the little girl will be asked to write "letters about these things, and so will learn to write and spell as well as to observe and remember. Nor will the least valuable lesson be the habit of industry. It is all play—no atmosphere of task or drudgery is connected with it—and so little girlie is learning without knowing that she is learning, and the trees, flowers, clouds and birds are becoming to her things that she loves, so many opening doors for enjoyment and sympathy that will lead to long happy paths before her all through her life.

"It is simply wonderful," said the mother to me not long ago, "how much Ruthie sees and remembers. Sometimes I think she is equipped with an unusual memory, then I reflect that most other children are never told the things that I tell her, and never shown the things that I show her. If they were, probably they would remember as much."

"But," says another mother, "I don't know these things myself. I wouldn't know how to go about teaching Marjorie."

Really there seems little excuse for any mother who does not know these



A Machine Gun on a U. S. Warship on the Lookout for Periscopes.

The Mother's Opportunity With the Small Child.

BY "THE OWL".

Paper IV.

WHETHER a man is well or badly brought up," said Pierre de Coulevain (in *On the Branch*) "depends on his mother."

This is to a great extent, true. The teacher may teach, the mother brings up. Upon her, even more than upon the teacher, who always must be her assistant, depends the character of the child. She creates the atmosphere in which he lives. She is, or ought to be, unconsciously, his ideal, or least an ideal in which the father shares. She, too, even more than the teacher, forms the child's manners and language—two things by

peat, or it may be of leaf-mould with a little sand worked in. Keep in a moist place, shaded from sunlight and free from draughts, and water enough, while growing, to keep the soil thoroughly damp, but do not shower the leaves. While in bloom give weak manure water twice a week. When the leaves ripen off after flowering set the pots away in a cool dark part of the cellar, allowing just enough water to keep the tubers from shrivelling. In March bring the pots up again.

Hoya Carnosa or Wax Vine.—This is a very beautiful climber for the home, having thick handsome leaves and odd, flesh-colored flowers which are very fragrant. The flowers come on in summer. As the Hoya is very fond of warmth, it does best in a warm room, and in a soil made up of fibrous loam 2 parts,



Chrysanthemums—at a Flower Show. They are Just as Beautiful in the Home.

little everyday bits of knowledge. There are books, and books, and books, illustrated too, on all of these subjects. And there are child's books of verse and stories, and volumes by the score which give hints to mothers and kindergarten and primary teachers.

Getting them means an expenditure of a few dollars, but think of the benefit to the child. It is not enough to teach him honesty, truthfulness, and fair play—it is taken for granted you will try to inculcate these anyway—The child needs also to be interested, and to have the avenues opened to him along which he will soon have to tread.

Think about it. Before the age of seven, says Miss Lynch, must be instilled reverence, respect for authority, a liking for good books, the habit of concentration, the desire to know. These things are done with more difficulty in school. At home they may be done simply and naturally. Above all things do not hurry the child. Let his home instruction come easily, gradually. Have patience. Remember that ten minutes a day of regular instruction, really enjoyed, are more effective than ten hours of a task.

Hope's Quiet Hour

Reflecting Mirrors.

But we all, with unveiled face reflecting as a mirror the glory of the Lord, are transformed into the same image from glory to glory.—2 Cor. 3: 18, R. V.

The Head of the Church is Christ, the Son of Righteousness, the Light of the world. But He has lighted His members and placed them as lamps to shine in dark places. Their orders are to let their light shine so that men may glorify their Father in heaven. As the moon lights the world by reflecting the sunshine, so we are placed here to "shine as lights in the world." Our business is not to gather happiness for ourselves, as a miser greedily gathers gold, but to give kindness as the sun pours out sunshine. In order to reflect the light we must walk in the light. Unless we keep our eyes on Christ we can't expect to be transformed into His image. We grow like our chosen friends and close companions.

The great joy of the heavenly life will be unbroken fellowship with our God: "His servants shall serve Him; and they shall see His face." But we need not wait for heaven, for Christ has promised to manifest Himself to those who love and obey Him. Though the world seeth Him no more, yet we (by faith) rejoice in the Vision of His Face, as He promised.—S. John 14: 18-21.

Are we doing our fair share as light-givers? Are we gazing, with unveiled face, into the face of Christ, and reflecting His light? Or are we always going about with dreary looks, talking about our troubles and foreboding worse troubles to come?

Someone saw a bright-faced girl at a party and remarked: "That girl shines everywhere".

"Everywhere but at home!" was the quick reply of one who knew. If you win the approval of strangers, and shine in society, while you are fretful or rude at home, you are not reflecting the glory of Christ. He has set you as a lamp on a lamp-stand, in order that you may give light "unto all that are in the house"—your own house. We have no right to add to the sorrow of the world. Surely it already has enough burdens to bear. We realize that we are expected to bear one another's burdens when any great tragedy appeals to our imagination. Think how swiftly the S. O. S. call from stricken Halifax was responded to. Everybody wanted to help, when help was so plainly needed; and the Red Cross was almost swamped as supplies poured in from all directions.

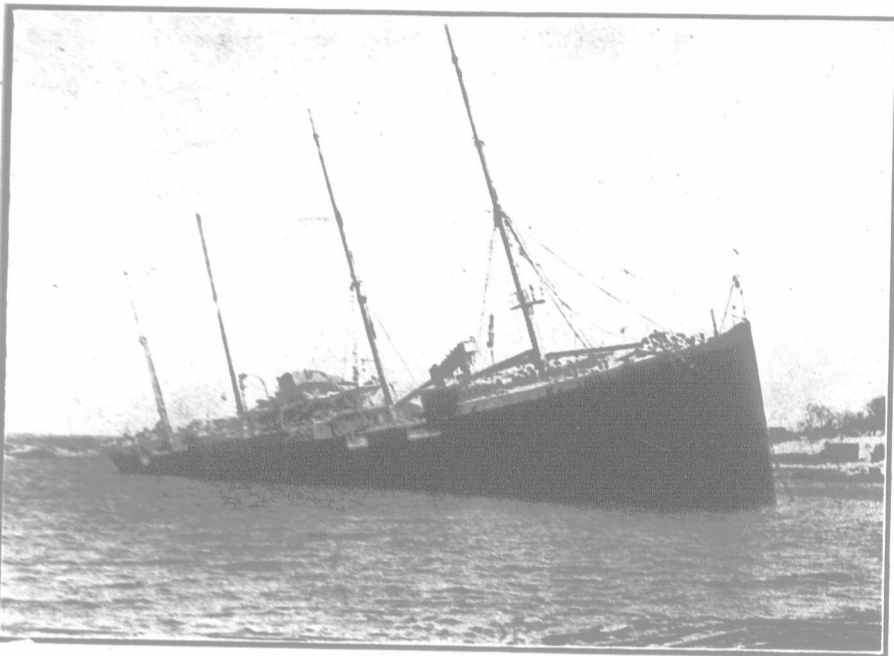
But the best helpers are the steady helpers. The sun shines all the time, and those who reflect the light of the Sun of Righteousness must make it their daily and hourly business.

If ever there was a time when light was needed it is in this time of world-wide darkness. Many anxious hearts will grow strong and brave to endure, if only they can see a ray of light in the gloomy outlook. If your gaze is upward, if you are looking into the face of God, your faith will be far more contagious than

you know. Trusting in God yourself you will help others to trust Him; and be with Him constantly—choosing Him as your daily companion—is a sure way of learning to trust Him.

Yesterday I received this message—which was copied for me by a friend in England:

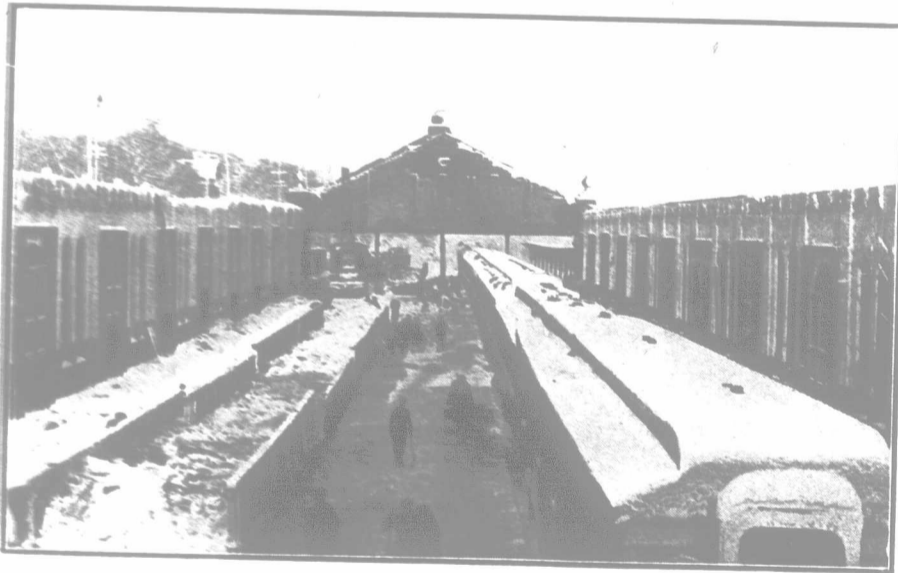
"The longer I live, the more I see Of the struggle of souls to the heights above, The stronger this truth comes home to me, That the universe rests on the shoulders of love, A love so limitless, deep and broad, That men have re-named it and called it GOD".



Steamer Imo.

The Norwegian relief ship for the Belgians that rammed the munitions ship, Mont Blanc, at Halifax.

If the universe rests on the shoulders of Love, we need not weaken ourselves or dishearten others by mournful looks or words. The nations are passing through deep waters, it is true; but that should not make us pessimistic. Think of the Divine Lover's great promise: "Fear not; for I have redeemed thee, I have called thee by thy name; thou art Mine. When thou passest through the waters I will be with thee; and through the rivers, they shall not overflow thee; when thou walkest through the fire, thou shalt not be burned. . . . Fear not; for I am with thee." Are you afraid of Death,—for yourself or for others? We can't see the brightness



Ruin of North Street Station, Halifax.

that lies beyond death, or—put a eye on our Lord's face—we are in the darkest and truest light. His death, precious Christ, is the light of life. The only way to escape the darkness of death is to be born again. The only way to escape the darkness of death is to be born again. The only way to escape the darkness of death is to be born again.

Lowly and simple, but so full of grace and truth, that we can only describe it as a miracle. It is the only way to escape the darkness of death. It is the only way to escape the darkness of death. It is the only way to escape the darkness of death.

who is now on his way to France. He wrote: "Death is more and more in my mind a passing incident in an endless life. Shortly we shall look back upon it merely as our last adventure in the realm of mortality. The pains and clouds that surround it are but insignificant trifles compared with the glory of the life into which 'our sister, the death of the body', introduces us."

In this day of the shaking of all earthly things we are being violently shaken out of our easy-going surface religion. Some have lost the faith they thought they possessed—the faith which was only a thin veneer, only a kind of varnish to their lives. Perhaps they feel rather helpless and bewildered without the

should rouse us from the dead level of drudgery into the glory of high service,—that our King is even now seeking our friendship. We can only reflect His glory as we gaze, with unveiled face, into His face. As Moule has beautifully said:

"I enter His presence-chamber ere I go out to my work in His field, or when I return from it. Or I look up in the midst of it, and see standing by me the Lord, and He invites me not only to clasp His feet, but to grasp His hand; nay, in the hour of need, whensoever I will, to lean upon my Master, to lay my head upon His shoulder, to tell Him all".

Another year has slipped away. Soon our opportunity of earthly service will have passed—never to return. What a pity it will be if we lose the chance of living shining lives, if we walk miserably in the darkness instead of reflecting the Light of Christ's face. Let us buy up the remainder of our time, "because the days are evil" and brightness is greatly needed. DORA FARNCOMB.

Christmas Gifts for the Needy.

Two donations for the Quiet Hour Purse have reached me from readers in Quebec—one dollar from Mrs. B. and two dollars from A. O. I have also received a dollar from C. H. and Mrs. W. and a dollar from Jennie. "A Puslinch friend" sent two dollars—her fourth donation this year. This money will help to brighten many cheerless homes at Christmastime. Very many thanks to all the kind givers!

DORA FARNCOMB.
52 Victor Ave., Toronto.

The Windrow.

Among French novelists who have perished in the war are Nolly, Psichari, Fournier and Clermont, every one of whom promised to be great.

One thousand six hundred German firms in South America have been black-listed by the United States.

Owing to a new "catapult" device for launching airplanes from ships, airplanes, chiefly intended for scouting for submarines, are now carried on many battleships.

Bitter complaints of food scarcity come daily from the Scandinavian countries, especially Sweden.

Women in Oklahoma and Texas are forming a "Battalion of Death" to serve in any way the War Department asks.

Miss Madeline Jaffray, Galt, Ont., a returned nurse, wears the decoration of The Croix de Guerre, awarded for distinguished service under fire, also a bar of red ribbon with a star to signify that she has been wounded. Our fighting soldiers do not bear all the honors from Europe, but they are happy to share them with such women as the nursing sisters.

The Texas House of Representatives has passed a bill requiring that all male persons shall subject themselves to a physical examination by a physician before entering into a marriage contract.

The Dollar Chain

A fund maintained by readers of The Farmer's Advocate and Home Magazine for the soldiers and all who are suffering because of the war.

Contributions from Dec. 14 to Dec. 28: John Gauld, Bridgen, Ont., \$3.50; Wm. Ball, Alliston, Ont., \$1.00; Mrs. Wm. L. Johnson, R. 5, Perth, Ont., \$5.00; J. H. Powell, Arva, Ont., \$5.00; "Toronto" \$2.00; Allison Peacock, Woodbridge, Ont., \$7.00; Contributor, Hensall, Ont., \$1.50; One Interested, \$2.00; S. W. St. James, R. 1, La Tortue, Que., \$2.00.

Previously acknowledged.....\$5,045.80

Total to Dec. 28th.....\$5,074.80

Kindly address contributions to The Farmer's Advocate and Home Magazine, London, Ont.

The Fashions.

How to Order Patterns.

Order by number, giving age or measurement as required, and allowing at least ten days to receive pattern. Also state in which issue pattern appeared. Address Fashion Department, "The Farmer's Advocate and Home Magazine," London, Ont. Be sure to sign your name when ordering patterns. Many forget to do this.

See under illustrations for price of patterns shown in this week's issue.

When ordering please use this form:—
Send the following pattern to:

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Post Office.....
County.....
Province.....
Number of Pattern.....
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Measurement—Waist..... Bust.....
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The Ingle Nook.

[Rules for correspondence in this and other Departments: (1) Kindly write on one side of paper only. (2) Always send name and address with communications. If pen name is also given, the real name will not be published. (3) When enclosing a letter to be forwarded to anyone, place it in stamped envelope ready to be sent on. (4) Allow one month in this Department for answers to questions to appear.]

A nation's best asset is the children" the words have been said over and over again, perhaps so often that they tinkle on the ears without making any real impression.

But how true they are—how very very true!—Not the crops, the cattle, the sheep, the forests, the fisheries, the mines—but the children. And children don't mean just children, sweet, cuddly, dimpled things though they may be; they mean future citizens, the entities that must make the world go to-morrow. What importance, then, to give them a good start!

—All this by way of introduction to a statement made recently by Dr. J. W. S. McCullough, Chief Officer of Health for Ontario in some of the Toronto papers.

"You will be interested to know", he said, "that the Provincial Board has established a 'Child Welfare Bureau', and a 'Child Welfare Exhibit'. At the present time the exhibit with a nurse and moving picture apparatus, is making a tour of some of the larger towns in the western portion of the Province."

"The board", he continues, "has also published a pamphlet 'The Baby' and has already distributed about 10,000 copies. . . . designed to teach the mother how to care for her infant and keep it well. . . . The bureau is ready at all times to give advice to mothers in the care of their babies, and we would like it made known that our services are always available to the public." (Signed J. W. S. McCullough, Chief Officer of Health, Toronto.)

During the winter a Child Welfare clinic and exhibit are to be held in this city, and I shall hope to be able, then, to tell you something more definite about the work. In the meantime some of you may be glad to send to Dr. McCullough for the pamphlet referred to.

JUNIA.

Ending A Toe.

I am sure The Globe will pardon me for copying the following from its pages: "When you find a good thing, pass it on," is a good motto.

"It's all very well," says an experienced knitter "for an experienced knitter to 'take off the stitches on a darning needle, draw up and down.' But many people manage by this process to get a good-sized and very hard lump at the toe, the very thing that we want to avoid. The following I have found by test is the best toe:

Leave eight stitches on the front needle, and four on one of the back needles, three on the other. Slip back stitches on to one needle and break off wool, leaving about a foot. Thread this into a darning needle, put through first stitch on front needle as if for purling, but do not take the stitch off. X. Then put needle through first stitch on back needle as if for knitting and do not take off. Then through the first stitch on front needle again knitting and slip off. Through the second stitch on front needle purling and do not take off. Through the first stitch on back needle, purling and take off. Repeat from X till all the stitches are worked off. Each stitch must be gone through twice Slip off when knitting on front needle. Slip off when purling on back needle.

"May I offer the further advice? If you knit loosely use No. 12 needles, if tightly, No. 10, and remember that when knitting with No. 10 needles to cast on fewer stitches than when using the finer size."

Dyeing.

Dear Editor.—In your issue of Sept. 13, I notice Junia's question on coloring. I might give a few lines on coloring, as my mother used to do a lot of that kind of work 55 or 60 years ago, and as a boy at that time, I did the most of the gathering of the material for coloring, namely, black, blue, brown, reddish-brown, dark grey, light grey, dark purple, yellow, red and green. The black and blue were made into a dye in a small tub, using about 2 gallons of soft water, about 2 ozs. of salt and 2 ozs. of alum. For black she used logwood, about 1/2 lb., stirring the yarn each day for several days until she had a good black. For blue she used Indigo in the same way, always rinsing in a solution of alum water. For brown use either butternut shells or walnut shells, boiling them well, using a little salt and alum to set the color.

For dark grey use the bark of the soft elm in the same way; for light grey use the rock or highland elm, same way.

For dark purple use soft maple bark for reddish brown use Sumac bobs or berries gathered last of October. For yellow use the golden rod blossoms. For red use the Indian red berry. The Indian red berry you will often find in gardens or when planting ground in the fall.

Any further information will be given as far as I can remember to any one enclosing stamped envelope.

Owen Brook, Ont. E. W. BROOKS.

P. S.—I am one of the oldest readers of the Advocate, ever since its second issue in 1866. My father, John Brooks, was one of the first subscribers to the little paper, then monthly now weekly.

Thank you very much, Mr. Brooks for the trouble you have taken. When reading about the dyes from plants I was reminded of a summer community that existed a few years ago—and may yet, for all I know—in the Adirondacks. The property was all owned by one man, who built the cottages, all of which were stained the same shade—with creosote stain—to harmonize with Nature's tinting of the rocks and cliffs about. In renting the cottages there was one stipulation—whenever rented them must be doing creative work of some sort. This drew literary folk and artists to the spot, but among the number were two women who had fixed upon even more distinctive ways of expressing themselves. One of them took photos, which were so beautiful and so distinctively her own that she easily sold the best of them to art stores and very high-class magazines for \$20 each. The other—a mere girl—had taken to weaving things, inventing her own designs and coloring the wools to suit her own taste. Cloth for suits she wove, table-covers, rugs and portieres, exquisitely beautiful, and

the prettiest of all—and most durable—were those colored with vegetable dyes. There may be a suggestion here for some real artist who has the energy to learn how to run a loom, and your hints on dyeing may prove a great inspiration to her.

Milk in Cookery.

It is not understood as well as it should be that milk adds greatly to the food-value of any dish in which it is used. Whole milk, of course, gives the richer flavor, and also adds to the fat content, but skimmed or separated milk is also nutritive because of the protein or nitrogenous content of it, and when it is used any fat needed may often be supplied in the form of dripping.

White sauce made by cooking flour and butter together (say 2 tablespoons of each) and adding milk and seasoning, stirring all the time, is very useful. It may be served with fish or mutton, and, if used with the latter may be made into the regulation mutton sauce by adding a few capers or pickled nasturtium seed. Dried codfish, soaked, boiled and served with white sauce on which hard-boiled chopped egg has been sprinkled is very appetizing.

Among vegetables that may be served with white sauce, if the members of the family like them that way, are cabbage, cauliflower, onions and artichokes. Boil the vegetable in a little water, or steam it, chopping the cabbage coarsely and breaking the cauliflower in pieces. Pour the sauce over and serve at once, sprinkled with a little pepper or paprika. If preferred put the mixture in a baking dish, sprinkle grated cheese over the top, and bake in the oven a little while before serving.

Milk sauce is also useful for using up any left-over bits of meat or vegetables. Chop the left-over fine, mix with the sauce and serve very hot on buttered toast.

Scalloped potatoes are made by slicing potatoes raw, covering them with milk, and baking in the oven. Do not add salt while baking as it may curdle the milk.

Vegetable Oyster or Salsify may be cooked as follows: Scrape the root, slice and boil in a very little water to which a little milk has been added. A shred of codfish boiled with it will increase the oyster taste. When tender cover with milk, let come to a boil, add crushed crackers, with butter, pepper and salt to season, and serve with bits of toast or hot biscuits. Artichokes may be cooked the same way.

There is almost no end to the ways in which milk may be used in puddings—tapioca, rice, sago, cornstarch blanc-mange, bread pudding, junket, etc., all of which are nutritious and easily digested. To vary the bread pudding use fruit one time and grated lemon rind another. The blanc-mange may be varied by adding to it melted chocolates or a little cocoa.

Milk may also be used in making many kinds of soup, nice for supper or cold nights if served with toast or hot biscuits. Almost any kind of vegetables may be used as a foundation for these soups—potatoes, cabbage, onions, beans, peas, corn or celery. It is best to cook the vegetable first in as little water as possible, then mash it fine or put it through a potato ricer, reheating with milk and seasoning.

Last of all, milk may be added to the water when making bread, greatly increasing the food value.

The Scrap Bag.

Corns.

To prevent soft corns, wash the feet every night (this should be done anyway) and dry very thoroughly. If a corn appears rub vaseline on it.—To remove hard corns apply every night for from three to five nights, a little salicylated collodion. A mucilage brush will do for applying it. The last night soak the feet 5 minutes in hot water, then work around the corn with an orange stick, finally pulling it out. Touch the little pit that is left with alcohol and keep the toe softened with vaseline.

Cake-Baking.

Just how a cake is mixed would seem to make little difference, but it makes a great deal of difference. The best way is to heat the butter and sugar first to a cream, then add the beaten eggs, beating



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An hour a day for a few days will earn one or more of the handsome prizes we offer upon this page—they are all guaranteed, we select them ourselves; they are the best in quality, workmanship and design—they are bought wholesale—you get the benefit.

In Your Spare time

Make three or four calls on the people in your neighborhood every day. You will find a number who have "The Farmer's Advocate"—Listen carefully to the good words they have for it—then when you meet the farmer who isn't a reader tell him what his farmer neighbors, the men he knows, say about it.

When you approach a farmer, right at the start show him an article in the issue that deals with his particular branch of farming. Let him read a little of it—then if there are other articles about things that interest him particularly, show him these, too. Then show him all the departments, tell him he gets a copy every week, and that if he subscribes right away we will send him the Christmas Number.

WITHIN A WEEK

You can win a pair of highly nickel-plated Hockey Skates (Double Ends, Puck Stop and all) for two, three or four New Subscriptions. Just one new name a day for the next week will win the best prize in the list for you.

We will get the prizes in this list for you—if there is something you would rather have, tell us what it is and we will endeavor to get it for you. We cannot guarantee delivery of prizes listed, however, in every case full value will be given.

Write us to-night.—Start getting new names right away.—The sooner you do the sooner you'll be having that much extra fun with your new present.

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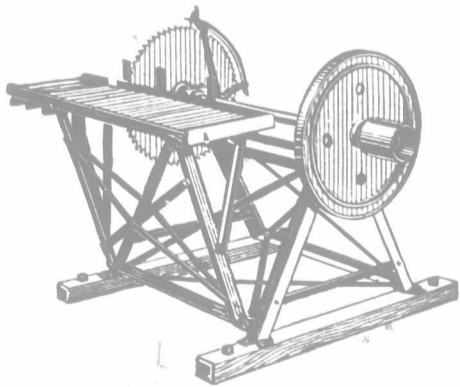
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press Collect).

again, then the milk, and lastly the flour sifted with the baking-powder. If you want a light cake beat with a high sweep, to incorporate air bubbles. Stirring a cake makes it less light but somewhat finer grained. The baking temperature is very important. If the oven is too hot at first the cake will crust over the top, and the batter may burst out, the result being a badly shaped cake with holes in it, the bubbles of gas expanding so rapidly that they do not stay in individual cells but run together in cavities. A moderate oven is best unless the batter is very thin, when the oven should be very moderate, as in the case of sponge cake or angel cake. As a general rule the stiffer the batter the hotter the oven. Bread dough, which is quite stiff, needs a rather hot oven. The heat at the bottom should always be quite as great or even a little greater than at the top. While baking a cake avoid jarring the stove in any way, at least until the cells are well set.

Use for Empty Sealers.

When sealers are empty they are very nice for keeping left-overs in, away from dust, until used. They are also fine for keeping such things as tapioca, rice, currants, etc., as the commodity is kept dry and can be seen at once when needed, saving time otherwise wasted in opening papers.

A New Scarf.

A new idea for a home-knitted scarf is to turn the ends to make a pocket, finishing the bottom with a tassel. The scarf should be made just long enough to go round the neck twice, the ends hanging down just the right distance for tucking the hands in the pockets. With such a scarf a muff is seldom necessary.

A Bad Tooth Disease.

The teeth should be kept scrupulously clean from earliest childhood up. Carelessness leads not only to decay, but to the dreaded disease pyorrhea, which causes the gums to shrink, the teeth to become loose, and pus to form at the roots, with much soreness. But soreness is not the worst trouble induced by this disease. It poisons the whole body, often causing serious ill-health. The great majority of people become affected with it, sooner or later, and in varying degrees; but this need not be the case if persistent pains were taken always and at all times of life, to keep the teeth clean every day, and to have the tartar removed from the edges of the gums, if necessary, two or three times a year. A small brush should be used, with a good dentifrice, even common salt. To keep the brush free from germs it should be well washed after each using and covered with salt. Always brush the teeth towards the edge, not crosswise, and if there are any signs of softening or bleeding of the gums massage them well every day.

The Cookery Column.

Cornmeal Pudding.—Take 3/4 cup cornmeal, 1 1/4 cup flour, 1/2 cup sugar, 4 teaspoons baking powder (level), 1/2 teaspoon salt, 1 cup milk, 1 egg, 1 tablespoon melted butter. Mix and sift dry ingredients. Add milk, the beaten egg, and butter. Steam in a buttered mould 1 1/2 hours. Serve with sauce made as follows:

Sauce.—One cup sour cream, 2 tablespoons powdered sugar, 1/2 teaspoon vanilla. Beat the cream until thick, and add the sugar and vanilla.

Scotch Scones.—Put through a sifter together (or mix together without sifting if you prefer) 1 cup oatmeal, 1 cup flour, 3 level teaspoons baking powder, 1/2 teaspoon salt. Work in 1/2 cup cold cooked oatmeal and 1/4 cup butter. Beat 2 eggs, add 2 tablespoons of thin cream, and mix to a dough, adding more cream as needed. Put on a floured board and roll into a sheet 3/4 inch thick. Cut in diamond shaped pieces, prick with fork, brush over with white of egg or milk, sprinkle with sugar and bake 15 minutes.

Fish Chowder.—Use any left over baked or boiled fish. 2 cups boiled potatoes, sliced; 1 cup onion, boiled and sliced; 1 cup fish. Put all in some cooked white sauce, and when hot enough serve. To make the white sauce: Mix 2 tablespoons flour and 2 of butter; heat together and cook for 1 minute, but do not let brown. Add gradually 1 cup milk, and stir until perfectly smooth. Season with 1/2 teaspoon salt and 1/8 teaspoon

pepper. (From the Food Controller's Office).

Brown Bread.—Two cups Graham flour, 1 cup white flour, 3/4 cup molasses, 1 1/4 cup sweet milk, 1/4 teaspoon soda, 1 1/2 teaspoon salt. Sift flour, salt and soda together. Add the molasses and milk. Pour into well greased tins and steam 3 hours. (From the Food Controller's Office).

Raisin Steamed Bread.—Half cup flour, 1/2 cup rye flour, 1 cup Graham flour, 1 cup cornmeal, 2 cups milk, 2 1/2 cups seeded raisins, 1 cup boiling water, 1 teaspoon soda, 1 beaten egg, 1/2 teaspoon salt. Mix the flours, meal, milk, raisins, water with the soda dissolved in it, egg and salt. Pour into a greased mould, cover, and steam steadily for 4 hours, then turn out and bake for 20 minutes. When steaming anything of this kind, put clean greased paper over the top of the dish, twisting it about the edge of the dish; then put on the steamer lid and keep boiling very steadily.

Whole Wheat Griddle Cakes.—Three cups whole wheat flour, 1 cup bread flour, 2 cups milk, 3 teaspoons baking powder, 1/2 teaspoon salt, 1 egg. Beat the egg light, add the milk and stir in the dry ingredients which have been well mixed. Fry as usual. (Whole wheat or real Graham flour contains all of the wheat except some of the coarsest scales of the bran which are sifted out. People who own a little hand mill, even a strong coffee grinder, can make it for themselves. It is also fine for porridge. Whole wheat is a very useful food as it contains all of the mineral elements of the grain as well as the protein and carbohydrate content.)

Scalloped Vegetables Oysters.—Scrape the salsify roots and drop into cold water, to which 2 tablespoons vinegar has been added. When all are scraped cut the roots into slices, letting the slices drop into the water to keep them white. Cook in a little water to which a little milk has been added (this also helps to keep them white). While they are cooking prepare 1 1/2 cups white sauce. Drain the salsify and put it in layers in a baking dish with the sauce between. Cover with buttered cracker crumbs and brown in the oven.

Soft Ginger Cakes.—One cup lard and butter mixed, 1 cup Orleans molasses, 1 cup sugar, 1 dessert spoon (level) of soda, 1 cup boiling water, a little salt, 2 eggs, 5 scant cups flour, 2 level tablespoons cinnamon and same of ginger. This batter will keep for 2 weeks in a cool place and can be baked in the gem pans at short notice.

Serial Story.

An Alabaster Box.

BY MARY E. WILKINS FREEMAN AND FLORENCE MORSE KINGSLEY.

By arrangement with McClelland, Goodchild & Stewart, Publishers, Toronto, Ont.

Chapter IX.

"Now, Henry," said Mrs. Daggett, as she smilingly set a plate of perfectly browned pancakes before her husband, which he proceeded to deluge with butter and maple syrup, "are you sure that's so, about the furniture? 'Cause if it is, we've got two or three o' them things right in this house: that chair you're settin' in, for one, an' upstairs there's that ol' fashioned brown bureau, where I keep the sheets 'n' pillow slips. You don't s'pose she'd want that, do you?"

Mrs. Daggett sank down in a chair opposite her husband, her large pink and white face damp with moisture. Above her forehead a mist of airy curls fluttered in the warm breeze from the open window.

"My, ain't it hot!" she sighed. "I got all het up a-bakin' them cakes. Shall I fry you another griddleful, papa?"

"They cert'nly do taste kind o' moreish, Abby," conceded Mr. Daggett thickly. "You do beat the Dutch, Abby, when it comes t' pancakes. Mebbe I could manage a few more o' 'em."

Mrs. Daggett beamed sincerest satisfaction.

"Oh, I don't know," she deprecated happily. "Ann Whittle says I don't mix batter the way she does. But if you like 'em, Henry—"

"Couldn't be beat, Abby," affirmed Mr. Daggett sturdily, as he reached for his third cup of coffee.

The cook stove was only a few steps away, so the sizzle of the batter as it expanded into generous disks on the

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You will sell a high-class publication—one that has been issued for over fifty years—that is edited by actual farmers. It is easy to sell—because everyone knows of this practical farm paper. You will find subscribers, men you know, who will be glad to recommend it to their neighbors.

OPEN TO ALL.

Boys, Girls, Men and Women everywhere may enter this Contest. Begin securing subscriptions now—send the coupon and we will send you supplies and tell you "How to Sell The Farmer's Advocate" by next mail.

The Farmer's Advocate,
London, Ont.
Gentlemen:
I am interested in your Cash Prize and Spare-time Plan.
Send me working supplies, Contest Rules and Helps. I will give your proposition a thorough trial.

Date..... 1918.

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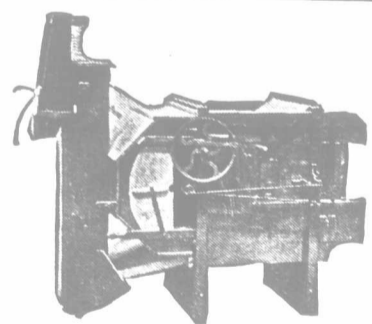
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T. E. Bissell Co., Ltd., Elora, Ont.

The advertisement of Dr. McEachern, proprietor of Ormsby Grange Stock farm, Ormstown, Que., was received too late for proper classification in this issue and the reader's attention is directed to it.

necessarily devoted to harp playing in the Celestial City. She laughed softly to herself as she filled two pies with sliced sour apples and dusted them plentifully with spice and sugar.

"I'd admire to see papa argufying with that sweet girl," she observed to the surrounding silence. "Papa certainly is set on having his own way. Guess bein' alone here with me so constant, he's got kind of willful. But it don't bother me any; ain't that lucky?"

She hurried her completed pies into the oven with a swiftness of movement she had never lost, her sweet, thin soprano soaring in the words of a winding old hymn tune:

Lord, how we grovel here below,
Fond of these trifling toys;
Our souls can neither rise nor go
To taste supernal joys!

It was nearly two o'clock before the big brown horse, indignant at the unwanted invasion of his afternoon leisure, stepped slowly out from the Daggett barn. On the seat of the old-fashioned vehicle, to which he had been attached by Mrs. Daggett's skillful hands, that lady herself sat placidly erect, arrayed in her blue and white striped muslin. Mrs. Daggett conscientiously wore stripes at all seasons of the year; she had read somewhere that stripes impart to the most rotund of figures an appearance of slimmness totally at variance with the facts. As for blue and white, her favorite combination stripes, any fabric in those colors looked cool and clean; and there was a vague strain of poetry in Mrs. Daggett's nature which made her lift her eyes to a blue sky filled with floating white clouds with a sense of rapturous satisfaction wholly unrelated to the state of the weather.

"G'long, Dolly!" she bade the reluctant animal, with a gentle slap of leathern reins over a rotund back. "Git-ap!"

"Dolly," who might have been called Cæsar, both by reason of his sex and a stubbornly dominant nature, now fortunately subdued by years of chastening experience, strode slowly forward, his eyes rolling, his large hoofs stirring up heavy clouds of dust. There were sweet-smelling meadows stacked with newly-cured hay on either side of the road, and tufts of red clover blossoms exhaling delicious odors of honey, almost under his saturnine nose; but he trotted ponderously on, sullenly aware of the gentle hand on the reins and the mild, persistent voice which bade him "Git-ap, Dolly!"

Miss Lois Daggett, carrying a black silk bag, which contained a prospectus of the invaluable work which she was striving to introduce to an unappreciative public, halted the vehicle before it had reached the outskirts of the village.

"Where you going, Abby?" she demanded, in the privileged tone of authority a wife should expect from her husband's female relatives.

"Just out in the country a piece, Lois," replied Mrs. Daggett evasively.

"Well, I guess I'll git in and ride a ways with you," said Lois Daggett. "Cramp your wheel, Abby," she added sharply. "I don't want to git my skirt all dust."

Miss Daggett was wearing a black alpaca skirt and a white shirtwaist, profusely ornamented with what is known as coronation braid. Her hair, very tightly frizzed, projected from beneath the brim of her straw hat on both sides.

To be continued.

Current Events

The Stefansson exploring party arrived safely at Fort Yukon, Alaska.

To-day, Jan. 3rd, 24,000 men in Canada are being called to the colors.

The total number killed in the Halifax disaster is now placed at 1,500; seriously injured, 4,000; property loss \$40,000,000.

Messages of congratulation have been sent from all parts of Canada to Ottawa, following the Government's Order in Council respecting Dominion wide prohibition.

Brantford this year had the first community Christmas tree seen in Ontario.

On Dec. 28th the United States Government assumed control of the railroads.

Australia decided by a majority of 173,000 against conscription.

The year 1917 was the greatest for agriculture ever known in the United States, in all crops except winter wheat, hay and cotton. The oat crop amounted to 1,587,286,000 bushels, the corn to 3,159,494,000.

Vice-Admiral Sir Rosslyn Wemyss succeeds Sir John Jellicoe as First Sea Lord of the Admiralty. Sir John is created a peer and given a seat in the House of Lords.

W. G. M'Adoo, who has been Secretary of the Treasury in the Wilson Cabinet has been appointed Director-General of Railways under the new nationalization scheme.

The city of Guatemala was totally destroyed by an earthquake on Dec. 27th.

No decisive event has taken place on the west front during the week, with the exception of some splendid achievements by the airmen. During 3 days French aviators fought 100 combats, bringing down 18 enemy planes, and on Dec. 24th a British air squadron bombed Mannheim on the Rhine, the first action in reprisal yet taken. In Northern Italy fighting has been continuous, and on Dec. 24th the Italians succeeded in retaking the positions they had lost on the Asiago Plateau. The British and French troops in Italy have not yet been called upon to do much fighting, but the morale of their presence must mean considerably.

In Russia confusion still reigns, although Petrograd announces that a Republic has been established in "white" Russia. In the meantime a ten days recess has been called in the peace negotiations which have been going on at Brest-Litovsk, and which are to be resumed on January 4 at some other place, possibly Warsaw. Leon Trotsky, the Bolshevik Foreign Minister, is said to have drafted a new note to the Entente Allies, again asking them to participate in the Conference. In the meantime the Government approaches hopeless bankruptcy and all the private banks in Petrograd have been seized. Some dissatisfaction is being expressed in Russia with the German refusal to give passports to German Socialist delegates to the Conference, the idea evidently being to prevent intercourse between the German and Russian Socialists. In the meantime at the extreme east of Russia, at Vladivostok in Siberia, Japanese troops are guarding the stores of ammunition against the Bolshevik troops recently sent there, who might, in case of separate peace with Germany, transport them to the Germans. Chinese troops, also, have occupied Harbin, in Manchuria, and have there been fighting the Maximalists. In Palestine, General Allenby continues to push on from Jerusalem towards Aleppo, which will probably be the next place to fall before British arms.

Trumpets at the Dinner Table.

It was an old French custom to precede the dishes with trumpet call, and, oddly enough, the modern term "corned beef" is derived from this old custom. The French used to "corner le boeuf", that is, announce the beef with a call on the cornet.

Music at table was all the more necessary as an attraction in those days when men had but primitive ideas of the science of flavours. The mediaeval cook had no bottle of Bovril at hand wherewith to add piquancy and relish to the dishes. It has been left to modern science to concentrate the goodness and flavor of a joint of beef in a bottle of Bovril.

Sale Dates.

Jan. 29, 1918.—Victoria County pure-bred Stock Association, Lindsay, Ont.—Shorthorns.

Feb. 23, 1918.—W. A. Dryden, Brooklin, Ont.—Shorthorns.

March 20, 1918.—Oxford District Holstein Breeders' Club Consignment Sale, Woodstock, Ont.—Holsteins.

Since extensive importations of Romney Marsh sheep have been made to Canada breeders may be interested in the Flock Book. Volume 23 is now ready for distribution and may be obtained from W. W. Chapman, Mowbray House, Norfolk Street, Strand, London, W. C.

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Co-operative Banks in Quebec.

EDITOR "THE FARMER'S ADVOCATE":

One of the more recent problems that promoters of the co-operative movement have set out to solve is some form of credit system whereby the farmer may obtain cheaper money to carry on his operations. With the single exception of Quebec, the various provinces have established, under special laws, something approaching a uniform system of agricultural credits.

Quebec, however, cannot be said to have neglected this matter. In fact, she was first in the field with a somewhat unique series of "people's banks." While not strictly rural, the percentage of their membership is overwhelmingly composed of farmers. These institutions, which have become very popular, owe their origin to the public spirited energy of Alphonse Desjardins, a citizen of Point Levis. There, the first bank was established in 1900. Little progress was made, however, until 1906, when the initial move was strengthened by the enactment of the Quebec Syndicate's Act. The law aims to regulate the formation of co-operative societies for production, consumption and credit. By its provisions, the territory in which such a society can do business is confined to the limits of the provincial electoral district, and the responsibility of members is limited to the amount of their respective shares.

The principles on which these banks operate are a modification of the Schulze-Delitzsch system with every form of liability abolished. Each society or bank is carried on by three committees. First, the Council of Administration controls the admission of new members; supervises the transfer or withdrawal of stock, selects the manager who alone draws a salary and overlooks the management of the business. Second, the credit committee determines the amount of credit each member can receive, and passes on all applications for loans. Third, the Council of Supervision, which is elected by the shareholders, forms a permanent board of audit and general supervision. Capital is raised by selling shares for \$5 each and by receiving deposits on which savings-bank interest is paid. Of each year's profits, 20 per cent. is applied to the reserve fund. An entrance fee of 10 cents is also applied to the same fund. Each bank has what is known as a Providence Fund, raised by an assessment of 10 per cent. on the annual profits. When it reaches a maximum of one-half the annual profits it is distributed on the paid-up shares. This fund is maintained to protect the reserve fund, and is designed to meet any calls that might threaten the stability of the bank's credit.

Since 1906 no less than 150 of these people's banks have been organized in Canada. In Quebec are 130, and 20 in the French-speaking districts of Ontario. Besides these, more than 20 have been started in Massachusetts and New Hampshire. The total membership is in the neighborhood of 66,000, of which 90 per cent. are farmers and the balance wage earners. The average loan ranges from \$10 to \$150.

According to Desjardins, it is not the aim of these banks to work up a mortgage business, but to lend sums to members on personal security. Working in a very small area, everybody is known to all the shareholders, and every shareholder is interested in the payment of the loans. But as "Mony a mickle makes a muckle," the aggregate business up to the end of 1915 amounted to well over \$15,000,000.

Evidently their success is largely due to the inherent characteristics of the people themselves, and the conditions in which they live being similar to those existing in European countries where such co-operative movements are understood and accepted with favor. AGRICOLA.

"That is my hired man asleep up there in the crotch of that oak tree," said honest Farmer Hornbeak. "You are entitled to one guess as to whether he clumb up there to slumber or went to sleep on the ground on top of an acorn which grew up with him."



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Helpless against the certainty of death, sooner or later—he too often fails to insure his life which he is sure to lose.

The farmer shows his practical wisdom by insuring his property against destruction by fire, for it is usually the case that there are few facilities for fighting fire in country places. Nothing could be more necessary than adequate fire protection.

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The Justice of it All.

Dr. Frank Crane makes this admirable suggestion. "No man ought to enter into an argument, but every person should be willing to join a discussion." He defines argument as a presentation of facts in such a way as to drive home your own convictions, regardless of everything else. Discussion, he says, is simply an effort to arrive at the truth. I throw out these few remarks upon Canada's economic position to-day, not with any idea of driving home convictions of my own, but simply that we may look straight in the face certain facts and thereby be in a better position to ascertain what is the real truth of the whole matter.

It is, perhaps, essential that I should state that I am not a Revolutionary Socialist. I am an individualist—an intense individualist—yet I must confess I am free to recognize the fact that certain socialistic changes in our society, are taking place, but I want these to come through the voice of the people, freely expressed and unconstrained. We have with us to-day the rule of the rich. I mean by that, that those who have money rule the affairs of the world. It is the poor who make the supreme sacrifice in this war, and it is for the poor that I make these suggestions for a straighter deal and for altered conditions.

We have done nothing else since the dawn of creation, except fight for freedom. Ten to one, if the truth were known, when Cain rose up and slew his brother Abel, directly or indirectly the real question at issue between them was one of taxation. Some on in the early days was always trying to exercise authority over the rest of the tribe. Early races had their medicine men, who persuaded the people to wear certain charms and thus rid themselves of all kinds of sickness, pain and suffering. Then we had the priests or preachers who told the people that they could pull down fire from heaven to blight or curse the tribe or nation, and these gained steady ascendancy over the people. They were very wise men in that day. They looked toward the west and saw a gathering cloud and then promised rain or thunder and lightning. Perchance they saw the arch of a Chinook and told of coming changes of temperature, and the people marveled at their knowledge and willingly bowed down and worshipped them. Then we had military rule—the rule of the strong. We had kingly rule, in which we all bowed down to some person who happened to be a descendant of a more or less originally successful family tree, and now all this has given way to a new despotism—the rule of class and caste—and the rulers are the rich.

Two men go before the military tribunals, claiming exemption on the ground of performing necessary work for the community. One, let us say, is the son of a rich man, employed in his father's banking house—the other has a small business of his own, mercantile or manufacturing, both equally essential to the country. Their exemption is denied and both are told that they must go to the front, but the son of the rich man gives up a job to which he knows he can return, while the poor man is compelled to sell his business, to sever all his connections and go out into the night of Flanders absolutely alone.

Let us assume for the moment that both go as privates, though the influence of the rich man's father will be exerted to get him an officer's commission. They go into the same trench together, and fight side by side in freedom's cause in the great war. If both are killed by the same shell, we may assume that they will receive equal treatment in the other world, for God is a Democrat and makes no distinction of persons. Suppose, on the other hand, that they are seriously wounded, maimed for life, possibly both legs shot off. Ah, then what happens? The son of the rich man comes home to an established business, and to all the conveniences and refinements which wealth can give, and the son of the poor

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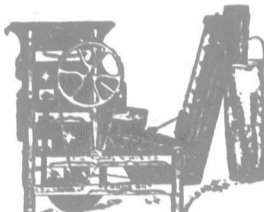
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man, if he has a family to support, will be unable to live on his pension—he will have no capital to start with, and we shall, no doubt, see him in the years to come, selling shoe laces on the street, and the chances are, he will have to take out a pedlar's license. There is absolutely no comparison in the position of these two men. I often wonder what is the mind of each when they reach the zero hour, and they are going over the top for death or for victory. To one there must come the vision of a happy home with everything that wealth can give, to the other the picture of his little family striving to meet its daily obligation on the pitiful pittance provided by patriotic fund, deferred pay and cold and bloodless charity.

It is not necessary that this should be true. It is true because we place a higher value upon wealth than we do upon life. If the nation is worth defending we should take its dollars just as freely as we take its men. I know that when that fact is mentioned there is a storm of protest. We are told that it is impossible. Why impossible? Suppose we say to some of our financial institutions, we are going to take every cent of your profits—though this is too drastic, I admit—but we will only suppose the case. Do you think that institution will close its doors and go out of business? Suppose on the other hand, we say, we will take every one of your men. What will happen. The business must close. Now why not let us take part of the men and part of the profits, and applying this principle to every industry and business in the Dominion, we can distribute the burdens and so fight this war as to be a gain not a loss for democracy.

We need \$300,000,000 to carry on this war one year. We are getting it by borrowing it. That is we borrow the money and take the lives. Why not take the money? I am not going to outline a definite course. My ideas are simply suggestive. The combined wisdom of the people expressed in parliament might modify these conclusions so far as details are concerned, but I do not see how they could be modified so far as the application of the principle goes. In chief my suggestions are: Let us have three forms of taxation for war purposes—excess profits tax, income tax and land value taxation.

1. A tax upon excess profits—by excess profits I mean profits over and above the profits which were made in the years prior to the war. Take practically every cent of these excess profits, making due provision, of course, for the fact that investments may have been increased or that the business may be more or less of a transient nature. I say take them all, because I want to add a new commandment which will be "Thou shalt not personally profit out of the shedding of thy brother's blood."

2. Let us tax incomes—It is true now that the government has proposals for the taxation of incomes, but the government of Great Britain is always very careful in regard to the interests of wealth, and the income tax in Great Britain is four times as high as the tax in Canada, and then in addition, Great Britain has death duties, which serve to redistribute the wealth of the country. Let me illustrate the effect of a tax upon incomes. Take the case of the man who has an income of \$100,000.00 a year and keeps eight or ten servants to minister to his own domestic needs. If the government decides to take \$90,000.00 a year of that man's income and compels him to struggle along on a miserable \$10,000.00 a year, he will be compelled to reduce his expenditures. Some of his servants will then be employed in productive work, perhaps they may be manufacturing war materials or manufacturing some of the ordinary necessities of life. Just to the extent that you divert labor from the production of luxuries to the production of necessities to that extent do you tend to lower the cost of the necessities of life. The government is pleading with us every day to economize. Who is there that imagines that the average man with an income of \$3.00 or \$4.00 a day is wildly extravagant? There can be no great waste of bread in such families, because if there were they would inevitably go short of shoes. The place for economy must be with those whose incomes run to excess of \$2,000.00 a year, and the only way to direct that appeal is to apply such drastic taxation as to reduce their incomes to practically that amount, and it should be done by taxation. Why pass



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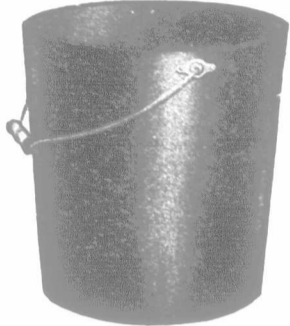
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the hat? The military tribunals say to a man "go" and he goeth, and we say to the man of wealth: "We appeal to you on bended knees, do please lend us some money. We will give you 5 1/2 per cent. We will guarantee you that your bonds shall be tax exempt for all time. We make you this guarantee because we know that after the war there will be terrible obligations to meet. We will be compelled to tax almost everything, but in order that you may escape the taxation, why not turn your wealth into tax exempt bonds." What a gruelling travesty of justice.

Every war of the past has been followed by a period of exceedingly hard times. One cause of this is an inflation of values which follows upon the speculative activities of war, but if we have taxed profits to the bone and curtailed incomes to the limit and taken from wealth to pay the cost as we take from life to face the fire, we shall have trained the nation in habits of economy and thrift, in such a way as will produce an entirely new economic condition, with results which would, I believe, place the country upon an entirely different footing after the war.

My third proposal is a tax upon land values. There are in the Dominion of Canada, approximately eight billion of land values. A tax of 2 per cent. would produce a revenue of one hundred and sixty millions—enough to pay one-half of the cost of the war each year. Now let us look at the effect of the imposition of a tax upon land values. All wealth comes in from land. That is to say, in the production of wealth we must apply capital and labor to land. The wealth produced is distributed among three parties to the production. The owners of the land get rent. Labor gets wages and capital gets interest. Now when we apply taxation to capital directly, we restrict to a certain extent the production of capital. If we apply it to labor or the products of labor, we make it harder for the laborer to exist, and this becomes a more difficult country to live in. But if we apply taxation to land, falling as it does upon idle land as well as upon cultivated land, it will tend to bring idle land into use and the result of this is the lowering of rent. Therefore, if taxation is applied in this way, rent will get less of the total wealth produced. Obviously, therefore, there must be more left for wages and interest, but if the increased use of land would make for increased production of wealth, eventually there would be more capital for investment. The consequence of this would be over a period of time the lowering of interest rates, so that in the years following the war when things drift back once more to normal and we attempt to unravel the tangled skein of life, rent would get less, interest would get less and wages get a larger share of the total production of wealth within the confines of the Dominion of Canada. As taxes are raised on land let loose the farmer by putting the tariff where it belongs—put it with the thumb screw and the rack and all the other fakes and shams of the past—let industry breathe and labor flourish and the farmer prosper.

Now the war will end some day, and the boys will come marching home. They must find employment which will give them a reasonable and a just share of prosperity and some measure of recompense for what they have suffered. You can only do this by attacking the fundamental question of the distribution of wealth. If we do not, the bread lines will gather in front of our city halls and the men who have fought for us will be forced to starve for us, as they did after the Napoleonic wars. Little fellows are frittering around with their petty schemes of relief for returned soldiers. They are to be equipped with mechanically perfect artificial limbs, and they are to receive some measure of re-education at the hands of the country. Rich corporations who have lands to sell—propose that the government should buy these lands and distribute them to the soldiers, and fat plutocrats, who cannot see their toes from their chins, propose subtle schemes for making money out of the "fragments that return from France." But our men do not seek charity from the hands of their fellow men. They seek nothing except justice. This is not a feasible way to express our appreciation for the men who have suffered every conceivable horror in the defense of civilization. There is only one thing we can give them big enough to even approach a fair payment for the work they have done, and

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There was never a time in the history of the world when the saving of every ounce of butter-fat and every particle of effort and time was so important as now.

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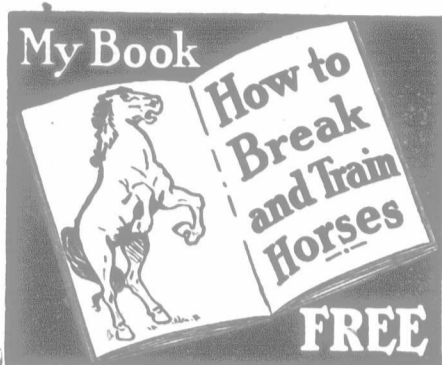
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we should be willing to give that and give it gladly. It is an old-fashioned word. It is easy to pronounce. It is easy to spell, but our privileged ones cannot spell it. They hesitate, they stammer, they stutter, but let them only face it and the world will be free. It is justice. All I ask is that we should give these men justice, and justice can be given by freeing industry from taxation and by applying drastic readjusting taxes to excess profits and incomes, and above all by a direct tax upon land values. The earth is the people's and the fruits thereof, and land value taxation is the only way by which the wrested rights of the people can be restored.—R. J. Deachman.

Questions and Answers.

1st—Questions asked by bona-fide subscribers to "The Farmer's Advocate" are answered in this department free.
 2nd—Questions should be clearly stated and plainly written on one side of the paper only, and must be accompanied by the full name and address of the writer.
 3rd—In veterinary questions, the symptoms especially must be fully and clearly stated, otherwise satisfactory replies cannot be given.
 4th—When a reply by mail is required to urgent veterinary or legal enquiries, \$1.00 must be enclosed.

Miscellaneous.

Tiling Machine.

Is there a machine for laying tile that will bring the earth back into the ditch after the tile are laid? J. H. P.

Ans.—We understand that a machine of this description is made in the United States, but we have not seen one working. The ditching machines working in this country dig the trench and the earth is conveyed to the side of the trench. The tile are laid by hand, and then the earth either shoveled back or dragged back into the trench.

Books.

Where can I most readily obtain the following books: "Who's Who in America" and "The Advance of the English Novel?" E. M. A.

Ans.—No doubt they could be secured through your local book dealer. The latter book, which was reviewed in these columns some time ago, was written by William Lyon Phelps and published by McClelland, Goodchild and Stewart Publishing Company, Toronto. We understand the price is \$1.35. We cannot state the price of the former book.

Gossip.

George Isaac, of Cobourg, is offering for sale a number of young bulls of the Clipper, Augusta, Broadhocks, Marr Beauty strains. A number of his breeding females are of the Mary Ann of Lancaster, Dairy Maid, Butterfly, Rosemary, Claret, Rosebud, and Miss Ramsden strains of Scotch families. If in quest of breeding Shorthorns bred in the purple it would be to your advantage to write or call on Mr. Isaac.

Coming Events.

Jan. 2 to March 22.—Factory Dairy Course—Agricultural College, Guelph.
 Jan. 8 and 9.—Experimental Union, O. A. C., Guelph.

Jan. 8 to 19.—Short Courses at Guelph in Stock and Seed Judging; Drainage and Drainage Surveying; Business and Marketing; Poultry Raising.

Jan. 10 to 11.—Eastern Ontario Dairymen's Association, Annual Convention, Perth.

Jan. 16 and 17.—Western Ontario Dairymen's Association, Annual Meeting, Stratford.

Jan. 21 to Feb. 2.—Short Course, Farm Power, O. A. C., Guelph.

Feb. 4 to 8.—Live Stock Meetings, Toronto.

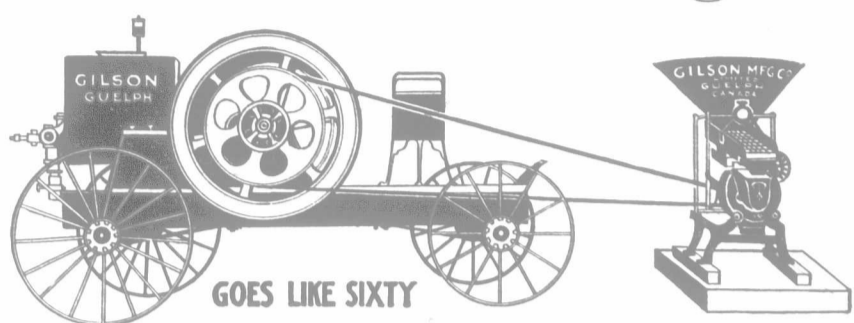
"Now, see here!" said the lawyer. "Before I take your case I want to know if you're guilty."
 "Am I guilty?" replied the prisoner. "Wot d'yer s'pose? D'yer think I'd hire the most expensive lawyer in town if I was innocent?"

A northern sociologist, visiting the great rice fields of Louisiana, approached an old negro with the question:

"How long do you work each day?"
 "From can't to can't," was the reply.
 "Can't to can't?" repeated the puzzled questioner. "What do you mean?"

"Why," the darky answered, "Ah works from the time Ah can't see to the time Ah can't see no mo'."

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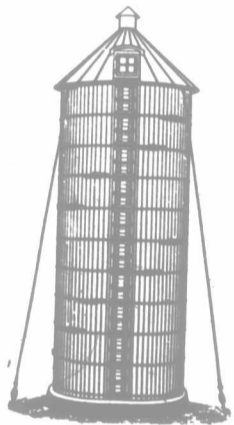
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OUR LATEST IMPORTATION OF CLYDESDALES

arrived at our barns late in November. A number of them since have been prominent winners at both Guelph and Ottawa. But we have others (both stallions and mares) that were never out. The majority of the stallions weigh around the ton, and better quality and breeding were never in the stables. Come and see them. We like to show them. **SMITH & RICHARDSON, COLUMBUS, ONT.**

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I have on hand a number of real choice young mares and fillies. Eight excellent young bulls, from 9 to 12 months, of Right Sort and Royal Blood breeding; also a number of females. Inspection invited. **J. B. CALDER, R. R. No. 3, GLANFORD STATION, ONTARIO**

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Herd headed by Bonnie Ingleside 7th, the Canadian-bred champion bull at Toronto, 1914-1915. We are offering several young bulls that were Toronto and Ottawa winners this year, all sired by the herd bull, as well as a few females in calf to him. Come and see our herd or write us for anything in Herefords. **W. READHEAD, BROOKDALE FARM, MILTON, ONT.**

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Rams and ewes. Heifers in calf to Queen's Edward. 1st Prize, Indiana State Fair.
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The greatest breeds for producing highest quality of beef and mutton. They are both hardy and prolific. We have bulls, females, rams and ewes for sale.
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Beaver Hill ABERDEEN-ANGUS
Cows with calves at foot. Bulls of serviceable age and females all ages.
ALEX MCKINNEY, R. R. No. 1, Erin, Ontario.

Questions and Answers.
Miscellaneous.

Taxidermy.
Could you give me some information as to where I could secure a book on Taxidermy? S. C.

Ans.—A book on Taxidermy may be secured through this office for 55 cents, postpaid.

Swelling on Body.
I have a cow which was injured by another cow hooking her. The swelling appeared and seems quite soft. She shows no other bad effects from the injury. What treatment do you advise? E. U.

Ans.—Possibly a little inflammation has set in, due to the injury. Bathing it thoroughly with hot water would possibly cause the swelling to disappear, or would bring it to a head so that it could be lanced. As the swelling is soft it undoubtedly contains pus, which should be allowed to escape, and then the wound kept clean until it heals.

Apoplexy.
I have a ten-weeks-old pig which has been fed on middlings and skim-milk. About a week ago it appeared to take fits, and would go round in a circle and then fall over. It would be all right again in a few minutes. I was thinking it might be worms; what treatment do you advise? H. C.

Ans.—The symptoms are somewhat like those of apoplexy, which may be brought on by high feeding and lack of exercise. Treatment consists in purging, feeding lightly, and giving plenty of exercise. In cases of apoplexy it is sometimes necessary to remove a little blood, which is done by tying a cord tightly above the knee and then opening the vein on the inside of the leg. If the pig is troubled with worms, it should be fasted for twelve to eighteen hours, and then given 2 to 6 tablespoonfuls, according to the size, of a mixture of one part oil of turpentine in seven parts new milk.

Public Holidays.
If I hired a man for one year and nothing was said about public holidays, can they be claimed when the year is up? How many holidays can a man working for a farmer claim? R. W.

Ans.—Unless arrangements were made at the time of employing the man, he is not in a position to claim pay at the end of the year for public holidays on which he worked. It is a matter of agreement between the employer and employee. If a man works on holidays, however, he is entitled to a little consideration. In the absence of an agreement to the contrary, hired help in Ontario is entitled to Sundays, except for doing chores, New Year's Day, Good Friday, Easter Monday, Victoria Day, Dominion Day, Labor Day, Thanksgiving Day, Christmas Day, and any other day or days proclaimed by the Governor General or Lieutenant-General as public holidays.

Tanning Hides.
Could you give me directions for tanning deer skins and other hides? H. W.

Ans.—While skins may be tanned at home, we strongly advise sending them to a tannery where they have every facility for doing good work. The following are recipes which may be used for tanning skins with the hair on: 1. Stretch the skin smoothly and tightly upon a board, hair side down, and tack it by the edges to its place. Scrape off the loose flesh and fat with a blunt knife, and work in chalk freely, with plenty of hard rubbing. When the chalk begins to powder and fall off, remove the skin from the board, rub in plenty of powdered alum, wrap up closely, and keep it in a dry place for a few days. By this means, it will be made pliable, and will retain the hair. 2. Soft water, 10 gallons; wheat bran, 1/2 bushel; salt, 7 pound; sulphuric acid, 2 1/2 pound. Dissolve together, and place the skin in the solution, and allow them to remain 12 hours, then remove and clean them well, and again immerse 12 hours longer, if necessary. The skins may be taken out, well washed and dried. They can be better soft, if dried. 3. Saltpetre, 2 parts; alum, 1 part. Mix. Sprinkle uniformly on the flesh side, roll up, and lay in a cool place. Spread it out to dry; scrape off the fat, and rub till pliable.

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still has a few Shorthorn bulls, fit for service, and some females that are as good as can be found for the man that wants to start right in Scotch Shorthorns. They will be sold for a low price, considering the quality, and the freight will be paid.
Write for anything in Shorthorns and Shropshires. One hour from Toronto.

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Herd headed by Marquis Supreme 116022. For sale at present, 9 granddaughters of (Imp.) Right Sort, and a good lot they are; also 2 bulls (roans), 15 months old, by Gainford Select.
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Herd of seventy head, straight Scotch, good individuals. Headed by the great show and breeding bull, Sea Gem's Pride 96365 and Nonpareil Ramsden 83422. We have for sale four as good young bulls as we ever had and a few females. **KYLE BROS., DRUMBO, ONT. (Phone & Telegraph Via Ayr.)**

GLENGOW SHORTHORNS
We have a choice offering in young bulls, fit for service. They are all of pure Scotch breeding, and are thick, mellow fellows, bred in the pure.
WM. SMITH, COLUMBUS, ONTARIO. Myrtle, C.P.R., Brooklin, G.T.R., Oshawa, C.N.R.

SHORTHORN BULLS
of my own breeding, around a year old, best families and good colors, are for sale. Also a few young imported bulls.
Myrtle, C.P.R., Brooklin, G.T.R., Brooklin, C.N.R. Will A. Dryden, Brooklin, Ontario Co.

FIFTY IMPORTED SHORTHORNS
I have fifty head of choice Scotch bred cattle now on the water, which will land at Quebec early in November. These were selected from many of the best herds in the old land. Wait for these. Write for particulars.
GEO. ISAAC, COBBOURG, ONTARIO.

SALEM SHORTHORNS
Herd headed by Gainford Marquis, (Imp.) undefeated in England and Canada. Sire of the winning group at Canadian National, 1914, 1915, 1916. Can supply cattle, both sexes, at all times.
J. A. WATT, ELORA, ONT.

Blairgowrie Shorthorns and Shropshires
20 imported cattle, cows and heifers; all have calves at foot or are in calf to British service. Bulls for breeders wanting herd headers. Also home-bred bulls and females. Prices right. Rams and ewes in any numbers. **JOHN MILLER, Myrtle Station, C. P. R., G. T. R. ASHBURN, ONTARIO.**

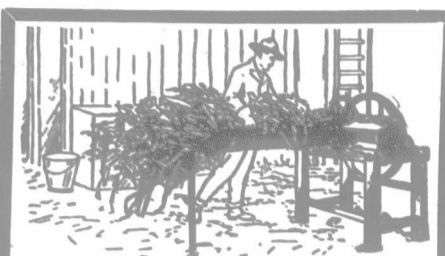
SHORTHORNS
I can spare a couple of cows, imported or Canadian-bred, with calves at foot and in calf again to Imp. Dalesman. I can also give one the choice of fifteen bulls, from five months to two years old. About half are imp. They are priced to sell. Write, or come and see me. **A. G. Farrow, Oakville, Ont.**

PURE SCOTCH SHORTHORNS
of exceptional merit. The young things we are offering this year are something extra, especially the bulls. Come and see them if you want something choice. **GEO. GIER & SON, WALDEMAR, ONT.**

SHORTHORNS--T. L. Mercer, Markdale, Ont.
ROSEWOOD CHAMPION, by Nonpareil Archer, Imp., at the head of the herd. I have almost 100 Shorthorns in my stables at present. Murr Missies, Campbell-bred Clarets, Nonpareils, Minas, Rose-marys, etc.—the best of breeding and the best of cattle, bulls or females; also have a few Herefords

SEVENTY-THREE HEAD OF SHORTHORNS
Ten young bulls of serviceable age, Nonpareil Ramsden = 101081 =, and Royal Red Blood = 77521 =, at the head of the herd. The ten young bulls range in age from 8 to 15 months, and are for immediate sale. They are a lot of good dams which will bear inspection. Our cows and heifers will please, and you'll like the bulls.
JAMES McPHERSON & SONS, DUNDALK, ONTARIO.

CREEKSIDE SCOTCH SHORTHORNS
Herd headed by Gay Monarch 79611, dam, Sally 8th Imp., and sire, the great Gold Sultan 75411. My present offering of young bulls includes several 7 to 14 months' youngsters, all thick, mellow, well-grown fellows—reds and roans—and priced right. Can also supply females in most any numbers.
Geo. Ferguson—Elora Station, C.P.R., G.T.R.—Salem, Ont



Government Says Keep More Cattle This Winter

The Ontario Government advises all farmers to keep one or two extra head of cattle this winter. You can do this most economically by cutting your own feed, as cut feed always goes farther.

Peter Hamilton Feed Cutters will exactly meet your requirements, as they do the work quickly, easily and satisfactorily. Hand and power outfits in a wide range of sizes and prices.

Write To-day for Free Booklet.
PETER HAMILTON CO., LIMITED
Peterborough, Ont. 27

Cream Wanted

Ship your cream to us. We pay all express charges. We supply cans. We remit daily. We guarantee highest market price.

Ontario Creameries, Limited
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CREAM

We are open to buy cream both for churning and for table use. **ASK ANY SHIPPER** about our service and prompt returns. Ask for Prices

The figures of yesterday may be **TOO LOW** for to-morrow. We furnish cans.
The Toronto Creamery Co., Limited
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THE VETERINARIAN

A valuable book which tells you all about the treatment of diseases of your live stock, given **FREE** with a trial ton order of **LINSEED OIL CAKE** "Maple Leaf" Brand. Write to-day for lowest prices.
The Canada Linseed Oil Mills, Limited
Toronto and Montreal

Sunnyhill Offering:

Holstein bulls and heifers. Shropshire ram lambs. Yorkshire pigs, both sexes, all ages.
WRITE TO
WM. MANNING & SONS
WOODVILLE, ONT.

For Milk, Butter, Cheese, Veal Holstein Cows Stand Supreme

If you try just one animal you will very soon want more.
WRITE THE
HOLSTEIN-FRIESIAN ASSOCIATION
W. A. Clemons, Sec'y, St. George, Ont.

Holstein Bulls

of serviceable age and younger; from dams with records of 30 lbs. down.
Write for prices.
R. M. HOLTBY, R. R. 4, Port Perry, Ont.

HOLSTEINS

For immediate sale—several cows and two year-old heifers, three due in February, two in April, also cow, heifers and calves. Several are granddaughters of King Pontiac. Also Canada, from high-producing dams. Must be sold. If you can handle this lot get busy. Don't take time to write, come and see them. No reasonable offer refused.
WM. A. RIFE, HESPELER, ONT.

floored, but well filled with exhibitions of the handicraft, skill and art of our neighbors and our neighbors' wives. And in passing let me say that the masters of art are not all in the great cities. Some of the finest, most delicate pieces of work of which the needle craft is capable can be found in some of our simple little country fairs. For instance, the following conversation:

"Well, now, what in the world was I to do? Just imagine for yourself? I had intended that your piece there should get first and this one second, but land-o'-goodness! Yes, just look at it. Did you ever see such a thing in your life? Just imagine the work on that! Im-magine it! Why, that must have taken years, just look at those corners. Did you ever see anything in your life like that? And here, and here, and here! So you see how it was. What could I do? I just had to give that thing the first prize and yours second, and there being no third prize granted it left this one out completely. My land! But then a thing like that wouldn't happen once in a hundred years!"

We edged on, musing the while on the difficult position of the small-town "judge," who knows everybody and who is often "inadvertently" allowed to know who the owners of the various "pieces" are, often long before the exhibition time. Down the centre aisle we find tempting rows of buns and biscuits and coffee cakes, and old-fashioned "Johnny cake," and those thin, crisp, snappy oatmeal wafers our mother used to feed us when a boy, hot and fragrant and fresh from the oven. Beyond these came wonderful layer cakes and delicious pies, and we look right and left and back and front to see if by any chance we might not somehow pass a chunk of one of them into our own tank. And the beautiful pound prints of homemade butter, with the proud owner hovering by, and willing to shyly admit that she has taken first prize for her butter for the last five years, and that "all the best families in town—Mrs. Kirkwood and Mrs. Wilbur Jones and the Wilkinsons—all buy her butter the year around at ten cents above the regular price"—and then we pass on to the children's work—and we smile inwardly as we view their somewhat crude attempts, and we read with half a blush and half a smile the high-flown bursts of rhetorical wisdom that betray in every word and line the experience and world sophistication of the girlish and boyish owners.

Beyond these, again, come the grains and grasses, and we are all interest, though the youngsters tug and pull impatiently until we are again outside and following up between the rows of geese and ducks and turkeys and chickens of every breed and kind; and here we find cute little guinea pigs and fat, lazy Belgian hares and pigeons—proud pouters and beautiful homers, and here, bless me, if there isn't a coop of those red-faced, loud-mouthed, scolding guinea hens that are of such little use on earth, but that somehow we take an interest in and that no farm is quite complete without.

From here we go on to where the cows and calves and pigs and sheep are kept, and great goodness, what is this? There is a squeal of delight from the youngsters and in a second they have surrounded the tiny specimen of horseflesh that is standing by, and are overwhelming the proud little owner with questions of all kinds.

"Sure he'll carry me; don't I ride him after the cows every night? Why, he weighs nearly two hundred pounds, and—yes, he'll come to me anywhere. No, I ain't afraid—no, sir, he can't run away with me."

In direct and opposing contrast the suddenly looms the gigantic combed and braided and be-ribboned Belgian stallion that Sam Parks bought from the Johnson people, the big horse and cattle importers. And he is slowly pacing back and forth and round and round. It is a supreme moment for him, conscious as he is of having by all odds the finest, kindest, biggest piece of horse flesh on the grounds, and, as he will readily go farther and declare, not only the finest on the grounds, but the finest in this part of the province, by heck! And then we settle down and watch the judging of the various classes, and about then along comes Johnny McCann and Bill Work and their families, and we pass the time-o'-day, and soon we are busy betting among ourselves which is the best team in the free-for-all agricultural and the general-purpose classes before the judge passes



Manor Farm Holsteins

Announcing the First Offering in Females

My stables are getting too crowded and I must make room. No matter whether they are the mature cows I have been trying to retain, or even daughters of my own herd sires, freshening with their first calves, some will have to go, to make room for the youngsters now coming. The prices asked on a limited number of cows should clear, and clear them quick. If you are in the market don't delay.

I also have sons of both my junior and senior sires, King Korndyke Sadie Vale, and King Segis Pontiac Posch.
GORDON S. GOODERHAM, CLARKSON, ONTARIO

HIGHLAND LAKE FARMS

Herd sire, **AVONDALE PONTIAC ECHO**, (under lease), a son of **MAY ECHO SYLVIA**, the world's record cow. Only one other 41-lb. bull in Canada. We have young bulls for sale whose two nearest dams (both Canadian champions) average as high as 35.62 lbs butter in seven days; another whose two nearest dams are both 100-lb. cows; and one ready for service, from a 41-lb. sire and an 18,000-lb. two-year-old dam. SEND FOR OUR BOOK OF BULLS. A few females for sale. Satisfaction guaranteed.

R. W. E. BURNABY (Farm at Stop, 55, Yonge St. Radial) JEFFERSON, ONT.

Hospital for Insane, Hamilton, Ont.

Present offerings are 4 grandsons of **Dutchland Colantha Sir Mona**, and high-testing, large-producing **R. of P. dams of Korndyke and Aaggie DeKol** breeding. Born during April and May, 1917. Apply to Superintendent.

Roycroft Farm Holstein-Friesians

Our 30-lb. bulls have all been sold, but we still have several sons of **Pontiac Korndyke of Het Loo**, that are just nearing serviceable age. Get one of these for your next herd sire, have a brother of **Het Loo Pieterje**, the world's greatest junior two-year-old at the head of your herd. We also have a 9 months, 27.78-lb. son of **King Segis Alcartra**; and one other, same age, by **Dutchland Colantha Sir Mona**. See them at once or write early.

W. L. Shaw, Roycroft Farm (Take Yonge Street Radial Cars from N. Toronto) Newmarket, Ont

SUMMER HILL HOLSTEINS

The only herd in America that has two stock bulls that the dam of each has milked over 116 lbs. a day, and their average butter records are over 35 lbs. a week. We have 50 heifers and young bulls to offer by these sires, and out of dams just as well bred. We invite personal inspection.

D. C. FLATT & SON, R. R. 2, HAMILTON, ONT. PHONE 7165

25 HOLSTEIN FEMALES

The first I have ever offered. I am away overstocked and am offering females for the first time. I have over eighty head. Come and make your selection—one or twenty-five. The best-bred lot of cattle in Ontario. I also have five young bulls.

A. A FAREWELL 30 miles east of Toronto—C.P.R., C.N.R., G.T.R. OSHAWA, ONT.

SILVER STREAM FARM HOLSTEINS
The home of high-class R.O.P. and R.O.M. tested Holsteins
King Lyons Colantha and King Lyons Hengerveld head the herd. No stock for sale at present.
J. Mogk & Son, R. R. No. 1, Tavistock, Ontario

CLOVER BAR HOLSTEINS

We are now offering a number of young bulls, sired by our senior herd-header, **Francy 3rd's Hartog 2nd**, the noted son of the famous old **Francy 3rd** and **Canary Mercedes Hartog**; also a few females, **P. SMITH, Proprietor, R. R. 3, STRATFORD, ONT.**

DUMFRIES FARM HOLSTEINS

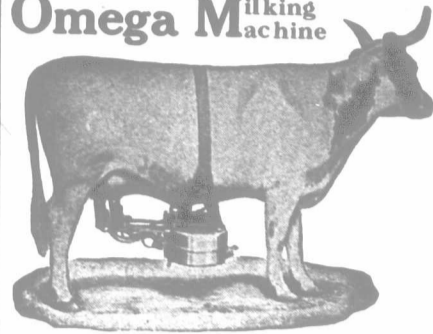
Present Offering—A few bull calves.
S. G. & ERLE KITCHEN ST. GEORGE, ONT.

HOLSTEINS

Present Offering—Only a few young bull calves. None of serviceable age.
M. H. HALEY SPRINGFORD, ONTARIO
WILLOWBANKS HOLSTEIN-FRIESIANS
Herd headed by **King Walker Pride (C. H. B., 17362) (A. H. B., 207261)** who is a son of the famous **Blanche Lyons De Kol 33.31** and **King Segis**, who is a granddaughter of world-champion cow, also of the two highest-priced bulls of the breed. Young stock for sale.
C. V. ROBBINS, Bell Phone, WELLANDPORT, ONTARIO

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Omega Milking Machine



Milks Fast and Clean
Has no rubber connections for the milk to pass through, but transparent celluloid tubes. The OMEGA is simple to operate, sanitary and easily washed. It is used in the private dairy of H. M. King George V. at Windsor Castle. Increased the milk flow 3% in a 17-day test on ten cows at the O. A. C., Guelph.

WRITE TO-DAY for FREE booklet describing its exclusive features and the above test.
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Ayrshire Cows

will make money on any farm.
WRITE W.F. STEPHEN, Secretary
CANADIAN AYRSHIRE BREEDERS ASSN
Box 513 Huntingdon, Que.

Fernbrook Ayrshires

Young bulls for sale (out of R.O.P. dams) from one to fifteen months old; tracing closely to the world's champions, Garclaugh May Mischief and Jean Armour.

COLLIER BROS., Beachville, Ont.
(OXFORD COUNTY)



More Milk - Better Milk

Thorough tests on the Government Experimental Farms show that cows after being dehorned give more and better milk. The KEYSTONE DEHORNER is the most humane and efficient instrument for the purpose. Write for booklet.

R. H. McKenna, 219 Robert Street, Toronto

Kelso Farm R. O. P. Ayrshires. Herd headed by Palmerston Speculation Imp. We never had a stronger line-up of R. O. P. producers than we have at present. Our 1917-1918 young bulls are sure to please. D. A. Macfarlane, Cars Crossing, G. T. R., Artheistan N. Y. C.; Kelso, Que.

CITY VIEW AYRSHIRES

Increase your test—5 young bulls from R. O. P. dams testing from 4.15 to 5.02% fat.

Sired by bulls from record cows.
JAMES BEGG & SON, ST. THOMAS, ONT.

Choice Offering in Ayrshires

At Special Prices. Several young bulls of serviceable ages. All from R. O. P. sires and dams. Come and see them.
Jno. A. Morrison, Mount Elgin, Ontario.

Glencairn Ayrshires

Herd established 40 years. Producing ability from 8,600 to 11,022 lbs. If that sort of production appeals to you, we have heifers all ages and young bulls for sale.
Thos. J. McCormick, Rockton, Ont. Copetown Sta., G. T. R.

TWENTY-FIVE YEARS BREEDING Registered

Jerseys and Berkshires

We have bred over one half the world's Jersey Champions for large yearly production at the pail. We bred and have in service the two grand champion Berkshire boars. If you need a sire for improvement, write us for literature, description and prices.
HOOD FARM, LOWELL, MASS.

SHROPSHIRE

30 Yearling Rams—12 Yearling Ewes.
W. H. PUGH, MYRTLE STATION, R. R. 1
Farm 2 miles from Claremont

Cloverdale

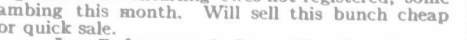
Shropshires and Berkshires—40 shearing rams, 70 shearing ewes, an exceptionally choice lot; true to type and well grown; nearly all sired by the show ram, Nock 16 Imp. In Berkshires, the usual strong offering, including sows just bred.
C. J. LANG, Burketon, Ont.

WILLOW BANK DORSETS

We have a few choice ewe lambs left; also 10 yearling and 4 two shearing ewes not registered, some lambing this month. Will sell this bunch cheap for quick sale.
Jas. Robertson & Sons, Hornby, Ont.

LABELS

Live-stock Labels for cattle, sheep and hogs, manufactured by the Ketchum Manufacturing Co.
Box 501, Ottawa, Ont. Write for samples and prices



his verdict on them, and the while we are innocently amusing ourselves at this enlightening pastime, the blessed women have got their heads together and are gossiping to beat the band.

"Yes, indeed she did; why, she said to me herself—and that doesn't do, you know—why, for land-o'-goodness, and him only two months dead!"

We tire of the horse judging and we move around and so on until we are buying ice cream in doughy cones and pink lemonade that is lemonade in name only, being innocent of both lemons and sugar, and watermelon that wasn't the watermelon of yesteryears but tasted like wet waste paper slightly sweetened, and—

"Aw, paw, buy me one of theeth! Ith a balloon, thee, and it—"

I price the thing and learn that I may become its sole possessor for the trifling sum of twenty-five cents. With the gaudily-colored, exquisitely painted and decorated thing hopping and bobbing from the end of a pliant stick we move along for a few paces. We lean against a stout rail for a moment's rest and we pay no attention to the pair of boisterous youths that have stopped beside me and are hovering over us. The baby is admiring her new toy; its lively, bobbing activity, its gay colors and its absolute newness and strangeness is a never-ending, ever-increasing joy and delight to her. Soon there is a faint, collapsing puff, an agonized, heart-broken little cry, and I turn quickly to see the vanishing coat tails and the leering grin of our hovering friends.

"He stuck his cigar on it; he stuck his cigar on it! I saw him do it! Why don't you go and have him arrested?"

Things boil in my heart, but there seems no apparent way to get even. The only thing we can do is to go buy another of the gaudy baubles. On the way in search of the wonder vendor we pass the gipsy tent. Bill Smith, with a guilty look and sliding step, slips out and mingles with the crowd. A gipsy maiden, gaudily dressed, opens the curtain flap—and then Jack Jones slides in. I explain that it is a fortune-telling place, and go on in search of my wonder vendor. Suddenly there is a commotion in the crowd and a wild figure bursts in view. I recognize his fleeing face and block the way. Swift judgment is coming in the rear and the heavy hand of an infuriated six-foot "dad" descends heavily on our hovering friend. I can smile and go on. I know that justice will be done and that the new bauble is protected by a fine insurance.

And then it's time for dinner. We search out some friends and a shady spot and soon are deep in the mysteries of ham sandwich and chicken pie. Dinner over we repair to the ball grounds and make friends with Steinman, the jeweller, who has a big, seven-passenger Murray car, which he assures me is the very last word in motor-car excellence. In its trim front it has tucked away the power of eighty horses, and is much befitted with everything imaginable in electric lights, self-starters, concealed cigar and other compartments. We climb aboard and watch "our fellows" get trimmed to the tune of 16 to 1, and then there is horse-racing and bronco-busting, and every event is preceded by an everlasting, never-ending dispute and discussion, until, before we know it, the sun has passed well over two-thirds of its enormous arch and is beginning to slide down its last lap towards oblivion. By this time we are tired—unmistakably dog, dead tired—and—

"Tickets for dance here, one dollar a couple! Yes, the proceeds are for the Red Cross! Well, buy one, anyway—we won't kick if you don't dance."

And then we go up town for a good hot supper, and with the sun going down far in the north-west, we hook up old Pete and Tom and pile everybody—now cross and cranky and sleepy—into the dusty democrat, and wind our way through the growing dusk and the gathering night to our own old home again.—A. E. ROBERTS.

Association Men comes out with the following:

- "Save the waste; control the taste;
- Eat corn bread and rye;
- Meatless days, wheatless days;
- Eat less cream and pie.
- For the allies' sake, cut out the cake;
- Save food and win, or die;
- Keep fighters fit—this your bit—
- That is the reason why."



Keep That Cow Healthy

The heavy feed given dairy cows to increase milk production is often the cause of indigestion and loss of appetite. Under these conditions

Pratts COW REMEDY

is urgently needed to assist Nature to restore health and carry off waste and poison from the system. PRATTS Cow Remedy contains no filler, middlings or other cereals. It is all medicine. Induces perfect digestion. Enables the cow to get all the good out of her feed. Acts on the liver and kidneys, regulating the bowels and fortifying the system against disease. At your Dealer's in 2-lb., 4½-lb., 12-lb. and 25-lb. tins.

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works on wonderful leverage principle—gives a man a giant's power. Patented cable take-up does away with pulling up slack cable. Six speeds—when stump loosens increase the speed and save time. Works in any position. Clear stumps from one suction. All-steel construction—unbreakable. Best anywhere on promise to give puller a fair trial. If satisfied, take a half-year to pay, or return at our expense and keep your money.

POWER—all sizes. Three year guarantee, flaw or no flaw. Send for Free Book and Very Special Offer made to one man in every community. Don't miss it. Write today.

Wm. St., Sault Ste. Marie, Ont.

SPRING BANK R.O.P. AYRSHIRES
Herd Sires: Netherton King Theodore Imp., and Humeshaugh Invincible. Grand Champion, London, 1917. Our herd at present holds the Canadian records for both milk and butter in the two-year, three-year and the mature classes. Let us tell you about the daughters of Netherton King Theodore. We have sons of both bulls for sale—all have R.O.P. dams. Visitors met at Hamilton by appointment.
A. S. Turner & Son (3 miles from Hamilton) Ryckman's Corners, Ont.

RAVENSDALE AYRSHIRES
We have a number of exceptionally good bulls, as well as a choice lot of young heifers that we can offer at present. They are all sired by Auchenbrain Sea Foam (Imp.) or Cherry Bank Fair Trade 4413. We can also spare a few young cows with the best of type and breeding. Come and see the Ravensdale herd. Correspondence solicited.
W. F. KAY, PHILIPSBURG, QUE. St. Armand Station, C.P.R.

GLENHURST AYRSHIRES
For 50 years I have been breeding the great Flos tribe of Ayrshires; dozens of them have been 60-lb. cows. I have lots of them get 60-lbs. a day on twice-a-day milking. Young bulls, 1 to 10 months of age, females all ages. If this kind of production appeals to you, write me.
JAMES BENNING, WILLIAMSTOWN, ONT.

RECORD OF PERFORMANCE JERSEYS
Choice Bulls and Females. We have six young bulls of serviceable age, all from R.O.P. dams. Three are by our senior sire, Brampton Dairy Farmer, and three are by our junior sire, Brampton Bright Togo. Write for records. We also have females. Visitors met at Hamilton by appointment.
R. & A. H. BAIRD, (G.T.R. Stations—New Hamburg, Bright) NEW HAMBURG, ONT.

EDGELEY STOCK FARM
The home of Canada's greatest producing Jersey, Sunbeam of Edgeley, the Sweepstakes Dairy Cow at the recent Guelph test; is also the champion R.O.P. butter cow for Canada. Would a grandson or great-grandson of this famous cow improve your herd? We have them. Write for particulars.
JAMES BAGG & SON, (Woodbridge, C.P.R., Concord, G.T.R.) EDGELEY, ONT.

THE WOODVIEW FARM JERSEYS
CANADA'S MOST BEAUTIFUL JERSEY HERD
The foundation of this herd is made up of very high-class cows, imported from the island of Jersey, most of them in the Record of Performance, and while we have, at all times, a few mature cows for sale, we make a specialty of in-calf heifers and young bulls. Write us your wants, or better still, come and see the herd. We work our show cows and show our work cows.
LONDON, ONTARIO
John Pringle, Prop.

BRAMPTON JERSEYS
Special Offering—50 cows and heifers in calf, 7 bulls; the best breeding ever offered in Canada from R. O. P. stock. The ancestors of these bulls have made and are making Jersey history. No better stock can be obtained.
B. H. BULL & SON, BRAMPTON, ONTARIO.

"The Maples" Stock Farm—R. S. Robson & Son, Props., Denfield, Ont.
Present offering—100 home-bred Lincoln ewes; ages 1 to 4 years (registered); 20 imp. yearling ewes, all bred to the best of 20 rams we imported this season—an extra-good lot of the heavy-shearing kind. In Shorthorns we have for sale cows and heifers of such strains as Clarets, Clippers, Village Girls, Missies and Miss Ramsdens.

OVATUM

Produces Many More Eggs at the Cost of One!

One extra egg will pay for a daily ration of Gardiner's Ovatum for a month for each hen—while each will average several more eggs per month.

The gain from feeding Ovatum is specially noticeable in cold weather, or when laying has stopped for any other reason. Ovatum puts new life and vigor into the hens, and quickly starts a rate of laying that adds to the profits many times its cost.

Get Ovatum from your dealer in 25c or 50c packages or in 10-lb. bags. If he hasn't it, write us and we will see that you are supplied. If you are interested, we will be glad to give you some interesting information about Gardiner's Calf Meal, Pig Meal, Cotton Seed Meal and Sac-a-lait as well.

GARDINER BROS.,
Feed Specialists, SARNIA, Ont.

PEDIGREED TAMWORTHS

Several sows, 2 years old, in pig. Also younger stock. Write:
Herolds Farms, Beamsville, Ont.

Morrison Tamworths and Shorthorns—Bred from the prizewinning herds of England. Tamworths, both sexes; boars from 2 to 12 months. Shorthorn bulls from 5 to 10 months old, reds and roans—dandies.
CHAS. CURRIE, Morrison, Ont.

Meadow Brook Yorkshires
Fifty young pigs from five litters, weaned and ready to wean. Pairs not akin. Also a large choice of young sows near breeding age—priced to sell.
G. W. MINERS, R. R. No. 3, Exeter, Ont.

CHOICE YORKSHIRES
All ages and both sexes, at right prices. A few bred sows and several young litters an extra special. All varieties, Turkeys, Geese and Ducks, S.-C. White Leghorns. **T. A. KING, Milton, Ont.**

TAMWORTHS
Young sows bred for spring farrow and a nice lot of young boars for sale. Write:
John W. Todd, R. R. No. 1, Corinth, Ont.

YORKSHIRES AND COLLIES
We offer several fine sows that have been bred, and young stock, three months old; also choice, pedigree collie puppies. We guarantee satisfaction.
B. Armstrong & Son, Codrington, Ontario

Polands, Durocs and Berkshires
Young stock at all times, both sexes and all ages. Can also supply anything in Dorsets or Southdowns. Every thing priced to sell.
CECIL STOBBS, LEAMINGTON, ONTARIO

SPRINGBANK CHESTER WHITES
Pigs, both sexes, five months old and younger; a number of them sired by "Curly King"—9997—, who has been a winner at Toronto and London the last several years. Satisfaction guaranteed. Inspection invited. **Wm. Stevenson & Son, Science Hill, Ont.**

DUROC JERSEYS
Our herd won all champion prizes at Toronto and London, 1916 and 1917. Pairs not akin. Young stock all ages for sale. Visitors welcome. For further particulars write:
Culbert Malott, No. 3, Wheatley, Ont.

Prospect Hill Berkshires
Young stock, either sex, for sale, from our imported sows and boars, also some from our show herd, headed by our stock boar, Kingle-let. Terms and prices right. **John Weir & Son, Paris, Ont., R. R. 1.**

Featherston's Yorkshires—The Pine Grove Herd
I have the choicest lot of young sows of breeding age that were ever on the farm. A few are already bred. Also have the same litters. Price reasonable.
J. K. FEATHERSTON, STREESTVILLE, ONT.

Lakeview Yorkshires
If you want a top lot of the choicest strain of the breed, Cinders, bred from pig winners for generations back, write me. Young sows bred and boars ready for service.
JOHN DUCK, PORT CREDIT, ONTARIO.

Questions and Answers.
Miscellaneous.

Beans for Sheep.

Will culled beans that are badly colored be injurious to sheep when fed in small quantities?
N. P.

Ans.—Culled beans should not be injurious to sheep. They are frequently fed whole, and tend to produce a solid flesh of good quality.

School Secretary-Treasurer—Miller's Toll.

1. When the trustees of a school-board all positively refuse to act as secretary-treasurer what is the proper course then to pursue?

2. What is the toll allowed a miller for grinding wheat into flour, providing the capacity of his mill is less than one hundred barrels per day?
J. W. Ontario.

Ans.—1. The board must in such case appoint some one else secretary-treasurer, or some one secretary, and some one else treasurer.

2. One twelfth of the grain, or less.

Agricultural Books.

What are some of the suitable agricultural and horticultural books?
F. I. M.

Ans.—Among the stock books "Feeds and Feeding," by Henry; "Live Stock Judging," by Craig; "Sheep Farming," by Craig; "Productive Swine Husbandry," by Day, will be found valuable. Dairy-men find "Canadian Dairying," by Dean; "Farm Dairying," by Laura Rose; "Dairy Cattle and Milk Production," by Eckles, interesting and valuable. "Farm Management," by Warren; "Physics of Agriculture," by King; "Chemistry of the Farm," by Warrington, are books which deal with crop production. "Vegetable Gardening," by Watts; "Pruning Book," by Bailey; "Beginner's Guide to Fruit Growing," by Waugh; "Insects Injurious to Fruit," by Saunders; "New Onion Culture," by Grenier; "The Potato," by Grubb & Guilford, are a number of very good horticultural books.

Curb—Conditioning Horses.

1. I have a three-year-old colt which developed a curb last summer. I blistered it a couple of times but failed to remove it entirely. What treatment would you advise?

2. Our team of working horses is in poor condition. Their hair is very dry and they appear dull. I feed hay three times a day and oats twice, but they do not seem to do much good. Would you advise feeding a little boiled feed? One of the mares is troubled with worms, but as she is in foal I do not know how to treat.

3. Which is the better for feeding horses, shorts or oats?

4. How soon after blistering should a horse be driven?

5. A four-year-old horse went lame while plowing. The next day both front legs swelled up twice their natural size; the shoulders also swelled. Later I lanced them and matter came out. What was the cause?
A. MCF.

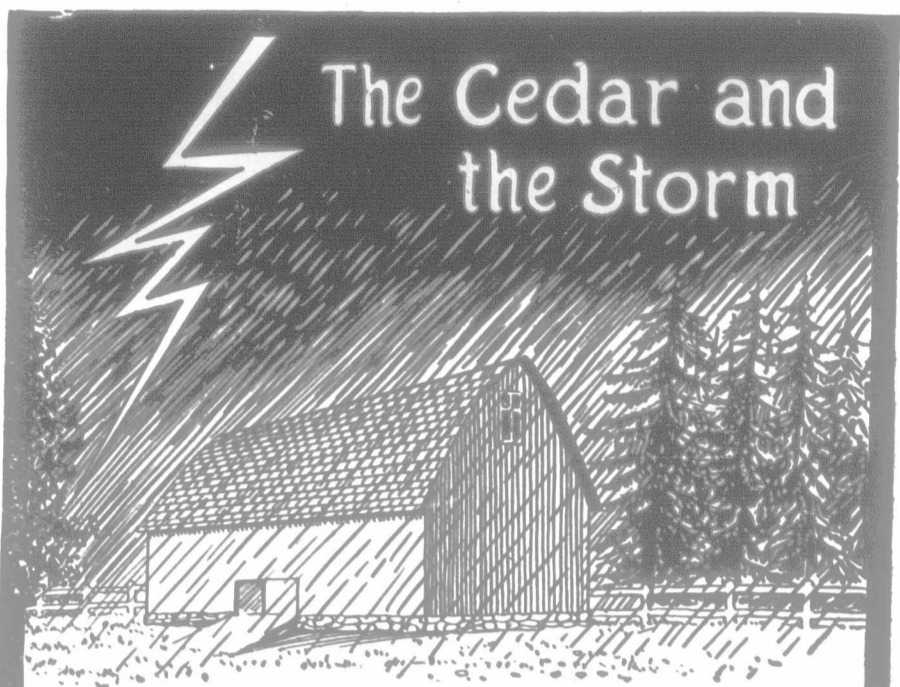
Ans.—1. Blistering and hard rubbing is about the only thing that can be done to remove a curb. Curbs are not easily removed. Rubbing vigorously with the hand or with something having a smooth surface will help to reduce it.

2. Have the horses' teeth examined. It is possible that they are preventing the proper mastication of the feed. Too much hay is not good for horses. It should be of good quality, and what they will clean up in one and a half hours is sufficient at each meal. Boiled feed is relished by horses and aids in giving them a sleek coat of hair. Bran and a little linseed meal may be fed with the oats. For a mare affected with worms the following is recommended: Mix 1 1/2 ounces each sulphate of iron and sulphate of copper and 1 ounce of calomel; make into 12 powders and give one night and morning in the feed. In putting a horse in condition, it must be fed carefully and given regular exercise.

3. Oats are preferable. Shorts are not considered to be good feed for horses.

4. It is advisable to leave the horse idle for some time after blistering. A blister usually leaves the part sore.

5. From the symptoms given, we are not in a position to diagnose the case. Evidently there must have been some friction or injury which would cause inflammation to set in, as indicated by the pus forming.



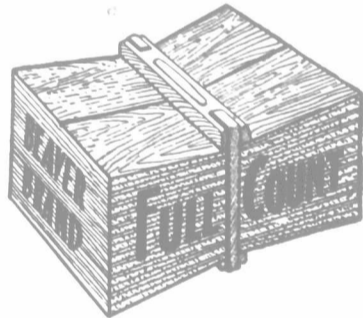
The Cedar and the Storm

A BARN IS AS GOOD AS ITS ROOF

Watch the cedar in the storm—its toughness and resiliency resist all shocks. Nature's products can best withstand nature's forces. The roof of your home and barn have to stand all the stress of the storm. They call for a covering that will stay down, that can defy wind and water and the disintegrating forces of time. All these qualities, and more, are to be found in

BEAVER BRAND WHITE CEDAR SHINGLES

Beaver Brand Shingles are made from the best of the New Brunswick White Cedar. They hold down their job. They need no paint, are easily laid, and the very occasional repairs are simple, the only tool required being a hammer.



Ask Your Dealer
"THE SHINGLE ROOF THAT'S STORM PROOF."

BATHURST LUMBER CO. LIMITED
BATHURST N.B.

YORKSHIRES

From choice breeding stock. Four large litters, recently weaned; also some a few months old.
WELWOOD FARM, Farmer's Advocate, LONDON, ONT.

ELMHURST LARGE ENGLISH BERKSHIRES

From our recent importation of sows, together with the stock boar, Suddon Torredor, we can supply select breeding stock; all ages. Satisfaction and safe delivery guaranteed.
H. M. VANDELIP, Breeder and Importer, R. R. 1, BRANTFORD, ONTARIO
Langford Station on Brantford and Hamilton Radial

OAK LODGE YORKSHIRE HOGS

We have a large selection of extra-good boars and sows of different ages. We are selling at prices that make it attractive for the purchaser. Write for what you want.
J. E. BRETHOUR & NEPHEWS, Burford, Ontario

ENGLISH LARGE BLACK PIGS

We have for sale at present some young pigs of a breed new to Canada, but standardized and very popular in England, from our pure-bred, imported **LARGE BLACKS**. Stock excellent for crossing with other breeds. Their English reputation is that they grow large and fast. Also for sale, pure-bred English Berkshires.
Lynnore Stock Farm, F. Wallace Cockshutt, Brantford, Ont

BERKSHIRES

My Berkshires for many years have won the leading prizes at Toronto, London and Guelph. High-heres and Sullys, the best strain of the breed, both sexes, any age.
Adam Thomson, R. R. No. 1, Stratford, Ont. Shakespeare Station, G.T.R

Sarnia Fence Prices

Advance January 15, 1918

BUY NOW AND SAVE MONEY ON YOUR SPRING REQUIREMENTS

Compare these prices with catalogue, house or dealer's quotations, then when you are satisfied that we are offering you the best fence on the market at the lowest price in Canada, mail us your order.



Advance Information

Owing to the continually advancing cost of wire the price of fence has advanced several times during the past year. Before each advance we have notified our Customers through the leading Farm Journals and given them a chance to buy their requirements at the low price. You will notice that we are the only Fence manufacturers which gave their Customers this opportunity.

This plan has saved the farmers of Canada thousands and thousands of dollars during the last year. Did you get your share of this saving? Are you going to be one of the thousands who will make a great saving by ordering their spring requirements before January 15th, 1918?

Thousands of our customers will take advantage of this advance notice, and we want you to be among them. Under the present conditions it is unnecessary to impress upon you the necessity of saving every dollar possible.

Get a quotation from your local dealer, Mail Order or Catalogue House. Compare their proposition with ours, then when you are satisfied that we are offering the best fence at the lowest price in Canada MAIL US YOUR ORDER BEFORE IT IS TOO LATE.

If You Use Wire Fence Read This

The wire used in the manufacture of Sarnia Fence is made in the United States by the largest makers of wire in the world. Their product is recognized as the standard of the world. The Canadian Government stipulates the size of wire which will be allowed to enter Canada free of duty. No. 9 wire shall be over .140 and not exceeding .148 of an inch in diameter, consequently it is impossible for manufacturers buying their wire in the U. S. A. to use under-sized light wire, but must import full Government Gauge Wire.

There are some Canadian Fence Manufacturers making their own wire in Canada. Such wire, of course, is not required to pass the Canadian Customs Regulations as to size, consequently if these manufacturers see fit they can draw their wire undersize and sell you a light weight instead of a full gauge fence. If you are placing an order be sure you are getting a full gauge fence such as SARNIA FENCE, and not a light weight.

Guarantee

We Guarantee our Fence to be made from the best galvanized hard steel wire of full Government Gauge, both stay line wire and knot, and to be the most perfectly woven fence on the market.

Guarantee

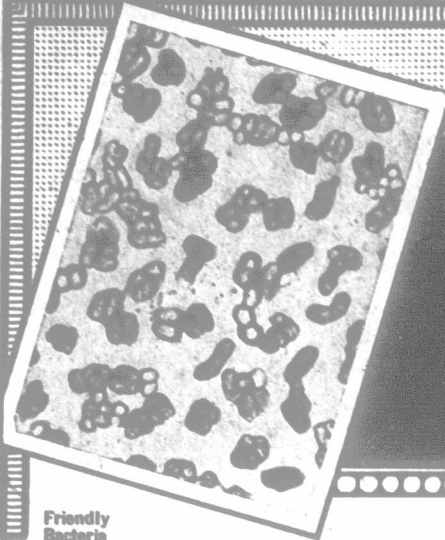
WE SET THE PRICE. OTHERS DEVOTE THEIR ENERGY TO TRY TO MEET OUR PRICES.	Price less than carload in Old Ont. until Jan. 15	Price less than carload in Old Ont. after Jan. 15	All No. 9 Freight Paid	CASH WITH THE ORDER SAVES EXPENSE AND YOU GET THE BENEFIT OF THE SAVING IN THE PRICE.	Price less than carload in Old Ont. until Jan. 15	Price less than carload in Old Ont. after Jan. 15
5-40-0 HORSE AND CATTLE FENCE. Has 5 line wires, 40 in. high, 9 stays to the rod, all No. 9 hard steel wire spacing 10, 10, 10. Weight per rod, 6½ lbs. Price, per rod.....	33c.	35c.	7-48-0-45c.	10-50 HORSE, CATTLE, SHEEP AND HOG FENCE. Has 10 line wires 50 in. high, 12 stays to the rod, all No. 9 hard steel wire, spacing 3, 3½, 4½, 5½, 6, 8, 8, 8. Weight per rod, 13¼ lbs. Per rod.....	68c.	71c.
6-40-0 HORSE AND CATTLE FENCE. Has 6 line wires, 40 in. high, 9 stays to the rod, all No. 9 hard steel wire spacing 7, 7, 8, 9, 9. Weight per rod, 7½ lbs. Price, per rod.....	38c.	41c.	NOTICE!	POULTRY FENCE		
7-40-0 HORSE, CATTLE AND SHEEP FENCE. Has 7 line wires, 40 in. high, 9 stays to the rod, all No. 9 hard steel wire, spacing 5, 6, 6, 7, 7½, 8½. Weight per rod, 8½ lbs. Price, per rod.....	43c.	46c.	These prices are freight prepaid to any station in Old Ontario on shipments in lots of 200 lbs. or over. Electric and boat lines not included.	18-50-P STOCK AND POULTRY FENCE. Has 18 line wires, 50 in. high, 24 stays to the rod, top and bottom wire No. 9 filling. No. 13 hard steel wire, spacing 1, 3¼, 1¾, 1¾, 1¾, 1¾, 2, 2¼, 2½, 3, 3½, 4, 4½, 4½, 5, 5, 5. Weight 12¼ lbs.....	68c.	71c.
7-48-0 HORSE AND CATTLE FENCE. Has 7 line wires, 48 in. high, 9 stays to the rod, all No. 9 hard steel wire, spacing 5, 6, 7, 9, 10, 11. Weight per rod, 9 lbs. Price, per rod.....	45c.	48c.	FOR PRICES DELIVERED IN NEW ONTARIO, QUEBEC AND MARITIME PROVINCES	FENCE ACCESSORIES		
8-40 GENERAL STOCK FENCE. Has 8 line wires, 40 in. high, 12 stays to the rod, all No. 9 hard steel wire, spacing 5, 5, 6, 6, 6, 6, 6. Weight per rod, 10¼ lbs. Price, per rod.....	54c.	57c.	Add 3c per rod to the prices of fence quoted herewith, 25c advance for gates and stretchers, 10c per sack of staples, and 10c per coil of brace wire.	WALK GATE, 3½ x 48.....	\$ 3.25	\$ 3.50
8-48 GENERAL STOCK FENCE. Has 8 line wires, 48 in. high, 12 stays to the rod, all No. 9 hard steel wire, spacing 4, 5, 6, 7, 8, 9, 9. Weight per rod, 11 lbs. Price, per rod.....	56c.	59c.	Owing to the unsettled condition of the wire market we quote prices after January 15th, 1918, subject to change without notice. We cannot urge too strongly to place your order before the advance.	FARM GATE, 12 x 48.....	5.75	6.00
9-48-0 GENERAL STOCK FENCE. Has 9 line wires, 48 in. high, 9 stays to the rod, all No. 9 hard steel wire, spacing 3, 4, 5, 6, 8, 8, 9. Weight per rod, 11 lbs. Price, per rod.....	57c.	60c.	Remit by P.O. Order, Money Order or Bank Draft	FARM GATE, 13 x 48.....	6.00	6.25
9-48-0 S SPECIAL HORSE AND CATTLE FENCE. Has 9 line wires, 48 in. high, 9 stays to the rod, all No. 9 hard steel wire, spacing 6, 6, 6, 6, 6, 6, 6. Weight per rod, 11 lbs. Price, per rod.....	57c.	60c.		FARM GATE, 14 x 48.....	6.25	6.50
9-48 GENERAL STOCK FENCE. Has 9 line wires 48 in. high, 12 stays to the rod, all No. 9 hard steel wire, spacing 3, 4, 5, 5, 6, 8, 8, 9. Weight per rod, 12 lbs. Price, per rod, freight prepaid.....	62c.	65c.		FARM GATE, 16 x 48.....	6.75	7.00
				STAPLES GALVANIZED, 1¾ in., per bag of 25 lbs.....	1.40	1.50
				BRACE WIRE, No. 9 Soft, per coil 25 lbs.....	1.40	1.50
				STRETCHER, All iron top and bottom, draw very heavy tested chain, extra single wire stretcher and splicer, the best stretcher made at any price.....	10.00	10.00

MAIL YOUR ORDER NOW

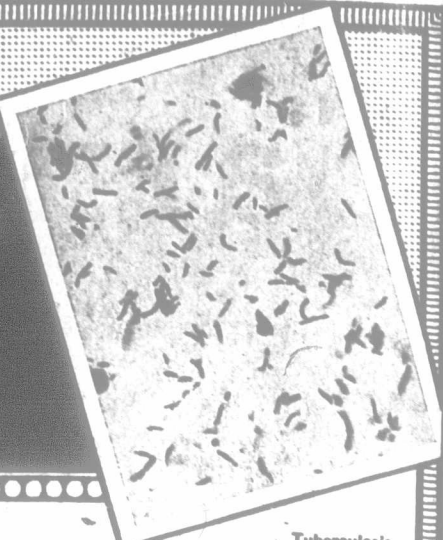
The Sarnia Fence Company, Limited, Sarnia, Ontario

Don't forget that The Sarnia Fence Co., Ltd., Broke Up the Fence Combine and forced the prices down 50 per cent. An order from you will show your appreciation of their service.

The Farmers' Friends and His Foes



Friendly Bacteria
(magnified 1000 diameters) which fix nitrogen in the soil for the use of plants. They make millions of dollars for farmers.



Tuberculosis Bacteria
(magnified 1000 diameters) which cause one of our worst diseases. They are responsible for huge losses to farmers.

Bacteria, though the smallest of these, are most important of all. Upon their activities depend the farmer's livelihood, his profits, in fact, life itself. Some bacteria are true friends, but others are bitter foes. It means dollars in every man's pockets to understand the action of these tiny organisms.

Bacteria are really plants—but so small as to be seen only with a microscope. There are many different kinds, but the great majority are beneficial. Among these are the soil bacteria. Some, however, are harmful, as those causing decay of foods and most of the infectious diseases of man, animals and plants. It is the part of wisdom to encourage the development of beneficial bacteria and to prevent the growth of the harmful kinds so far as is possible.

Bacteria and the Soil.

An ounce of cultivated soil contains millions of living bacteria. It is their function to prepare plant food that is in the soil for the use of growing plants. Without their action the plants growing in the soil could not develop into profitable crops.

Nitrogen in the form of nitrates is a necessary part of plant food, and the nitrates are among the most expensive of fertilizers. Certain species of bacteria provide this important plant food by fixing the nitrogen present in the air, which later is transformed to nitrates. Therefore, their activities should be encouraged. This is done, first, by keeping the soil well drained, so that it will be dry, porous and thoroughly aerated; second, by keeping the soil free from any acid by the addition of lime. The nitrogen-fixing bacteria will not grow where acidity is present, and they need a thoroughly aired soil.

Legume Bacteria.

One species of nitrogen-fixing bacteria works only in combination with leguminous plants, causing the production of nodules on the roots of clovers, peas, beans, vetches, etc., in which nitrogen is stored. Thus a good crop is raised and valuable fertilizer is thrown in free for good measure. If the necessary kinds of bacteria are not in the soil they should be put there by legume seed inoculation. Bacterial cultures for treating legume seed may be obtained from the Bacteriological Laboratory of the Ontario Agricultural College, at 25 cents each. Each culture is enough for 1 bushel of seed.

Bacteria and the Water Supply.

Some species of bacteria are normally present in natural waters, and their presence is not injurious to those drinking the water. Other species, however, are liable to be present as a result of the contamination of the water from surface drainage and seepage. These contaminating organisms are liable to lead to serious results, as typhoid fever, in those drinking the water. Care should thus be taken to prevent all surface or seepage contamination of the drinking water supply. Farmers' well water will be tested on application to the Bacteriological Laboratory of the Ontario Agricultural College. If the water is proven to be impure, simple directions will be given for the cheap improvement of wells.

Bacteria and Milk.

All the changes that normally take place in milk after it is drawn are due to the action of the bacteria that get into the milk during the milking operations and subsequent handling.

The bacteria get into the milk from poorly-washed and imperfectly scalded milk vessels, dirty hands, bits of dust, hay, straw, hair, manure, flies, and such like materials that drop into the milk pail. Some of these are removed by the strainer—but straining does not remove bacteria. These bacteria are responsible for the milk souring and putrefying.

The greatest care should be taken to thoroughly wash and scald the milk pails and other vessels, and to keep out of the milk all particles of contaminating material such as those above mentioned. Full directions will be supplied free upon request.

Bacteria Cause Infectious Diseases.

Tuberculosis, anthrax, symptomatic anthrax, infectious abortion and hog cholera are some of the worst diseases affecting animals. Each one is caused by a different species of bacteria. Many of the worst diseases of plants are also caused by bacteria. Together these diseases cause an enormous loss annually to the farmers of Ontario, which by foresight and proper methods might be quite largely prevented.

Consider two of these most serious bacterial diseases, for example:

The Dreaded "White Plague."

Tuberculosis is a slowly developing disease affecting man, animals and poultry. Estimates tend to show that it causes more loss than any other disease. It is present in many herds of cattle where it impoverishes the health, reduces the milk flow and longevity of the cattle, and amongst many flocks of poultry, where it diminishes the egg production and causes many deaths after reducing the birds frequently to skin and bone.

It is very desirable that every farmer who has a herd of cattle should have each member of the herd tested for tuberculosis with the **Tuberculin Test**. This will enable him to weed out from his herd those animals that are affected with the disease, and so prevent the disease from spreading to the healthy stock. So long as the disease is present in the herd it means a steady drain on the returns from the herd. It costs more to keep tuberculosis in the herd than to eliminate it. Tuberculin testing followed by the isolation or slaughter of reacting animals is the only satisfactory way to control the spread of the disease.

When the disease is found present in a number of birds in a poultry flock, the best thing to do is to kill off the flock, disinfect the premises and start anew with healthy stock. Sick and dead birds are examined free at the Bacteriological Department, Ontario Agricultural College.

Infectious Abortion of Cattle.

This is a wide-spread disease resulting in heavy losses to the cattle breeder. It is caused by *Bacillus abortus*, which gets established in the uterus of pregnant cows and there causes an inflammation which results in the expulsion of a dead foetus, or in premature birth. Frequently in such cases, the foetal membranes or afterbirth fail to come away normally, thus necessitating their artificial removal or death from blood poisoning will ensue. There are usually no marked symptoms of the trouble until abortion takes place, the general health of the animal not being affected. The abortion bacillus is present in large numbers in the placental fluids, and in the discharges from the vulva after abortion. Consequently, the foetus, foetal membranes and fluids should be buried deeply in quick lime, and an immediate, thorough disinfection of everything with which they come in contact is necessary. The cow after abortion should be kept isolated from the rest of the herd until all discharges from the vulva have ceased. The external genitals, thighs and udder should be washed with a disinfectant daily, and care should be taken that the hands and clothes of the attendant should not get contaminated with the discharge without a thorough disinfection following. Attempts are being made to produce a serum or vaccine that shall prevent abortion following its use on pregnant animals.

Prevention Better Than Cure.

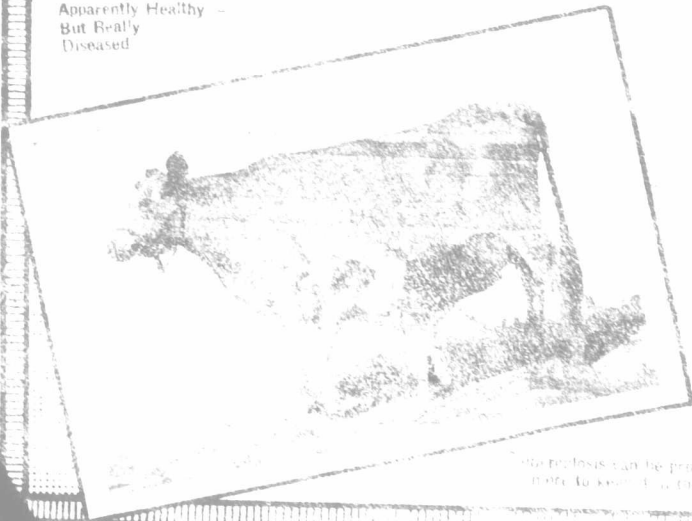
It pays to be forehanded in this regard. It is cheaper to prevent a disease than to cure it. The natural enemies of all these destructive bacteria are cleanliness, dry, fresh air and sunlight. Bright, dry, clean stables are the best medicine for preventing disease. Artificial disinfectants, as any of the coal-tar products, are very valuable also.

Similarly it pays to provide the best possible environment for those bacteria which are beneficial—which work without pay in the farmer's interest.

It Does Not Require a course in bacteriology to do this. By following a few simple directions, supplied by a competent bacteriologist to meet the special requirements of the case in point, any farmer can aid his bacterial friends and combat his bacterial foes. Such information will be supplied in detail, free of charge to any Ontario farmer requesting it. A bulletin will soon be available for Ontario farmers, giving general information upon the subject.

In seeking assistance regarding your special problems, kindly give full particulars. If your crop yields are not satisfactory, or if your stock is not thrifty, kindly send full details regarding your methods, stables, etc. Write the Office of the Commissioner, Ontario Department of Agriculture, Parliament Buildings, Toronto.

Apparently Healthy —
But Really
Diseased



Tuberculosis can be passed by the milk. If it is more to know it, write to the section to understand it.

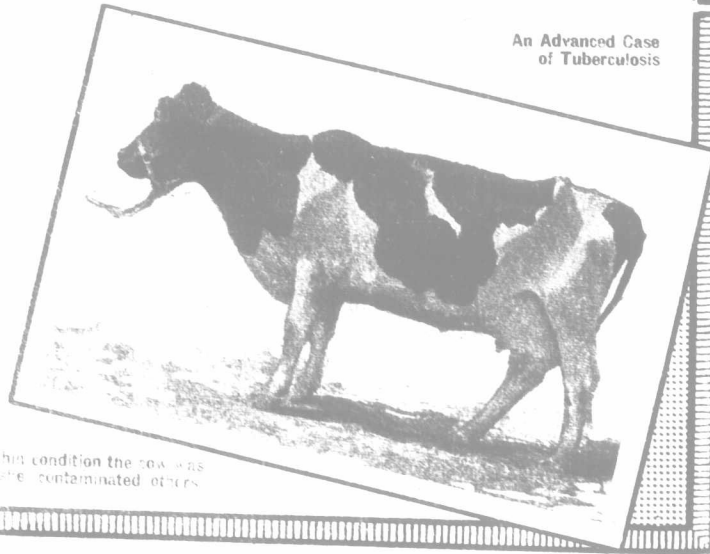
Ontario Department
of Agriculture
PARLIAMENT BUILDINGS
TORONTO

SIR WM. H. HEARST,
Minister of Agriculture
DR. G. C. CRUMHORN,
Commissioner of Agriculture



ONTARIO

An Advanced Case
of Tuberculosis



Even in the weak and thin condition the cow was a heavy worker, but she contaminated others.