

PUBLISHED EVERY WEEK. \$1.50 PER YEAR.

THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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

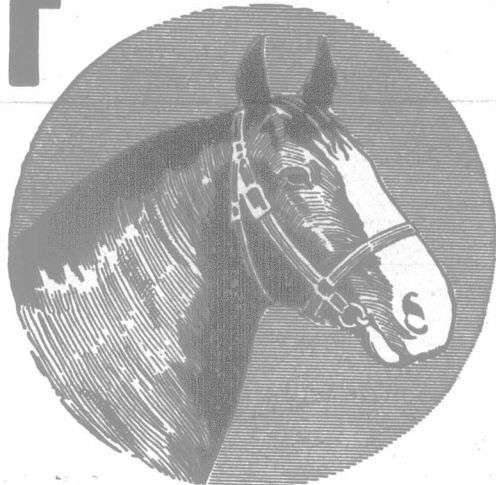
VOL. LI.

ENTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875.
LONDON, ONTARIO, MARCH 16, 1916.

No. 1225

FREE

We will give absolutely free to any farmer, stock or poultry raiser one of our new 80-page booklets, which tells how to balance rations for feeding stock, milch cows, horses, etc. This also deals with the common diseases in poultry, the symptoms, treatments, etc. Tells how to build poultry houses; how to avoid all kinds of diseases in both stock and poultry; tells how to raise calves without milk, and describes fully the high-class stock and poultry remedies and foods we manufacture.



Last year our horses were troubled greatly with coughs and I used 26 tins of your Cough Specific with excellent results."

It will increase the flow of milk from 3 to 5 pounds during the winter. It will help fatten steers a month earlier, thereby saving a month's feed and labor. You can raise and fatten pigs and market them a month earlier, saving a month's feed and labor. Malcolm Gray of Komoka, Ont., says: "In regard to the feeding of Royal Purple, I had two lots of hogs. To the first lot I fed Royal Purple Stock Specific and sold them when 6 months old and they averaged 196 pounds each. On the second lot I did not use Royal Purple Stock Specific and at the same age they averaged only 150 pounds. They were both the same breed and one lot had as good a chance as the other. We have also fed Royal Purple Poultry Specific with excellent results."

Norman C. Charlton, Scott, Sask., says: "I am from Ontario and fed your Royal Purple Stock Specific when in Brownsville. My cows made the largest average and tested 5 pounds over average at C. M. P. at Brownsville. I believe you make the best conditioner on the market."

Put up in 50c. packages; \$1.50 tins that hold as much as four 50c. packages, and \$5.00 tins which hold four times as much as the \$1.50 tins. A 50c. package will last an animal 70 days. A \$5.00 tin will last 10 animals nearly three months. The cost to use this condition powder is so small that no farmer can afford to be without it, as it will average less than 1/2c. a day if purchased in large tins.

Royal Purple Stock Specific

Not a dope, but a pure unadulterated condition powder that can be fed according to directions every day. Will make the animal digest its food properly and secure the greatest good therefrom. There has not been a season in a decade when it will be so absolutely necessary to use condition powders as this coming season on account of the enormous amounts of musty grain and fodder that have been harvested. Unless farmers are extra careful, they will have many animals in bad condition due to coughs, heaves, indigestion, etc. Royal Purple Stock Specific will cause the animal to digest every particle of food and will make impurities pass through without injury. Royal Purple Stock Specific will fatten animals you have never been able to fatten before.

Mr. Dan McEwan, the veteran horse-trainer, says: "I have used your Stock Specific 8 years and have never had an animal out of condition more than a week in all that time. Your stock conditioner is the best I have ever used, and as for your Cough Powder, I can safely say it will cure any ordinary cough in 4 days."

Royal Purple Cough Cure

It will cure any ordinary cough in four days and break up and cure distemper in 10 days. The large quantities of musty grains and fodder harvested this year will start more horses coughing than in any year for a decade past. John Cartier, Bothwell, Ont., says: "I have used one tin of Royal Purple Cough Specific and found it excellent for distemper. One of my father's horses had distemper last fall and inside of two weeks the distemper was entirely cured by using your Royal Purple Cough Specific. I am recommending it to my neighbors."

Put up in 50c. tins; 60c. by mail.

Royal Purple Calf Meal

You can raise calves on this meal without using milk. It is without doubt the highest grade calf meal on the Canadian market. This year we gave two \$25.00 prizes at the Western Fair, London, Ont., for the two best calves raised entirely on our calf meal. Read what Mr. Lipsit, who won these prizes, has to say about this meal. Mr. Lipsit is probably one of the best-known Holstein cattle men in Canada.

"Stratfordville, Ont., Sept. 28, 1914.

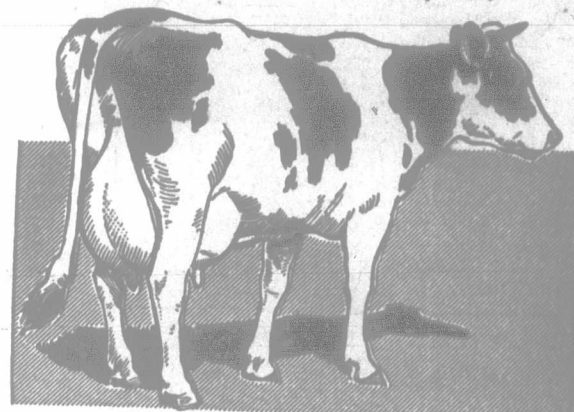
"The W. A. Jenkins Mfg. Co., London, Ont.: Dear Sir,—Replying to your letter of Sept. 18th, my bull's name is Finnering King May Payne. I am having printed now an extended pedigree of him, which I will be pleased to forward you, along with his photograph, as soon as completed.

"The calves I won your two special prizes on were Forest Ridge Payne Elite and Forest Ridge Payne Calamity 2nd. They were both fed regularly on your calf meal, as well as the calf that won first at the Canadian National Exhibition, Toronto, this year in a class of 33. I also won first and your special prize at the Stratfordville Fair here on another calf.

"The above I believe to be recommend enough for one breeder, as I have used several different calf meals, and have not found any quite so satisfactory.

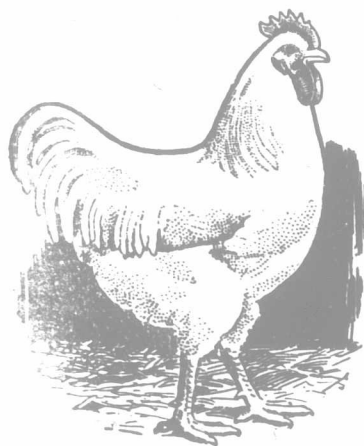
"Yours truly, L. H. LIPSIT."

\$4.00 a cwt. F.O.B. London, Ont.



Royal Purple Poultry Specific

Works entirely on the digestive organs of the poultry. When a bird's gizzard is working properly, it will be healthy, and when healthy will lay just as many eggs in winter as in summer. You can fatten turkeys and other fowl in just one-half the time on the same food when they digest their food properly. Royal Purple Poultry Specific should be used in the food once a day through the fall, winter and spring seasons. The cost to use it is so small that it will pay for itself 10 times over in actual results. No poultryman can afford to be without this excellent tonic. It is a hen's business to lay. It is our business to make her lay. Put up in 25c. and 50c. packages, \$1.50 and \$5.00 tins. A 50c. package will last 25 hens 70 days. A \$5.00 tin will last 200 hens for over four months.



Mr. W. A. Jenkins Mfg. Co., London, Ont.: Dear Sir,—In response to your request as to our opinion of 'Royal Purple' brands, beg to say that in two years, or rather two seasons (winter), we have sold it, we have found it the best and most satisfactory stock and poultry specific we have ever handled. We have had many testimonials from customers as to its good qualities. One lady customer told us that she used 'Royal Purple' in feeding her turkeys, and the result was that she got the highest price paid on our market for them. The buyer stated they were the best turkeys he had seen."

Respectfully yours, H. H. OTTON & SON.

Royal Purple Roup Specific

Is a most excellent remedy and every poultryman should use it in the drinking water during fall, winter and spring months. Read over what Messrs. McConnell & Fergusson have to say about it.

"Gentlemen,—Enclosed you will find a photograph of one of our 'Dul-Mage' White Rocks. Isn't he a big-boned vigorous specimen? About three years ago we had a hen nearly dead with the roup, and after trying a number of remedies, sought the advice of Mr. Wm. McNeill, the well-known poultry judge, and he advised us to kill her at once, as it was impossible to save her life. She was not a valuable hen, and we thought it better to experiment further, as we might have a more valuable bird to treat later on. We got a package of your Roup Cure, and it relieved her at once. At the end of a week's time she was completely cured. We have put a little of your Roup Cure in the water from time to time, and have only had one case of roup in our immense flock in the last three years."

(The bird shown in this advertisement is reproduced from McConnell & Fergusson's photo.)

Put up in 25c tins; 30c. by mail.

Barrie, April 28th.

"The W. A. Jenkins Mfg. Co., London, Ont.: Dear Sir,—I used your Roup Cure last spring and can safely say that it saved my flock. Previous to my getting the remedy I had lost 37 hens, and after I began using it I only lost three and the entire flock were affected. Many people here have small chicks and they all complain of the roup condition of their fowl. There seems to be something in the climate or soil that caused the disease."

Peace River Crossing, Alta., Oct. 4, 1914.

"Yours very truly, J. W. MARR."

We also manufacture:

Royal Purple Sweet Liniment—8-oz. bottles; 50c.; by mail, 60c.

Royal Purple Gall Cure.—25c. and 50c. packages, 30c. and 60c. by mail.

Royal Purple Disinfectant—25c., 50c. and \$1.

Royal Purple Worm Powder—25c. tins; 30c. by mail.

Royal Purple Lice Killer—25c. and 50c. tins; 30c. and 60c. by mail.

Royal Purple Linseed Meal.

Royal Purple Chick Feed—25c. packages, 100-lb. bags.

We sell only to the trade, but if you cannot get these goods from a merchant in your town, we will send any 25c. tin by mail for 30c. and any 50c. package for 60c. Larger packages will be forwarded by express or freight.

Made in Canada by Canadian capital and labor.

THE W. A. JENKINS MFG. CO., LONDON, ONT.

STANDARD TUBE & FENCE CO., Limited, Toronto, Ontario

Send me your catalog, and special folder Tube Posts.

CLOVER SEEDS

Government Standard

We guarantee our seeds to suit you on arrival, or you ship them back to us at our expense. We can highly recommend the grades marked No. 2 as being exceptionally free of weeds and good for all ordinary sowing.

RED CLOVER Bush.
No. 1 Splendid Sample.....\$16.50
No. 2 Good for purity and color.....15.50

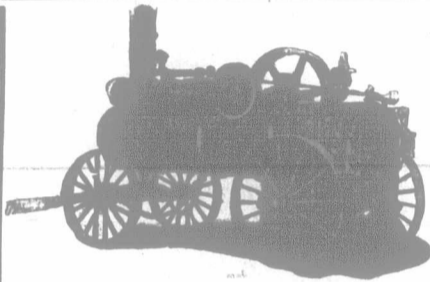
ALSIKE
No. 1 Extra No. 1 for purity..... 12.50
No. 2 Extra pure and nice color.... 11.00

TIMOTHY
No. 1 Purity, No. 2 appearance..... 5.50

ALFALFA
Haldimand grown—All sold.
Northern..... 16.00

Bags are 25c. each extra.
Cash must accompany order.
Ask for samples if necessary.
We also have O. A. C. No. 72 Oats at 75c. in 10 bushel lots.

The Caledonia Milling Co.
Limited
Haldimand Co. CALEDONIA, ONT.



Rebuilt Portable and Traction Engines and Threshers

All sizes for sale cheap. Complete threshing outfit, traction engine with cab, separator, wind stacker, in good operative condition.....\$875

The Robt. Bell Engine & Thresher Company, Limited
SEAFORTH ONTARIO

RIDER AGENTS WANTED

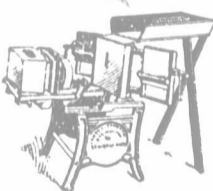
In every locality to ride and exhibit a 1916 Hyslop Bicycle with latest improvements.

10 DAYS' FREE TRIAL
Every Hyslop Bicycle is sold with the understanding that if owner is not satisfied after using bicycle 10 days it can be returned and money will be promptly refunded.

DO NOT BUY a Bicycle, Sun dries, Tires or Sporting Goods until you receive our latest literature and special money-saving proposition.

In all it will cost you **TWO CENTS** send us a postal, and we will mail **Free, postpaid**, a handsome **Art Folder** showing our complete line of bicycles in large size annual colors; also Catalogue of Bicycles, Tires and Sporting Goods. **Do not wait. Write to-day.**

HYSLOP BROTHERS Limited
Dept. "2" Toronto, Ontario



Build Silos, Dwellings, or any class of building from Concrete Block. The London Adjustable Concrete Block Machine makes every kind and size of Block. High grade. Moderate price. We manufacture a full line of Concrete Machinery. Send for Catalogue No. 3.

LONDON CONCRETE MACHINERY CO.
Dept. B, London, Ontario
World's Largest Manufacturers of Concrete Machinery

Corn That Will Grow

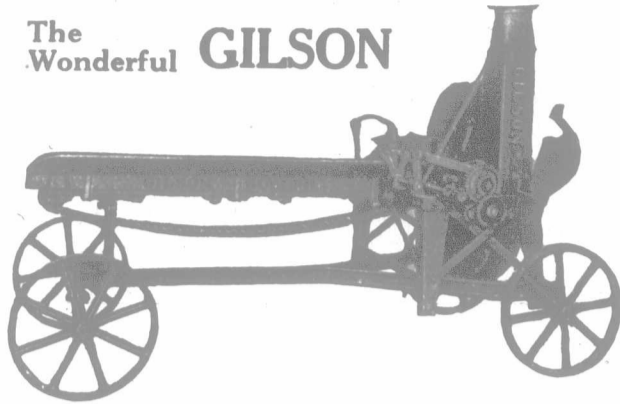
Canadian-grown seed corn. Your money back if not satisfied

J. O. DUKE, RUTHVEN, ONT.

CUT THIS OUT

Friends: Advocate. Pen Coupon, Value 4c. This coupon is valid with remittance of 10c. for a 10c. Pen Coupon. In the event of a change of address, the coupon will be valid for 30 days. The coupon is not valid for the purchase of a pen. The coupon is not valid for the purchase of a pen. The coupon is not valid for the purchase of a pen. Agents Wanted. Liberal Terms.

The Wonderful GILSON



"Everyone Said We Couldn't Do It."

Writes J. Geldner, of Berlin, Ont. He further adds: "We filled and re-filled a 12-ft. x 40-ft. silo in 16 1/2 hours with a 6 h.-p. Gilson and an N-13 Gilson Cutter. The outfit also made a record in cutting straw, at the rate of five loads an hour."

"Surprised the Whole Community"

Writes J. K. McLennan, of Dalkesh, Ont. "With our 0-10 Gilson Cutter and 4 h.-p. Gilson Engine we filled and re-filled three silos, sizes 14 ft. x 25 ft., 12 ft. x 28 ft. and 13 ft. x 28 ft., in six days."

YOU need one of these cutters. It will make you independent of the Cutter Gang. The two smaller sizes of Gilson Cutters are for light power—4 h.-p. to 12 h.-p. gasoline. They are farm machines, the same as your binder and your mower. With a Gilson you can silo your corn at just the right time—extending the work over several days if you wish, allowing the silage to settle. The best quality of ensilage is thus secured, without the expense of re-filling.

Gilson Pneumatic Ensilage Cutters

The Gilson is not a one-season machine—it is built for many years of hard service. It is made entirely of steel and iron, with the exception of the feed table. All five main bearings are a part of the one-piece semi-steel frame, thus insuring perfect alignment of the cutting mechanism for all time. The drive is direct, and the power is transmitted throughout by heavy gears—thus chain troubles are completely eliminated.

The patented safety reverse makes accidents practically impossible. The drum or casing is steel—not dangerous cast-iron. The wheel is indestructible—steel bound, with no breakable parts, such as spokes or bosses. It runs at slow speed—600 to 800 r.p.m.

Every Gilson Cutter has six fans in place of the usual four. This is one of the reasons why the Gilson elevates in a larger and more constant stream. Also why it elevates heavy green corn so high with so little power.

WRITE FOR FREE SILO FILLER BOOK. It tells the Gilson story from start to finish—points out the advantages of the design, and describes the all-metal construction in such a way that you will understand why our machines cut and elevate to **UNUSUAL HEIGHTS** at **SLOW SPEED** with **LIGHT POWER**. This is a matter of dollars and cents to you. Send for your copy of this book to-day—learn all about the "Wonderful Gilson" line of silo fillers.

GILSON MFG. CO., LTD.

119 York St., Guelph, Ont., Canada

GILSON MFG. CO. LTD.
119 York St., Guelph, Ont.

Gentlemen: Kindly send me free catalogues as checked.

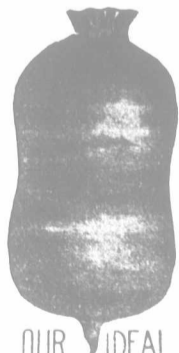
- Ensilage Cutter
- Silo
- Gasoline Engine

NAME

ADDRESS

DATE

Clip out the Coupon and mail to-day



MANGEL "OUR IDEAL"

Yellow Flesh LEADS THE WAY. BEATS EVERYTHING.

For Feeding. For Cropping. But be sure it is "OUR IDEAL."

Try one pound **CANADIAN GROWN** Seed 45c. P. Free.

Other Leaders

"Waterloo Giant White Sugar." The best Sugar Mangel 40c. per lb. Post Free.

"Waterloo Giant Yellow Intermediate." Our SPECIAL Selection 40c. per lb. Post Free.

SPECIAL OFFER

One pound each of above 3 Mangels for one dollar P. Free.

Half pound each of above 3 Mangels for 60c. Post Free.

A trial is all we ask.

Finest HOME GROWN and Imported Seeds. None Better. Few as good.

CATALOGUE POST FREE ON APPLICATION.

Special Collections (extra value) Vegetable and Flower Seeds. 12 packets 25c. 18 packets 50c. 32 packets \$1.00 all Post Free.

ONTARIO SEED CO. SUCCESSORS, DEPT. A, WATERLOO, ONTARIO

Rolls The Ground Better



No neck weight.—Perfectly rigid frame.—RUNS EASILY.—

The Bissell

T. E. Bissell Company Limited Elora Ontario, Can.

Land Roller will work your soil, no matter how stiff and lumpy, better than you've ever had it done before. Write Dept. W for catalog. 64

PATENTS TRADE MARKS and DESIGNS PROCURED IN ALL COUNTRIES

Special attention given to Patent Litigation.

Ridout & Maybee

CROWN LIFE BUILDING, TORONTO, ONT

The Canadian Ford Company has Spent Over a Million Dollars on New Equipment Since the Beginning of War

To increase the efficiency and the capacity of the Ford Canadian plant and its service stations—to produce even a better car at a lower cost of manufacture, thus to sell at a lower price, the Ford Canadian executives have put over a million dollars into new equipment since August, 1914.

That this expenditure has been made since war began indicates most emphatically the unquestionable belief of the Canadian Ford Company in the present and future prosperity of Canada and the triumph of the Empire. In fact the Ford Canadian executives are so firmly convinced of this that they are governing the entire policy of a great ten million dollar Canadian Company in accordance with this belief.

Since the beginning of war they have spent approximately a million and three-quarters in new buildings, twice reduced the price of the car by \$60 (\$120 in all) and reduced the price of spare parts \$147 per car—all in addition to this million dollars worth of new equipment.

But, in turn, it has been this new equipment that has been responsible in great part for these reductions in prices. Marvelous new labor saving machinery installed in the recently enlarged two-acre machine shop has effected big savings in cost of manufacture.

For instance three drill presses that formerly were used to turn out 600 parts a day, now have been supplanted by three punch presses that turn out 3000 parts a day, and there is absolutely no sacrifice in quality of work.

At a cost of \$40,000 three truly wonderful milling machines were installed that mill 48 Ford engine cylinders at once with perfect accuracy.

Perhaps the most wonderful of all are the new gear cutting machines that are a source of amazement to those acquainted with gear cutting methods in vogue several years ago. Then there were only two or three shops on the continent where gear cutting could be done at all and it was a slow and most exacting process. But in the Ford Canadian plant there are no less than 46 wonderful automatic gear cutting machines that turn out gears cut absolutely perfect in one-twentieth the time without the touch of human hands except for putting in the blank and taking out the finished gear. When the machine has finished the

work it notifies the operator by ringing a bell. One man can operate two or three of these machines, a fact which gives some indication of the great saving in labor that this new equipment has made possible and which also plays a very important part in reducing the manufacturing cost and the selling price of Ford cars.

Again, think of the great saving in labor, as well as time, effected by the remarkable Ford drilling machine that bores 45 holes in a cylinder casting in four directions at a single turn.

Do not assume from this, however, that the number of employees has been decreased. On the contrary, the Ford staff has been increased by 900 men since war began. Furthermore when the present Ford schedule of wages went into effect in April 1915, the wages of these employees were increased \$50,000 a month.

If it were not for the exceedingly substantial economies made possible by this new equipment, it can be readily understood that the price of the Ford car, built as it is today of the finest materials procurable, would be very much higher.

No firm that did not have the immense quantity production of the Canadian Ford plant could possibly afford to install such equipment as this and consequently could not sell a car as good as the Ford at anywhere near the Ford prices.

In addition to the equipment told of above new engines were installed in the power plant at Ford, Ontario—650 horse power gas engines specially designed by Ford Engineers.

Also the four new Ford Branch buildings at Montreal, Toronto, London and Winnipeg, each of them as large as many automobile factories, had to be furnished with machinery and appliances. Each one of these branches is so thoroughly equipped as to be able to build a Ford car complete. Each one forms a still further perfection in the already unrivalled Ford Service to Ford owners.

And the fact cannot be overlooked that a policy that dictated the expenditure of such a great sum of cold cash as this during the progress of the war must have been prompted by a very practical and sincere belief in Canada's prosperity—in her future and in her people.

Ford Motor Company of Canada, Limited Ford, Ontario

Ford Runabout	-----	\$480
Ford Touring	-----	530
Ford Coupelet	-----	730
Ford Sedan	-----	890
Ford Town Car	-----	780
f. o. b. Ford, Ontario		



All cars completely equipped, including electric headlights. Equipment does not include speedometer.



Alpha Gas Engine

This engine will pay for itself quickest

BECAUSE of its low fuel cost and exceptional freedom from expensive repairs, the Alpha will pay for itself on your farm in the shortest time. You will get greater and quicker returns for the money invested.

You may be able to buy an engine for less money than you can an Alpha, but that should not be your chief consideration in selecting an engine. You should always keep in mind the service you will get from the engine. No other engine will give you as much for as little money as the Alpha.

The Alpha is a simple engine with plenty of power, perfectly controlled by a most sensitive governor, that keeps it running steadily and smoothly under light, heavy or varying loads. The fuel consumption is accurately gauged to the load so that there is no waste.

This engine has no complicated, delicate parts to require constant attention—not even batteries. It starts and operates on a simple low speed magneto. You can use either kerosene or gasoline for fuel and the minimum amount of either will be required.

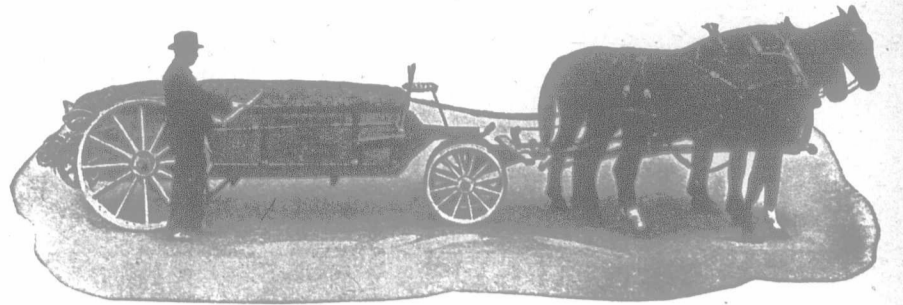
There is a great deal of work on your farm that can be done better and cheaper by using an engine. You can save enough to pay for the engine in a very short time. The quickest way to save the money that will pay for your engine is to buy an Alpha now, and put it to work.

Ask for a copy of the Alpha Engine catalogue. It contains a lot of valuable information about gas engines. Alpha Engines are made in eleven sizes—2 to 28 H. P.—each furnished in stationary, semi-portable, or portable style with hopper or tank cool cylinder.

DE LAVAL DAIRY SUPPLY CO., Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA.
Sole distributors in Canada of the famous De Laval Cream Separators.
Manufacturers of Ideal Green Feed Silos. Catalogues of any of our lines mailed upon request.

MONTREAL PETERBORO WINNIPEG VANCOUVER



A Real Spreader— Not Merely an Unloader.

The Massey-Harris No. 4 Low-Down Spreader spreads the load uniformly to a width of seven feet although the Bed measures only half that width. The Divided Upper Beater is the explanation.

Low-Down—Easy to Load.

The Low-Down Feature will be appreciated by the man who is using this Spreader.

Light Draft—Easy on the Horses.

The simple, direct drive—the small size of the Beaters—the taper shape of the Bed—the Broad-Faced Wheels—the careful fitting of all parts—these combine to secure light draft.

Descriptive Booklet tells all about its many other Points of Superiority.

Massey-Harris Co., Limited.

Head Offices—Toronto, Canada.

— Canadian Branches at —

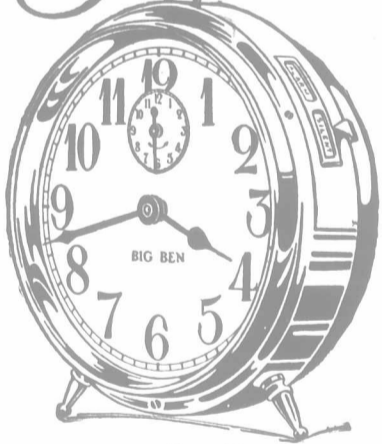
Montreal, Moncton, Winnipeg, Regina, Saskatoon, Swift Current, Yorkton, Calgary, Edmonton.

E. G. Prior & Co., Ltd., Victoria, Vancouver, Kamloops.

— Agencies Everywhere —



Big Ben



—took first

prize in the alarm clock class at the San Francisco fair.

Big Ben was shown every day of the fair, almost ten months. He was judged on appearance, performance, pedigree. He carried off the Medal of Honor, the highest award on alarm clocks.

Big Ben is shown by all good dealers. Ask to have him put through his paces. In the United States \$2.50. In Canada \$3.00.

Western Clock Co.

La Salle, Illinois Makers of Westclox



3 Grand Varieties--Good as Gold

Beans—Refuge Wax—Pods round, clear and transparent and of handsome appearance. Is tender, very productive, free from rust, and stands dry weather well. ¼ lb. 15c., 1 lb. 45c., 5 lbs. \$2.00. Postpaid.

Corn—Golden Bantam—An early, hardy, productive variety, of finest quality and delicious flavor. It is a rich, cream yellow, deepening to orange-yellow when ripe. ¼ lb. 10c., 1 lb. 30c., 5 lbs. \$1.40. Postpaid.

Peas—Bruce's Early Settler—A grand extra early wrinkled marrow variety. The pods are large, deep green, and filled with large peas, possessing the rich flavor and quality of the best late varieties. It attains a height of about 1½ feet and is very productive. ¼ lb. 15c., 1 lb. 40c., 5 lbs. \$1.75. Postpaid.

If sent by Express at purchaser's expense, deduct 10c. per pound. BRUCE'S Seeds are the cheapest, because they are the best.

FREE Our handsomely illustrated 128-page catalogue of Vegetable, Farm and Flower Seeds, Plants, Bulbs, Poultry Supplies, Garden Implements, etc., for 1916. Send for it.

John A. Bruce & Co., Ltd., Hamilton, Ontario
Established Sixty-six Years.

FREE LAND

FOR THE SETTLER IN

New Ontario

Millions of acres of virgin soil, obtainable, free at a nominal cost, are calling for cultivation. Thousands of farmers have responded to the call of this fertile country and are being made comfortable and rich. Here, right at the door of Old Ontario a home awaits you.

For full information as to terms, regulations and settlers' rates, write to

H. A. MACDONELL, Director of Colonization
Parliament Buildings, TORONTO, ONT.
HON. G. HOWARD FERGUSON, Minister
of Lands, Forests and Mines.



L.I.

LONDON, ONTARIO, MARCH 16, 1916.

1225

EDITORIAL.

Canada has no place for loafers in 1916.

A good dairy cow is worth three poor ones.

The "unemployment problem" has ceased to be a problem.

It is past the middle of March. Are you ready for spring?

If you have the trees, tap and make syrup and sugar as usual.

Too much stock, underfed, is just as disastrous as too little stock.

Misappropriation of public funds and party patronage must down.

All co-operation should be founded on a sound financial business basis.

Garden soils need rotation of crops and more careful manuring than those of the field.

Grow your trees according to ideas expressed in an article on the subject in this issue.

A properly laid tile drain does not go on strike. It keeps on working night and day, winter and summer.

A profusion of words and a dearth of ideas characterizes most of the city solutions of the problems of the farm.

Paving the way to Verdun with the dead bodies of his soldiery must eventually prove a costly practice for the Kaiser.

A Canadian now has as solid a place in the Empire as an Irishman, a Scotchman or an Englishman. The war has cemented the Empire.

Judged by the succession of political greed and graft disclosures, what Canada needs just now is a cleansing wave of righteousness in places high and low.

The man who fed carefully through the winter and has plenty of feed left for spring is in the best position. His stock will go on grass in a condition to go ahead and prove profitable.

Most farmers will have an extra horse or two on their hands this spring. Put them on the cultivator, disc, and drill, and lighten the load on the others, and increase the speed of operations.

The man who could take all farmers and farm hands off the land in 1916 and replace them with city boys, a few teachers, ministers and retired farmers and still increase production over that of 1915 must have some magic wand. He certainly has no idea of the requirements of the farm.

War time conditions are clarifying the minds of men on many subjects. Rt. Hon. A. Bonar Law, Secretary for the Colonies, in the British Government recently declared: "The war has shown us that agriculture is still the most important of all our industries." This is an elementary axiom that some Canadian statesmen have hardly yet grasped.

The People Are Awakening.

There are signs that the people of this country are awakening—are throwing off the party yoke and are ready to assert themselves in public and at the polls in favor of clean, straightforward honesty, in all forms of government. The people of Peel County, Ontario, a few days ago turned a majority of 627 for a man representing one party into a defeat of over 320 votes for that same man. Something over 600 voters in this one constituency deserted their party, and why? Simply because some questionable actions in connection with horse deals were brought about by the former member, and the people have had their fill of graft and corruption in past administrations! Things are happening also in British Columbia where big majorities for one party are being overthrown and turned into majorities for representatives of the other side, and we look for something of the same nature to happen in Saskatchewan, where a different party is in power. Not so very long ago the people of Manitoba spoke their mind. The question is: will any good come from changes all around? The political parties, in the past, have demonstrated that one is about as bad as the other when the need and chance for graft and patronage is most imminent. We do not hesitate to say that changes will do good, because these changes are being made possible by a change of mind of the electors and they should prove valuable by teaching public men a lesson, that the people of this country are ready to stand behind good, honest administration for the good of the country, but are just as ready to renounce party politics so soon as any party becomes itself corrupt or stands behind a member found to be working the graft or patronage game. One of the greatest statesmen in Canada, and at present a distinguished member of our Government, the Hon. George E. Foster, said recently on the floor of the House, that: "There never was a time in the history of Canada; there never was a time in the history of any administration, when the call came more clearly to those administering the affairs of the country to be careful in the matter of expenditure, to direct them properly, and to administer them with absolute honesty, to be strong enough and brave enough to refuse unnecessary demands."

Speaking of patronage, the same speaker who has been thirty-four years in the public life of Canada, and has been a close student of political parties and political history, stated: "I give it as my individual opinion, I have long felt it—and I feel it now—that in the whole course of my political life I cannot point to a single instance where political patronage ever helped the status of the bench, ever helped the status of the Civil Service, ever helped in the economy of their administration the status of public administrators, no matter what functions they performed, never helped the members of Parliament in reality, never helped the Government in reality; it almost always causes a dry rot and disintegration that break up government after government and party after party and I wish now in the white heat and light of this great contest and struggle and the self-sacrifice that we are called upon to make that we might speak from the heart out, and make an agreement in this country, between both parties, that hereafter patronage shall not be applied by political parties in the construction of our public work."

Going on, he said: "If there is any laxity in the public virtue of this country to-day, if there is any canker of public corruption, in ninety-nine cases out of one hundred you can trace it to the baleful effect of political party patronage."

We would advise that every sovereign voter reader of this paper conjure with the foregoing excerpts from one of the Hon. Geo. E. Foster's greatest speeches. He is an able statesman and at this time his words should be heeded. The people of the country seem

ready for just such a stand as he has advocated and if they continue to vote down all semblance of graft, corruption, and party patronage, none of it will be very long in evidence in our political life. It is a good sign when the people renounce partyism and go to the polls determined to defeat dishonesty.

Price-cutting is Not Good Business.

If co-operation is ever to do for the agriculture of Canada, and Ontario particularly, what it is capable of doing if properly managed it must be put on a business basis. The best way to ensure the loyal support of all those interested in agricultural co-operation, no matter what form it may take, is to show them that it pays to co-operate, that there is money in it, that it is in the best interests of the future of agriculture that the safety of the calling depends upon it. It is our purpose to publish a few editorials dealing with this subject—in the larger sense, and not in connection with any one co-operative concern now operating.

A study of business, as it is carried on by the large business firms and corporations, who have met with unqualified success in their operations, reveals this fact, fair prices must be charged for goods handled or sold, a fair profit must be made on all operations, and this profit is what ensures the stability of the business, provided it is carried on upon an honest, straightforward basis. We believe that the same will be found to hold true of agricultural co-operation. Where associations are formed for the handling of goods, or the distribution of them to the consumer, who in this case is the farmer, the experience of business men would indicate that the best policy to follow is not one of price-cutting but rather one of giving good service and first-class goods at a price at or near that which the dealer in these particular kinds of goods is selling them. This done, the same profits that would accrue to the dealer in ordinary business will come to the association, and at the end of the year, when the financial returns are made, it will be found that the man who has done business through the association has certain profits to his credit in the association which may be returned to him in whole or in part, according as the conditions of the business warrant. This means that if thought advisable by the directors a certain proportion of these profits may go into the business to increase its volume, while the remainder will go to the man who bought the goods. We are inclined to think that this is the only safe basis upon which to operate if the associations are to grow and flourish, and eventually do the millions of dollars worth of business annually, which will become available to them in this country.

It has been stated that the only way to get farmers to join co-operative associations is to show them some immediate return in the form of lower prices for the goods they have to purchase or in higher returns for some of the farm products they produce for sale. We shall leave the latter for a future article and refer only to the goods purchased through such an association. In starting a co-operative association the aim should not be to get as many members as possible in the beginning, but to pay particular attention to the kind of members taken in. If the sole desire of the man joining the association is to buy tea or sugar at a cent or five cents a pound or a hundredweight cheaper than his local dealer can sell it, he is not the most desirable co-operator. Members of co-operative associations should look ahead and plan something for the future—should consider the possibilities of their organization and the good it will do agriculture as a whole. If Canada's agriculture benefits by the work of any such association, the members of that association will derive satisfactory financial returns from their efforts. We would rather favor the men, who, looking at the agriculture of the country, see its needs and have a clear vision of what

The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE
DOMINION.

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agricultural co-operation, if put on the proper business basis, may accomplish in this country—men of business foresight who are not so much interested in saving a few cents, or a few dollars, on small purchases through the association the first year, but who see an opportunity of investing legitimate profits, made on business done on the same basis as business firms operating in the same lines do it, in the association for the future strength of that association and benefit of its members or shareholders. In short, business firms have found price-cutting to be disastrous in more ways than one, and have found that shareholders and all those connected with the business are better satisfied and better repaid for their efforts by charging prices which ensure a fair profit on goods handled or business done. The farmer is just as much human as the man in other business, and, if at the end of the year he is shown that the business done has returned a profit in dollars and cents, and he gets all or a part of his share at that time, he will surely be more satisfied with his co-operative concern than where he saves a few cents a week over the fifty-two weeks of the year. Besides, profits which accrue from a large business done on such a basis make it possible to put a certain percentage of the earnings into the business, and thus increase its scope. Doing business on such a basis ensures the safety of the enterprise. It never totters because of the lack of funds to successfully carry it on. There is always some margin on which to come and go.

There is another point. Price-cutting is sure to antagonize the local dealer, which is not good policy. Where prices are kept up to a fair level he can have no complaint, for the association is simply another firm doing business and bidding for business on the same basis as he is doing himself, only that it is giving the members of that association the opportunity of sharing, in proportion to business done through the association, the profits earned by the enterprise. As time goes on and the association grows, the local dealer may find it difficult to keep his business running, and then the association may make good use of his experience by engaging him to manage the local branch of their business, which is considered by many a good move to make. Of course, this would not come until the association had grown to be a large factor in the business of the section in which it is located. As time goes on and

with a part of the profits made by the association invested in the business, there is nothing to hinder co-operative farmers' associations in Ontario from doing millions of dollars' worth of business each year, from owning their own retail and wholesale distributing houses, and from doing business on the largest possible scale.

We have gone far enough in this article to indicate the line of thought we intend to follow up in other articles, which, among other things, will further contrast policies of cutting prices at the start and dividing profits at the end of the year, which will lay even more stress upon the importance of getting men of ability, vision, and common sense at the head of affairs, which will emphasize the futility of individualism in Canadian agriculture, and which on the whole we hope will show clearly that co-operation, like any other business, cannot succeed as it should unless operated on a sound, business basis.

Out for Farm Help.

We are pleased to note that the Provincial Government is turning some attention toward the supply of farm labor for the coming summer. THE FARMER'S ADVOCATE, more than a year ago, made the suggestion that offices be opened in conjunction with some of the District Representatives who were situated in large towns or cities in the Province, and these offices utilized to encourage some of the men then out of work in the city to try farm work for a time. A plan, which was a modification of this suggestion, was adopted by the Government, and an immigration representative was sent to several towns and cities, and, according to his own words, met with success and many men were given profitable employment, and many farmers secured the necessary help. But the city supply is not this year available. All the men out of work, who would be very much good to a farmer and who could pass the medical examination, have signed up for overseas service, and the farm labor problem has reached the acute stage. Men on the farms of Ontario, at the present time, including owners and tenants, average about one to every 100 acres of workable land. It is plain that if production is to be kept up anywhere near last year's high-water mark help must be forthcoming from somewhere. Working on the assumption that because men were available in Ontario towns and cities last year for farm work, the same immigration officers have opened offices in the bordering cities in the United States and are endeavoring to induce men out of employment in these cities to come to Canada to do farm work this summer. The success to crown their efforts remains to be seen. Some have made the bold statement that no labor is available in the United States, which could be induced to come to Canada to work on farms. We do not feel disposed to make such a strong assertion, but we do not believe that the policy can supply anywhere near the required number of men for farm work during the season of 1916, and the officers in charge should be careful not to bring in undesirable and incompetent men who would be a burden, rather than a help to the perplexed farmer. No policy which will add even a few good men to the numbers available for farm work should be condemned or too severely criticized.

It must cause some of the practical men who have pitched timothy hay, filled barnyard manure, mowed away sheaves dumped in piles by the slings, in fact any who have ploughed, sowed, harrowed, reaped, and mowed to smile when they read some of the statements, ridiculous in the extreme, made by some of our modern educationists in regard to the proposed scheme of placing 15,000 High School boys and Collegiate Institute pupils on the farms for the vacation. One prominent Toronto educationist, in a letter to the press, recently asserted that production in Canada could be increased if the proper organization were brought into being, even though every man between 18 and 40 now on the farms of this country enlisted and went to the front. He would call out all the retired farmers, together with teachers and ministers, who have been brought up on the farm, and would take all the boys from the schools to the farm and would teach the young women on the farms to drive teams and do much of the farm work. It is not hard to find someone, who is not a farmer, and who knows little of farming to solve all the problems which agriculture must face, but there are few who would go so far as to hint at increasing production by replacing all the competent men now on the farms with old men, teachers, ministers, schoolboys, and the few girls available. True, there is farm machinery which

can be depended upon to help the farmer over many difficult places, but, even so, stalwart men are needed for a great many of the heavy jobs on the farm which include work altogether too heavy for the farmer's own sons of school age and much more so for the boys, city bred and raised, unaccustomed to labor of any kind. We fear that some of these lads would find difficulty in ploughing, pitching, handling farm machinery, even in milking cows and doing some chores, and by the time the farmer had gotten them accustomed to all classes of farm work, or in fact to a few jobs which they could do well enough to be of very much value to him they would have to pack their grips and start back to school.

We may frankly state that we do not yet see that anyone has solved the labor problem. All these may help some. A few men may be brought in from the United States. A few of the city school boys who go out to the farm may show ambition and capacity to do farm work. Undoubtedly all retired farmers who can will help in some way with the crops this year, and a few teachers, and a very few preachers may do a little toward garnering in the harvest of 1916, but it is absolutely essential that at least one, able-bodied, practical, experienced farmer remain on every 100 acres in this country if production is to be maintained and if agriculture is to take its place in our national efficiency, which means more now and will mean still more to this country during the period of readjustment at the conclusion of the war than it has ever meant. Every industry in Canada must be worked to its fullest capacity, that business may go on and the country be in the best possible state to stand the strenuous time coming at the end of the war. No, the labor problem is not solved. We are pleased, however, to note that it is being considered and that some movements have been made in an endeavor to supply some help to farmers. And farmers, provided they can get satisfactory help, must be prepared to pay a little higher wages. We conclude with the following lines from a speech by the Hon. George E. Foster, made on the floor of the House a short time ago. "I take it that our great and supreme struggle—that which will try us most and tax our best powers—is yet ahead of us, has yet to come to the front, will come into action the day our soldiers are called off from war and the tremendous work of readjustment commences in our Empire, in this country, with our Allies and with the world."

These words are worthy of some thought and those who understand agriculture and agricultural conditions, as well as those who do not, should weigh carefully what the basic industry of this country means now to its welfare and what it shall mean in the days of reconstruction to come.

Growing Better Plants.

A popular account has recently been published of the life and work of Luther Burbank, of California, the famous plant improver. Being prepared by the Secretary of the Burbank Society, Dr. H. S. Williams, the record may be taken as authentic and naturally puts in the best light the multitudinous achievements of the Santa Rosa experimenter. Accepting these at their face estimate, one could not, however, fail to be impressed with the thought that while by artificial cross fertilization, budding and grafting many fruits, flowers and vegetables of surprising charm, novelty and value have been produced, Nature herself is no mean wizard in these achievements. Many plant varieties in field and garden, of outstanding merit, measured by utility, are the result of natural creative potency directed and energized beyond our ken, coupled with wise selection and nurture on the part of the grower. In the realm of flowers, for example, there have been marvellous achievements with dahlias, gladioli, the poppy, the daisy, etc., but for exquisite perfection of form and tinting the lady slipper orchid growing wild in some Canadian swamps will vie with almost any of them.

A GIFT OF NATURE.

When a boy on a Massachusetts farm, Burbank picked a seed ball from a mature Early Rose potato plant. He saved the 23 seeds, and next season from each he grew a hill of tubers. Two hills produced big clusters of exceptionally large and smooth potatoes of excellent quality, which he sold to a gardener, who named it the Burbank potato. The prize of \$150 which the originator secured for it enabled him to migrate to California, where he began his career as a nurseryman, and later on as a full-fledged plant specialist in improving old varieties, and more particularly in the creation of new ones. Up to 1906 the Department of Agriculture estimated that \$17,000,000 worth of these potatoes had been grown in the United States. This popular tuber was a natural creation, and the alert Mr. Burbank discovered it. Forty years of subsequent effort in hybridizing failed to produce a variety superior to the one presented by nature. Mr. Burbank had succeeded in grafting the stem of the tomato plant on the roots of the potato and contrariwise, but the potatoes

grown on vines were curiously distorted in shape, and some of them rough and scaly, nor were the tomato roots equal to the task of forming satisfactory tubers. The results were novel, but of no permanent value.

In Canada, probably the best known of Mr. Burbank's creations is the plum bearing his name, which has been widely grown. It was one of some 60 sorts introduced by crossing Asiatic with American and European plums. The initial strain was a specimen which Mr. Burbank secured from Japan, called the "Blood Plum of Satsuma." The Burbank plum, as known in Eastern America, although showy and prolific, is inferior in quality to many others and does not rank high with good growers, but the type is probably better adapted to the Californian region. The plumcot or stoneless plum produced by hybridizing the plum and the apricot on the basis of a little, acrid stoneless wild plum from France is regarded as a most remarkable fruit of good size and quality, though sometimes yet containing a fragment of shell or a seed. A decidedly freakish hybrid was that resulting from crossing the petunia and the tobacco plant, but lacking vitality through being unable to form a good root system. Mr. Burbank's "sunberry," resembling the blueberry in flavor and prized by some for pie making, is a hybrid between two forms, neither edible, of the ill-reputed nightshade family produced after 25 years of effort. Under the changed name of "Wonderberry," it has been exploited by seedsmen, but is hardly a valuable acquisition to our garden fruits.

FODDER AND FRUIT COMBINED.

The spineless cactus, highly valued as a forage plant for semi-arid regions and for the edible fruit formed upon perfected varieties, is regarded as one of his most remarkable achievements, the best of them on good soil yielding more than one hundred tons to the acre. Winter Rhubarb developed from a diminutive New Zealand variety is reckoned as another crowning achievement, being practically a perpetual or all-season bearer. Space will not permit to enlarge upon the work at Santa Rosa and Sebastopol with nut-bearing trees like the walnut of remarkably rapid growing habit stimulated by cross fertilization.

In the production of the thornless blackberry, the thornless cactus, the "white blackberry," and in fact in a large proportion of cases almost baffling difficulties are encountered because of the tendency to revert to undesirable characteristics in hybrids which must be eliminated and the desired traits fixed. For such tasks almost infinite patience and skill are required.

THE WORK OF SELECTION.

To mention just one of other cases, Marquis Wheat stands to the credit of the expert Canadian cerealist as a result of cross fertilization, but in the category of what may be styled natural productions we have Dawson's Golden Chaff Wheat, the Banner Oat, O. A. C. No. 21 barley and O. A. C. No. 72 oat, all the outcome of selections of outstanding individual merit. In fact, in all the work of Mr. Burbank, selection continues at every stage among the thousands of seedlings under his eye. "The beginning is selection and the end is selection," he declares, and the possibility of developing new races of many types from a single stock through selection alone has been demonstrated by him thousands of times over. What Charles Darwin defined as "spontaneous" variations and what Prof. Hugo de Vries, the noted botanist of Holland called "mutants" Mr. Burbank attributes to hybridization in nature, through the agency of insects, the wind or birds, the resultant plant being in individual cases a marked improvement upon the parent forms, and which by rigid selection becomes a new race with desirable characteristics transmittable. The reputed rule of Mr. Burbank never to put before the public a new variety unless he believes it to be "superior to any other variety in at least one respect and equal to them in all others," is a safe one for all experimenters to follow. It is well also to remember the caution of Prof. L. H. Bailey in an old bulletin on a much lauded new variety of imported plums: "We can depend upon it that they will develop a weak point somewhere."

The popular magazine writer is fond of describing Mr. Burbank as a "plant wizard," but he does not do so himself, nor does Dr. Williams, the author. He has made himself a master of the habits of plant life and growth by indefatigable study, unending work, and a highly developed sense of discrimination between the poor and the promising. He is in short, a scientific duplicator of the methods of nature. In these busy and strenuous times the special methods of the expert plant improver cannot be pursued on the average farm, nor in the garden, but the measure of any one's success this season in growing crops will be in proportion as seed is wisely selected and grown in accordance with the laws laid down in nature.

Nature's Diary.

A. B. KLUGH, M. A.

A track which is to be met with in every part of the country is that of the Fox. Fig. 1 shows the trail left by this animal when trotting along, and this "straight-line" trail made by the placing of the feet under the centre of the body is quite characteristic of this species. The trail of a medium sized dog is hard to differentiate from that of a Fox, but I have never seen any dog-trails which attained the perfect alignment of those of the Fox. The track of the Fox when leaping along is shown in Fig. 2. A Fox trail is an interesting one to follow up, for by doing so we can read many interesting little stories

in the snow. In Fig. 3 we have a sketch of an episode of which I have found the record. The interpretation is as follows. A Fox has come trotting along from the left (direction shown in sketch by arrow) and has come across the hole which a Ruffed Grouse has made by flying down and boring under the snow to spend the night. The point of entrance is shown by the round hole marked E. The Fox has sprung on the top of the burrow as we can see from the heavy marks of its hind feet at the point from which it sprang and from the heavy tracks and broken-in burrow at the point at which it alighted. But the Fox has missed the Grouse, which has been a little farther on than it calculated. We see where the Grouse has burst up through the snow and the marks of its wings as it took flight. The Fox has made one bound in pursuit and has then gone off to the right at a trot. This story has a happy ending for the Grouse; but not a satisfactory one from the Fox's point of view. In other cases I have read episodes of the same nature which had not a happy termination for the grouse as shown by the splashes of blood and scattered feathers in the broken-in burrow. Again I have seen cases in which the Fox missed the Grouse at the first bound but caught it just as it broke out of the snow. We can tell the state of a Fox's appetite from its tracks. Only a lean and hungry Fox leaves the perfectly straight trail shown in Fig. 1, a Fox with a full meal inside does not bring its



Fig. 1—Track of Fox trotting.



Fig. 2—Track of Fox leaping.



Fig. 3—The story of the Fox and the Grouse.

legs directly under the centre of the body and therefore leaves tracks to right and left of the mid-line.

A trail which is frequently seen, particularly along streams and along the margins of bodies of water, is that of the Mink, shown in Fig. 4. It will be noticed that the tracks of both the front and hind are paired, and that those of the hind feet are in front. The tracks of the Weasels are exactly like those of the Mink, but are smaller. Another way in which the trail of one of the Weasels can be distinguished from that of the Mink is that a Weasel trail winds and twists a great deal more,



Fig. 4—Tracks of Mink.



Fig. 5—Trail of Otter.

due to the fact that a Weasel investigates every nook and crevice, while a Mink often travels straight ahead for considerable distances.

In the wilder parts of the country we may come across the peculiar trail shown in Fig. 5—that of the Otter. This trail is made by the animal bounding along for some distance then taking a slide on the snow. These slides are of varying length, and I have seen places where they were made down-hill in which they were some thirty feet in length.

THE HORSE.

Lameness in Horses—XIII.

CAPPED HOCK—CURB.

Capped hock is a term applied to a fluctuating swelling on the point of the hock. There are two forms—1, synovial capped hock; 2, serous capped hock. The first, as the name implies, consists in distension of a synovial bursa. It appears as a tense, fluctuating swelling, situated on each side of the point of the hock. The bursa, being anterior to the tendon that passes over the point of the hock, cannot bulge in the centre on account of said tendon. This form is caused by disease of the bursa, or violent strain. It usually causes lameness, is tender to pressure, is quite easily noticed; hence easy to diagnose. The second form is merely a serous abscess on the point of the hock, is caused by a bruise, usually by the horse kicking in the stall, on train board, etc., and the point of the hock coming in contact with the

stall post, partition, etc. It is seldom that lameness is present, the usefulness of the animal is not often interfered with, but the presence of the tumor is unsightly, and reduces the animal's value.

Treatment.—The first form is very hard to treat. The patient must be given rest. It is good practice to give a purgative and low diet. The affected part should be bathed with hot water several times daily, and, after bathing, rubbed with anodyne liniment for a few days to allay the inflammation, after which repeated blisters will have a tendency to cause contraction of the bursa and a lessening of the tumor. Another method of treatment is to lance the sac to allow escape of the synovia, and then apply a bandage, or compress, and flush out the cavity twice daily with an antiseptic, as a three or four per cent. solution of carbolic acid in water. There is danger of this treatment causing violent inflammation of the parts, unless skilfully attended to after the operation; hence, unless the case be in experienced hands it is better not to operate.

The second form should be treated as an ordinary abscess. If only a small quantity of serum be present, its absorption may be caused by a blister, or the daily application of an absorbent, as a liniment composed of 4 drams each of iodine and iodide of potassium and 4 ozs. each of alcohol and glycerine; but if considerable fluid be present, the sac should be lanced and the cavity flushed out two or three times daily, until healed, with an antiseptic. Of course, the cause must be removed.

CURB.

A curb is an enlargement on the lower portion of the posterior border of the hock. It consists in a sprain of a ligament, called the calcaneocuboid ligament, which passes from the point of the hock to the cuboid bone, at the lower part of the joint. Hyper development of the cuboid bone gives the hock an appearance simulating curb, especially when it is looked at in an angular direction, but a close examination will readily detect the difference. Weak, sickle-shaped hocks are predisposed to curb, but the accident may occur to any horse. It is caused by excessive strain being placed upon the ligament, as when the hind legs slip forward well under the body. In horses that are predisposed, it is easily caused by slipping, jumping, rearing, etc., etc., and, while any horse may suffer, it is seldom that we notice a curb on a well-formed, strong hock, with a straight posterior border. Curb usually causes lameness in the early stages. It is not hard to diagnose. The horse will go more or less lame, and will usually rest the leg when standing. An examination will reveal a swelling on the lower and posterior portion of the hock, there will be abnormal heat in the part, and upon pressure the patient will evince pain. On exercise, he is inclined to go as much as possible upon the toe.

Treatment.—The lameness from curb will usually readily yield to treatment, but the reduction of the enlargement is, in most cases, a very slow process. The patient should be given rest and the usual constitutional treatment, consisting in the administration of a purgative, followed by low diet. A shoe with the heel about an inch higher than the toe should be put on the foot of the lame leg. This keeps the heel elevated, and throws the diseased ligament in a state of partial repose. During the inflammatory stage, the long and frequent application of hot water, followed each time by the application of an anodyne liniment, as one composed of 2 ozs. tincture of opium, 2 ozs. chloroform, 1 oz. acetate of lead, 2 ozs. alcohol, and water to make a pint, will, in a few days allay the inflammation and remove lameness. While the lameness can, in most cases, be cured by this treatment, and the usefulness of the animal restored, there will be quite a visible enlargement remaining. The enlargement is hard to reduce, and if the patient be an animal of ordinary value, and required only for ordinary work, it is often deemed advisable to put him to work, and allow the enlargement to remain; but, if he be a high-class animal, or if from any reason the owner is anxious to restore the parts to the normal condition, he must allow continued rest, keep shod with a high-heeled shoe, and either blister the parts repeatedly, or use the absorbent liniment, already mentioned in treatment for capped hock. The ordinary blister composed of 2 drams each of biniodide of mercury and cantharides mixed with 2 ozs. of vaseline, applied in the ordinary manner gives good results, but many prefer the daily application of the absorbent. If it be necessary to work the patient, and in the meantime endeavor to reduce the enlargement, it can be done. He should be shod with the hind shoes slightly higher at the heels than at the toes, (both feet should be shod the same), but the difference should not be more than 1/2 inch, as, if too great, there will be a danger of causing injury to other parts of the limb by placing the foot in an unnatural position. In such cases the absorbent

liniment mentioned should be used, and a little should be rubbed in with smart friction once daily. As such enlargements are hard to reduce, a great amount of patience must be exercised, as quick results are seldom noticed. WHIP.

Only the Heavy Colts Pay.

EDITOR "THE FARMER'S ADVOCATE":

A number of years ago we tried our first venture in horse raising and since then, although it has been on a limited scale our experience has been varied enough to be able to come to some conclusions.

Six years ago we purchased our first mare, a cayuse weighing perhaps eight hundred or thereabouts. She presented us with a "catch colt" for she had been free on the mountains. At that time any old thing that would pull a little was worth about \$90 and if they should have 1,100 pounds to their credit they would bring unbroken, \$125. It looked like easy profits to have a few of these mares out on the range so we tried it. The first time we had a chance of a sale we couldn't get a "round up" and so lost out. Hay was selling at \$28 and to bring in a bunch of likely ones would soon run away with the profits. So we had to change our methods.

We got two mares in; one of them weighed about 1000 lbs. and the other weighed about 850 lbs. There were two sires in the district, one a Thoroughbred and the other a pure-bred Hackney. We finally decided to use the Thoroughbred and to-day we have two fine four-year-old fillies, one from the smaller mare and the other from the heavier mare. They were stabled the first winter and sent free on the range for the summer. "Round up" came in the fall and they were left with a rancher to feed for their second winter. Their third winter they were allowed to stay free on the range. To-day they stand us somewhat over \$135 each in actual outlay of cash and would only bring us \$65 if there were a market at all. Why? Because they are not heavy enough for anything but saddle.

Our defective reasoning is to blame. We thought that if the mares were small that to breed up to a heavy horse would give us a disproportioned, ungainly animal, the difference in size would be likely to result in a clash that would never sell but if we used a splendid traveller and a good, stylish horse of a weight not much greater than the mares we would get good form and a respectable looking beast. We were right there, we have a splendid team, pretty as pictures, active as cats, gentle and yet intelligent, but they have not weight enough to haul a cultivator. Both fillies are practically the same size.

The following year we bred these two mares on a different plan. We used the pure-bred Hackney and a grade Percheron. The smaller mare we used with a well-bred (not pure-bred) Percheron and the heavier with the Hackney. Today the filly from the small mare and the Percheron is three years of age and is as big as the Thoroughbred's colt, shows splendid conformation and will fill out to be considerably bigger yet. The Hackney's colt died from joint ill, but a neighbor who had a mare very similar to ours bred to the Hackney and he cannot place his mare for another year as she is too light in weight and yet has made splendid growth. His colt will have cost him over \$150 and yet he will find it very hard to sell her unless he keeps her another year, and he would be very glad to take \$150 for her now.

All through here there are colts coming on this year from these small mares and Percheron sires. The first pure-bred Percheron came in four years ago and was on one section of this district for the latter part of the season. Colts from this mating are showing up well in size and conformation, while the stock from the Hackney which is here with four years to his credit are not, in most cases heavy enough and he is not a small sire by any means. The misfits from the Hackney are not worth half the cost of raising and the same applies to the stock from the Thoroughbred while the misfits from the Percheron have enough weight alone, to make them at least pay the outlay that we have made on them.

It begins to look as if unless you have mares of the same breed as the sire you are going to use or at least very much like him you are far better off to have nothing to do with a light horse as a sire. If the mare is small, use a Percheron; other heavy horses give fair results but not as good on small mares as the Percheron. If you want to play a safe game that looks like the only method with small stock. The light breeds seem to need four years to get them on the market, while three will do for the Percheron and it costs a lot to keep them over that extra year.

B. C.

WALTER M. WRIGHT.

Horses Doing Well on Silage.

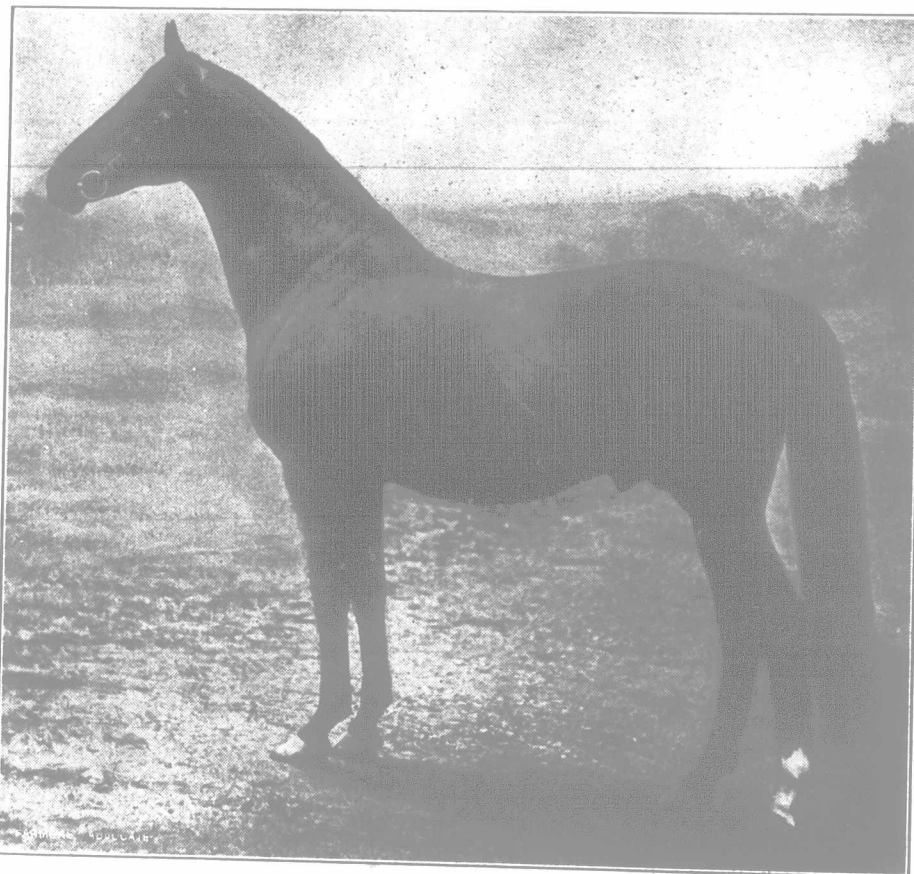
Many growers of silage corn have had some qualms with regard to feeding silage to horses. "The Farmer's Advocate" has, time and again, cautioned its readers against feeding too much silage, or feeding silage which has become mouldy or is in any way below par to the horse stock even in the idle days of winter. The other day, while visiting the farm of W. C. Good, Brant County Ontario, we remarked that his horses were in particularly good condition and enquired as to what he fed. Mr. Good, was short of hay last fall and his horses have been getting a good-sized scoop-shovel full of sweet, well-kept silage twice a day as the main part of their roughage ration. They also get straw, and a small feed of crushed oats is given three times a day. Mr. Good has had no trouble with feeding silage to his horse stock but advises care and would not, under any consideration, feed mouldy or spoiled silage

and always starts the horses on small feeds at first gradually increasing up to the scoop-shovel-full at each meal. Judging from the appearance of these horses the careful feeder could very often use silage to good advantage in winter feeding, but there is a great difference in feeders and we would not advise the man who is careless about his feeding operations and cares little about the appearance of his horse stock to try silage. There are large numbers of good feeders, however, who, provided they have the right kind of silage, could make good use of it supplementing other feeds for their horses during the winter.

LIVE STOCK.

No Money in Being Over-stocked.

The man of experience knows, full well, that it never proves profitable to attempt to carry more stock than the farm is capable of carrying any more than it does to operate a farm on a mixed-farming basis without sufficient live stock to maintain the fertility of the farm and return profits on the largest amount of finished products the farm can turn out. The man who keeps too much stock is a detriment to the live-stock business, because the animals composing his herds and flocks are always in low condition, are not properly looked after, and are a poor advertisement for his business. It is very often the case that the over-stocked farm carries a large proportion of its stock in inferior scrub animals which should never be kept. The highest price for any of the stock prepared for sale cannot be obtained because the time, feed, and neces-



Amphillion.

A typical Thoroughbred sire.

sary care is not given to them to make them the top-notchers of the particular class they represent, and experience has taught that it is the high-quality stock which returns such profits in every case. There is always a market at a fair to good price for the best the farmer can produce. There is often no market, and there is invariably a comparatively low price, for mediocre and cull stock. We were in a stable a few days ago where every cattle beast was clean, fat, and sleek, and where everything seemed to be looked after to the best advantage of the stock and their owner. The farm was not overstocked, there being something over 30 head on the 120 acres. Plenty of room, plenty of feed and sufficient time were available to take the right kind of care of the stock, which was grade throughout but would compare very favorably with most pure-bred herds. All the calves and young cattle were polled, not congenitally, but had been rendered so by the use of caustic potash on the scurs before the calves were three weeks of age. It has been found that this practice has rendered the cattle much more docile, and that they feed together in loose boxes to much better advantage than where horned cattle are so fed. Stopping the horns does not injure the calf in any way, and when a large number of reds and roans are seen together, as was the case on this particular occasion, one is bound to agree that their appearance is not injured, and that for sake of the utility advantage the horn should go on all grade stock. Many farms are under-stocked, but there are a few carrying too many, and where this is the case greater success will crown the efforts of the stockman if the size of the herds is cut down and more care given to the very best animals kept. There are few herds indeed in which a little judicious culling would not work to the material advantage of the owner.

Silage and Alfalfa in the Feed Lot.

Silage has been almost universally misunderstood. It was, at first, fed only to cattle, and then very cautiously. Horses were then tried; some it killed, and others seemed to thrive on it, but the untoward results came largely from musty and sour silage. It was advised as not suitable for sheep at first, while now, by the best shepherds, it is fed liberally. Only recently a farmer incidentally remarked in the writer's hearing that he fed it to his chickens as green feed, and was getting eggs. It has become a staple form of roughage and succulent feed where the silo is a part of the farm equipment. Farmers, the agricultural press, and experiment stations enlarge each year upon its possibilities, but we have not yet learned to the full extent the many uses of corn silage in the feed lot. This article is not being penned to lament the lost opportunities of the past, but to offer a few suggestions that may influence stock farmers in determining their crop rotations in the future.

There is a study in economics about growing feeds and marketing them through live stock. It is a poor practice to have such a heavy stock and so much work connected with it that the farm crops are neglected. On the other hand we must have horses, cattle, sheep or swine to consume the farm product, transmute it into money or its equivalent, and, at the same time, leave the greater part of the fertility on the farm that was taken from the soil by the crops. The system of stock farming that will permit of maximum production and fair returns for each bushel of grain or ton of hay seems, at this time, to be most in keeping with practical and profitable farming. We must have the production before hay and grain can be converted into beef, milk or pork in such quantities that the old farm can lift the mortgage or make appreciable increases to the bank account. The summer months are intended by nature for the growth and production of feed for animal life. He is a wise farmer who garners much and feeds it to the growing or fattening stock, or the milking cow in winter. This paragraph is not a digression from the subject on hand. What kind of crop will yield more feed per acre than will corn? There are few crops indeed that can be grown under ordinary Ontario farm conditions that will outyield corn in feed constituents per acre. Another question may be asked: are Ontario farmers growing as much corn as they should?

Corn for the carbohydrates, and alfalfa or clover for the proteins, are the farmer's standby. From the viewpoint of yield per acre there are few crops of their respective kinds that will surpass them. Fortunately, too, they combine into an excellent ration. A successful dairyman, who, as an institute speaker, was listened to by thousands of farmers over this country, declared that he produced milk most cheaply from a ration of alfalfa hay and silage. The addition of concentrates would increase the flow of milk, but they would, at the same time, increase the cost of the milk. Developing the argument for silage still further, it has been demonstrated that in the absence of hay and other roughage corn silage will supply the needs of the animal for roughage, and, at the same time, provide sufficient quantities of carbohydrates to produce gains. Over a year ago when cottonseed meal could be purchased very reasonably, a steer feeder in Western Ontario departed from the orthodox custom of feeding hay, straw, silage and chop to his bullocks, and put them on a ration of silage and cottonseed meal. Those bullocks when finished constituted one of the best loads of cattle that went out of his district that season. Last fall in Waterloo county, Ontario, a feeder finished 86 steers on a ration of silage, and chop consisting of 1/2 oats and 1/2 rye. No hay or straw was given, except some straw as litter. The steers were allowed practically all the silage they would consume, their manure was quite firm, and they apparently suffered little from the lack of dry roughage. At the Pennsylvania State College 6 lots of steers were fed on different rations, two of the objects being to secure more information concerning the value of corn silage as a roughage for fattening cattle, and to determine the value of alfalfa, as a source of protein, in a ration for fattening cattle. The conclusion published in a bulletin on the matter reads thus: "Corn silage at \$3.50 per ton is

Feed Lot.

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slightly more economical when used as the sole roughage for steers than a combination of mixed hay and silage in which the silage is limited to 20 lbs. per head daily when hay costing \$12 per ton is used freely." We would not advise the practice of feeding silage exclusively as a roughage, for on the ordinary farm there is usually a quantity of coarse fodder that should be used in this way. However, the evidence is in favor of a more liberal use of silage in feeding cattle. If the production of more corn is in keeping with the plan of work for the summer, it should certainly be produced on a great majority of the farms. It can be fed more liberally than was formerly supposed to be wise and profitable. Corn silage and alfalfa or clover hay are excellent in the feed lot.

British Live-stock Conditions Flourishing.

EDITOR "THE FARMER'S ADVOCATE":

Some sensational biddings were obtained at the Perth Shorthorn sales, held by Macdonald, Fraser & Co., in mid-February. Exactly 413 bulls were sold for £38,630, and they averaged £86 3s. 6d. apiece, against the 1915 general average of £58. Top price was paid for J. J. Mowbray's Velox of Naemoor, i. e., 1,550 guineas. Velox is sired by Edgocote Masterpiece, and is out of Newton Jealousy. George Campbell, Bielside, was the buyer, but the bull, quite a youngster, is to go to the Argentine. Campbell also paid 1,550 guineas for Duncan Stewart's (Mill-hill) King Cruickshanks, by Cupbearer of Collynie, out of a dam by Collynie Cruickshank. Both are thick, level bulls of quality with rare character. Lord Lovat paid 780 guineas for Cluny Augustus; Casares, for the Argentine, gave 700 guineas for Lord Moray's Doune Baron; Stewart's Scottie made 640 guineas to Sir Richard Cooper, and so the brisk bidding went on. Well as the Angus cattle sold at Perth, the week before this sale, their prices have been wiped into oblivion by these figures. The Angus averaged £42 1s. 10d. each. Highest price was 440 guineas given by J. E. Kerr for Jason of Ballindalloch.

John Evens, at Burton, near Lincoln, has a herd of Lincoln Red Shorthorns which milk very well. Forty-eight cows yielded 34,104 gallons of milk in the year, or an average per cow of 794 gallons. Foxglove, which was in milk for 553 days, yielded 16,167 lbs. of milk, or an average of 29.2 lbs. per day. Bella in 301 days gave 11,130 lbs. of milk, or a daily average of 36.9 lbs. Vic, which was only in milk 182 days yielded 7,858 lbs., or an average of 43.1 lbs. per day. Alex. Miller, Hallett, Goddington, Chelsfield, Kent, has 13 cows of the Jersey breed which yielded 94,651 lbs. of milk, or an average of 7,280 lbs. each per annum. His six heifers gave 27,904 lbs. or an average of 4,650 lbs. each for an average 220 days in milk. The cow Cream Bread II. gave 9,069 lbs. in 316 days, or an average of 28¾ lbs. per day. This was with the seventh calf.

At the Gumley Hall, the Hon. Mrs. Murray Smith keeps a Jersey herd, and ten cows averaged 7,594 lbs. each for the year. The 20 head, including heifers, yielded 101,249 lbs. of milk. Laxton Lady, 47 weeks in milk, yielded 9,996 lbs.

H. Fitzwalter, Plumtree, at Goodneston Park, Kent, keeps Guernseys, and 22 cows gave a total of 140,634½ lbs. of milk, or an average of 6,392 lbs. per annum, equal to 624 gallons. Donnington Juno yielded 10,747¾ lbs. in 345 days, her daily average being 31.15 lbs.

Miss E. D. Coats (of cotton fame) keeps a herd of non-pedigree Shorthorns at Breuchley, Kent, and the 51 head yielded 39,137 gallons of milk, or 767 gallons apiece, heifers included. One of these non-pedigree Shorthorns, Sweet Pea, gave 1,117 gallons in 52 weeks, and Thistle 1,049 gallons in 47 weeks. Although called "non-pedigree" these cattle boast as good a lineage as any, but it has never been "bothered about" by the farmers who breed utility milk cattle which pass from one end of the country to the other.

To go to the opposite extreme, one of the finest pedigree dairy Shorthorn herds in the country, owned by the late E. S. Godsell, has been sold by auction for £3,949, or an average of £94 6d. for 42 head. Top price was 400 guineas, paid by Sir Gilbert Greenall, for the young bull Salmon's Diamond, a May 1915, light roan got by Salmon's Emperor and out of Darlington Cranford 21st, the champion dairy Shorthorn at the 1910 R. A. S. E. Show. This old dame gave 8,050 lbs. of milk recently, and is the dam of a 600 guineas calf. She herself, was now sold for 200 guineas to a parson in Cambridge who breeds milk cattle, and has one of the finest herds and hobbies a man can possess.

There looks like being a 200-guinea match at early beef production between the rival votaries of the beef Shorthorn and the Aberdeen-Angus. There has been a lot of newspaper talk which has ended in a sporting challenge for 100 guineas a side.

As though to follow suit, Walter Winans is offering cups to Hackney men to produce a class of mover that can trot a mile in three minutes, and another a bit slower to get the mile in 3.30. The Live Stock Journal has been the cause of these little sporting asides in stock raising.

At Aberdeen Shorthorn sales the highest priced bull was the Duthie Cup winner, a Broadhooks roan May calf, belonging to A. Crombie, Woodend, Newmachar, sold to Geo. Campbell for the Argentine at 610 guineas, a record for the Aberdeen sales. The average was £50 for 275 head. Thus in three days

of Shorthorn selling Messrs. Macdonald, Fraser & Co., made £55,738 for the sellers. During 14 days they have sold Angus and Shorthorns to the value of £92,879 17s. The six biggest Shorthorn bulls at Perth made the extraordinary average of £1,062 5s. The Argentine is obviously buying all the Cruickshank blood it can. Money talks they say. Argentine stock raisers must have some to burn.

The English Shire Horse Society is in a particularly flourishing condition. It has a membership of 4,367, and its subscription fees are £2,905 each year. It has a bank balance of £18,870 6s. 7d.

Great Britain's agricultural horses are valued at £68,917,340, and the cart and draft horses at £111,187,860, or a total of £180,105,200 for 4,787,687 head. Farm horses are generally estimated at £40 each; heavy drafters at £60; vanners at £30; stallions at £150, and young stock at £20 each.

Britain's ponies and horses of all kinds, which number 7,099,758 head all told, are valued at £245,493,732. Her 11,408,504 head of cattle are valued at £155,293,955; her 29,658,863 head of sheep are worth £53,206,868, and her 4,085,808 head of pigs are put down at £8,711,619. All told, Britain's farming stock of all kinds is estimated to be worth £472,976,500. I don't think you can work it out in dollars. I can't.

ALBION.

THE FARM.

Had Success with Sweet Clover.

EDITOR "THE FARMER'S ADVOCATE":

During the summer months of 1915 there was a good deal of discussion in "The Farmer's Advocate" on the growing of sweet clover, in which many questions were asked mostly regarding the growing of the crop. But at this time of the year those who had any sweet clover cured as hay will likely be trying their stock as to its palatability. The writer was lucky enough to cure as hay eleven large loads last summer,



Morning Star.

Two-year-old Shorthorn bull, and a great winner in the Old Land.

of which a short description was given in "The Farmer's Advocate" at that time, but now is the time to discuss feeding. The eleven loads will soon be all fed out, and as much more would have been if it had been on hand. It was fed to horses, cattle and sheep. The sheep were fed twice a day on the start, and they put on flesh rapidly. No doubt, if they had been fed steadily all winter on sweet clover alone every sheep could have been killed and dressed for mutton. The flock of twenty-one all look well, and the wool seems to be longer than usual at this time of year, and it also appears to be very thick. Care must be taken in feeding idle horses not to give too much at once, as in some cases violent colic will be sure to result. Small quantities and often will overcome that difficulty, but the working horses never seemed to be affected in the least. It is safer not to feed heavily at any time to horses, as when they get the appetite for sweet clover they are likely to eat too much. The horses look as well on it as when fed other hay. The milk cows got the run of the field on the second cut when it was green, and there were no cases of bloating. The clover was up to their knees at the time, and no bad flavor affected the milk as was at first stated. The winter milkers have had their share of sweet clover this winter, and in no case has there been tainted milk. A number of cattle were fed some all winter, and they never turned it down and it seemed to balance up the ration. Calves are so fond of it that they want to jump out when they see the green forkful coming their way. The writer is the only person for miles around who has tried sweet clover as a hay crop, and people from all over the vicinity have come to see the crop growing, and many were the questions asked this winter regarding how the stock ate it. Fifteen acres

of light, sandy land and some white clay will be sown in the spring which will be used for hay and pasture. If you have poor, rocky, shallow soil sow it with sweet clover early in the spring without a nurse crop, and in September it will make excellent pasture to finish the lambs for the October market. At first they will not eat it but in about a week they will start and after a while they stay right at it. There is no doubt about it, sweet clover is a coming crop for the men who have poor, sandy land, but it may take a few years to get it established.

Lanark Co., Ont. A SUBSCRIBER.

Where Tried, No. 72 Won?

EDITOR, "THE FARMER'S ADVOCATE":

I am glad that my article on standardizing agricultural teaching has stirred up discussion, which is good for the soul.

F. C. Nunnick is right, "If the farmers of Ontario would sow either one of the varieties of oats mentioned, namely, O. A. C. 72, and Banner, they would be doing decidedly better than they are now doing." In the language of the immortal Col. Sellers, "there's millions in it," as we shall presently see.

Mr. Nunnick's further contention that "the farmer is taking less risk by sowing either of them than some new variety boomed by some one who has said, 'New variety for Sale,' deserves repetition. The recommendations of our Experiment Stations are far safer to go by than the flowery recommendations of seed-selling artists.

In criticizing my article Prof. Grisdale says: "I would like to draw attention to the fact that while, as he says, Professor Zavitz does recommend O. A. C. No. 72 oats for Ontario in a general way, I advocated Banner for Eastern Ontario, and while the O. A. C. No. 72 is an excellent oat, in Eastern Ontario we have not found it to be any better suited for our requirements than choice Banner, hence as nearly everyone is stocked up with Banner, I recommended this variety, and I still think that for Eastern Ontario it is quite as good as, if not superior to, O. A. C. No. 72."

Now, if I am astray I was led astray by the annual reports of the Central Experimental Farm, to which I turned for information before writing the article. I wanted to compare the Ottawa findings concerning the merits of O. A. C. 72 with the findings of Guelph. To my surprise I could find no mention of O. A. C. 72 having been tested at the Central Farm in comparison with Banner, or any other variety, though I searched in the reports covering several years' work. I therefore wondered why Prof. Grisdale should make the statement that "Banner is the best variety of them all", since it had apparently not been tested beside O. A. C. 72, which according to the experiments of Prof. Zavitz, covering a considerable period of

years, beat Banner all to pieces.

Prof. Zavitz tells us that for nine years No. 72 has been tested beside the Banner on the College Farm and every year has led in yield, the lead varying from half a bushel in 1914, a dry season, to 41 bushels in 1912. At the College Farm in one season No. 72 yielded 103½ bushels per acre.

"In each of the past nine years in which these two varieties have been grown under similar conditions," says Prof. Zavitz, "the O. A. C. 72 has surpassed the Banner in yield per acre, the average for the whole period of nine years for the former being 90.6 bushels, and for the latter 72.5 bushels per acre." Here is a difference of 18 bushels per acre in favor of O. A. C. 72.

The point is that if O. A. C. 72 beats Banner by 18 bushels per acre, or anything like it, it is worth trying in competition with Banner at the Central Experimental Farm, as well as other places. The annual oat acreage of Ontario is some 2,600,000. An increase of 18 bushels per acre would mean a total increase of 46,800,000 bushels. At 35 cents a bushel that would mean the respectable sum of \$16,380,000 in the pockets of the farmers of this Province.

D. King says that agricultural teaching cannot be standardized. Literally, perhaps not, but for practical purposes, as indicated in my former article, it could in many instances be at least approximated. Because a thing is standardized it need not be permanent. Nothing in agriculture is static. When manufacturers standardize a piece of machinery it is done for the sake of convenience, economy, adaptability, that time may be saved through interchangeability. When something better is perfected the old gives place to the new. The manufacturers "get together" and discuss mutual helpfulness—the standard is changed.

Breeders of fancy poultry have what they call their "Standard of Perfection" which is a scale of points used by judges at shows as a code-book. Once in every few years the breeders get together in convention and the standard is revised, brought up to date, in harmony with present-time knowledge and circumstances. Thus the judging of poultry is "standardized," and until the next revision of the standard everybody knows where he "gets off at." To say that a thing is standardized does not mean that it is permanently rigid, fixed, or fossilized.

If O. A. C. 72 is 18 bushels per acre better than Banner, or only half that, and if Banner is the next best; then No. 72 is good enough to make the "standard" until a better is discovered. That is what I mean by "standardizing" farm teaching. Having found the best by test, sink individual preferences and "beliefs" and educate farmers to adopt the standard variety.

Mr. King says, "We do not pay our professors merely to agree with the other fellow." Neither, I take it, do we pay them merely to compete with each other in their recommendations if it is going to cost the farmers of the province ten or fifteen million dollars a year. Let the experimenters experiment and improve, and more power to them; but in a business where the profits are so small as they are in the farmer's business, we cannot afford to disregard a little thing like \$15,000,000.

The big abattoirs have shown us the way—they save all but the squeal; even the hair and toe-nails are gathered and counted as worth the gaining. If they learned that they were losing a few millions a year because their chemists disagreed over the utilization of a by-product, why, it is safe betting that there would be a hurry-up strategic movement to the rear—somebody's. A thing that is not gained when it might be, is lost—I think that states the proposition correctly.

If Banner is better for Eastern Ontario, and No. 72 is better for the Western end, why doesn't Prof. Zavitz express it in those terms? I have never known him to do so, either in his addresses or his writings. He invariably recommends No. 72 as best for "Ontario." For nine years it has been tested beside Banner, at the College, and won every time.

But the College findings are not the final word. Away out in the townships and on the "back concessions," where I live, Prof. Zavitz has co-operative experiments on 150 or more "check farms" testing and comparing O. A. C. 72 against all comers. These members of the Experimental Union are working in all parts of the Province, and their reports show that the O. A. C. 72 oat has surpassed all the other varieties with which it was compared, in average yield of grain.

The Experimental Union makes direct application of the information gained at the College by having experiments conducted on hundreds and even thousands of farms, and systematizes the co-operative work in such a way that the results of those experiments, which have been conducted with great care and accuracy, can be summarized and made into valuable reports for the guidance of farmers generally. The Experimental Union is not only a source of gain in dollars and cents to the farmers, but it is a great educational feature which has had a wholesome influence, not only on the agriculture of the Province, but upon the experiments themselves, and on the progress of the whole country.

The Zavitz idea of co-operation is the big idea and the right idea of experimentation, which is no reflection upon other systems or the men who are conducting them. Prof. Grisdale and Prof. Zavitz are both doing excellent work and our thanks are due to them for the years of patient and efficient service which they have given to the complex problem of up-building agriculture in this country.

Northumberland Co. Ont.

W. L. MARTIN,

New Brunswick Farmers and Dairymen Meet.

The fortieth annual meeting of the New Brunswick Farmers and Dairymen's Association convened in Fredericton Feb. 28, and proved to be the most enthusiastic and successful meeting of the kind ever held in the existence of the Association. The very large attendance of members, was greatly in excess of any previous occasion, and the intense interest evinced in all the proceedings was a striking testimony to the strides agriculture is making in the province. A most comprehensive program had been prepared, dealing with some of the most important matters that are now engaging the farmer's attention, and some of the foremost speakers in the agricultural life of Canada had been engaged to deliver addresses, and the only criticism that could be levelled would be, that almost too much had been attempted for the time at the disposal of the meetings, there being "meat" enough in the program to have lasted for a whole week, instead of the three days allowed.

The President, J. T. Prescott, of Sussex, occupied the chair, and in his opening address, after making brief reference to the war conditions now existing and the calls they made on the patriotism of the farming community, spoke of the efforts now being put forward to check the evils of the liquor traffic, which had such a prejudicial effect upon the entire population, and calling on the farmers to help to the fullest extent in their power to destroy the insidious influences that the liquor habit was exercising among the people. The problem of farm labor was next dealt with, and the attention of the meeting was next dealt with the great disparity between the hours of labor, which the average working man was called upon to observe, and those demanded of the ordinary farm hand. Out of the 168 hours in the week, the ordinary laborer

did not work more than 60, whereas the farm hand works for any time varying from 76 to 92 hours. It was scarcely to be wondered at that the farm hand was dissatisfied, and that the formation of agricultural unions should result. The president further complained that the farmers were not represented in the Legislatures to the extent that the importance of the agricultural industry deserved, but he said the fault for this lay at the farmers' own doors.

The call for recruits had robbed the farmers of much of their accustomed help, but the cause was such that they could not complain very loudly; but at a time when the call was for increased production, the shortage of help was a considerable handicap. Some very helpful articles on the matter had appeared in some of the agricultural papers, and in this connection he particularly desired to draw their attention to an editorial which appeared in "The Farmer's Advocate" a week or two ago, which was full of very helpful suggestions. A short reference to the subject of roads, in regard to which he thought there was room for very considerable improvement, brought the address to a close.

The reports of the various country vice-presidents were read, and they disclosed an extremely satisfactory state of affairs as existing throughout the province. With few exceptions, the past year's crops had been above the average, and the prices obtainable better than for several years, and, speaking generally, the outlook for the coming season could not well be improved upon. Special tribute was paid to the Provincial Department of Agriculture for the steps they had taken to enable the farmers to obtain fertilizers at a cheaper rate.

As the potato crop is one of the mainstays of the New Brunswick farmer, it was but natural that the subject should come in for considerable discussion, and those present had the advantage of listening to some very sound advice and instruction on the matter from two such well qualified speakers as Prof. Cunningham, Plant Pathologist at the Experimental Farm, and Dr. W. J. Morse, of the Maine State Farm at Orono. Potato growing in all its aspects was thoroughly threshed out, and the many and varied diseases that the crop is subject to were very fully dealt with, and the best manner of combating with them pointed out. The discussion which followed the addresses of the two experts showed very clearly that those present were fully alive to the situation, and the very pertinent questions asked indicated the great advance in general knowledge of farm chemistry and kindred matters that has taken place in the agricultural community in late years. The varied experience of several growers present were listened to with keen attention, and it is safe to say that much valuable information on the subject of the potato was gained by all in attendance.

Another subject in which keen interest was evinced was that concerning the Production and Marketing of Farm Crops, which was very fully and interestingly dealt with by H. H. Smith, and W. H. Moore, both extremely well qualified to deal with it. Mr. Smith advised his hearers not to specialize too much, but to grow as great a variety of crops as their situation would permit. By this means it was easily possible to have some crop or other to bring in cash returns every week or month at least. Specialization, he declared, was only suitable for the wealthy farmer, and not for the average man. Cabbage, onions, small fruits, poultry, young pigs and dairy products were all profit-making crops which take little time in comparison with the results they bring in, and he reckoned that an acre of ground planted to vegetables for pickles was worth \$1,000 a year to him. Mr. Moore's experience was much the same; and further, he had found the automobile invaluable to the farmer who lived some distance from his market for getting there quickly, and he predicted that the day was not far away when the majority of farmers would be found using one, and so saving the wear and tear on their horses, as well as leaving the latter to be usefully employed at home.

An address on Dairying by George H. Barr, of the Dairy Division, and the discussion that ensued took up the whole of one session. One member attacked the creameries, declaring that in some cases farmers were not getting the full value of their product from them. He said that the herd of cows he now owned, belonged in 1914 to another man, whom he had bought out. The latter had sold his cream to a creamery, and in the months of June and July, 1914, he received from the creamery for the cream from fourteen cows, \$95. The speaker was now milking twelve only of those same cows, but he made the cream into butter at home, and in the months of June and July, 1915 the butter produced by them sold for \$214, a difference in favor of the home-finished product of nearly \$120. A somewhat warm discussion ensued, which was participated in by several Dairy Inspectors present, and later a resolution in favor of the establishment by the Government of a central creamery under strict Government supervision, moved by the farmer referred to, was voted down. The key-note of Mr. Barr's address was "Quality," and he made it clear that nothing but the best would do.

Seeds and their Production was taken up by E. D. Eddy and S. J. Moore, Dominion Seed Inspectors, who laid particular stress on the importance of proper seed selection if large crops were expected. The time has now gone by when it was enough for the farmer to dip his hand at random in the grain bin and proceed to sow just whatever he pulled out. Seed should be chosen with just the same care as would be taken in choosing a sire, and scrub seed would pro-

duce no better results than a scrub sire. Growers were cautioned against using western grown seed, unless bought with a proper guarantee, as much of it was of distinctly inferior character and fit only for feed purposes. Farmers were, moreover, strongly advised to grow their own seed as much as possible, as there was likely to be a serious seed shortage for the next year or two, particularly in turnip and mangels, and also clover seeds. In passing, both Inspectors paid high compliments to the number and quality of the exhibits at the Provincial Seed Fair, which they declared were equal in every respect to those produced in any part of Canada, and were extremely creditable to the farmers of New Brunswick.

Valuable papers were read on Potash as an ingredient in fertilizers, and the effect of the present shortage of that commodity, and also on Lime as an aid to Fertilization. In dealing with the former subject, Leslie Emslie of the Central Experimental Farm, Ottawa, strongly impressed upon those in attendance the urgent need for strictly conserving the supplies of potash that were now available in barnyard manure and wood ashes. They were also advised to make the best use possible of the potash naturally present in the soil, to liberate which moderate dressings of land plaster were advocated. Mr. Emslie's remarks covered the subject of fertilizers generally, and much valuable information was imparted.

The matter of lime as an aid to fertility was very ably dealt with by Prof. Cumming, of Truro Agricultural College, who gave a very interesting account of a series of experiments carried out by him at the College. He cautioned his hearers not to expect too much in immediate results from the use of lime, because considerable would be apparent the second year. He considered ground limestone as being better for the soil than burnt lime, and it was not so violent in its action. Four tons to the acre was the minimum that should be used if any beneficial results were to accrue. He suggested that farmers should lime alternate plots of land and note the difference in the crops produced on them.

One session of the Convention was devoted to the consideration of the subject, "The Agricultural Needs of the Empire at War," at which the speakers were His Honor Lieut.-Governor Wood, Lieut.-Col. Guthrie, and Dr. C. C. James, the Dominion Agricultural Commissioner. The subject was very fully dealt with by each of these speakers, although somewhat divergent views on the farmers' responsibility were expressed. Col. Guthrie maintained that every farmer of military age should be at the front, and only such as could be spared from the front should remain on the farm. Dr. James, on the other hand, expressed the view that the Empire was just as much in need of protection from famine, as it was from the enemy, and held that only those farmers who could be spared from the land should go to the front. There were, he maintained, plenty of other classes to be drawn on for a supply of soldiers which could much better afford to spare the men than could the farms. However, all the speakers agreed that the obvious duty of the farmers at the present time was to produce to the utmost of their capabilities.

Thursday was most enjoyably spent by the delegates in a visit to the Dominion Experimental Farm, where they were most hospitably entertained by Supt. Hubbard. The spacious barns and stables were thoroughly looked over and the stock in them admired. Opportunity was afforded visitors of seeing some of the most up-to-date machinery and appliances, and the general lay-out of a model farmstead. Most interesting and instructive talks were given by Prof. Cumming and Prof. Barton, the Live Stock Director of Macdonald College, representative animals being used to give practical illustration of the points to be noted. Later, Prof. Barton spoke on swine breeding, and called attention to the large field there was now open for profitable enterprise in that branch of the farmer's industry.

Resolutions were passed favoring the co-operation of the New Brunswick Government with the Governments of the other Maritime Provinces in the establishment of a central dairy school for the three provinces, rather than to have a strictly provincial school; and also in favor of steps being taken to endeavor to have the ten per cent. tariff duty now charged on acid phosphate and basic slag removed.

The election of officers for the ensuing year resulted as follows: President, George E. Fisher, Chatham; Vice-President, A. J. Gaudet, Memramcook; Treasurer, H. H. Smith, Hoyt Station; Recording Sec'y., Chas. H. Shaw, Carleton; Corresponding Sec'y., A. H. Wetmore, Clifton.

County Vice-Presidents were also chosen.

THE PROVINCIAL SEED FAIR.

The Fifth Annual Seed Fair was held during the week, and this in itself showed the remarkable awakening that has taken place in the Province during the last few years. Exhibits were on hand from practically every section of the Province, and the number and quality of them left little, if anything, to be desired. Some entries were as fine in quality as anything of the kind ever shown in Canada, and demonstrated very clearly that it only needs for the farmers of New Brunswick to realize the opportunities at their command for the Province to take a foremost place in the agricultural life of the Dominion.

N. B.

G. BIDLAKE.

Smuts, and How to Combat Them.

There is believed to be an annual loss of several millions of dollars to the farmers of this country, due to the ravages of loose smut of oats, and stinking smut or bunt of wheat. Loose smut of wheat and barley also exacts a heavy toll from the growers of these crops. Treatment for the prevention of the two former smuts has been recommended for years past and demonstrations conducted in different parts of the country proved that the treatment was effective. However, the yearly loss from the smuts did not seriously affect the individual, consequently a vast majority of the farmers appeared to prefer risking a loss of a few bushels of grain by smut rather than treat the seed. The main reasons for not treating have been lack of time during seeding, not having the material handy when the seed should be sown, and the belief that smut would not be bad "this" season because there was very little in the grain "last" year. So, year after year passed and the average farmer on one hundred acres of land allowed from ten to twenty dollars per year to slip out of his hands, which might have been saved at a cost of about one cent per bushel of seed sown.

When the season of 1915 opened up there appeared to be no special reason why smut should be any worse than it had been in former years, consequently, in the rush to get the seed in the ground only a small percentage of the farmers treated their oats. The season must have been particularly suitable for the development of smut, especially on oats, and many who planted untreated seed suffered a loss varying in different sections from ten to as high as fifty per cent. of the crop. The heavy loss came in a year when it was least expected, and should serve as a warning to every farmer to treat his oats and wheat to destroy the smut spores, before planting, every year.

A description of how and when the smut spores attack the plant may give the reader a more intelligent idea of how applying certain material to the seed before sowing will prevent the development of smut heads. All smuts are fungous diseases, and are caused by minute colorless plants which have not the power of manufacturing their own food, and thus become parasites, obtaining their nourishment from other plants, and by so doing injure the host plants in various ways, causing the disease known as smut which occurs on the cereal grains. The minute fungous plants causing the smuts consist of exceedingly small, fine, delicate threads, which live between the cells of the grain plant, and draw the necessities of life from the plant cells. Some of these threads change during the summer and become spores, for the purpose of carrying the disease over the winter and for reproduction. These spores usually form in the heads of the grain. Spores of the smut fungi are scattered by the wind, or at time of threshing, and cling to the kernels of grain. When the grain is planted, warmth and moisture necessary for its growth, are also suitable for the germination and growth of the smut spores. The fine fungous threads grow up through the plant and attack the flowers when they begin to develop. After the food stored in the developing kernels of grain becomes exhausted, spores are formed which compose the black masses of smut, as seen in the field. A single smutted wheat or oat grain may contain two million or more spores, each capable of destroying a head of grain the following year. It is possible for a few diseased heads of grain to infect the seed for a whole field. Only a little smut showing in the field from which seed is obtained is no proof that the new crop will not be badly affected, as proven by many farmers with the 1915 crop.

THE LOOSE SMUT OF OATS.

The loose smut of oats is the most common, possibly causing a greater loss than any other of the grain smuts. It may be seen in the field as soon as the oats begin to head, and destroys not only the kernel but also the hull and chaff by changing them to a dark brown powder, which is a mass of smut spores. These spores may be scattered by the wind while the crop is still standing, and if they lodge on the oat kernel they may be carried over the winter in the dormant stage. Threshing may also aid in scattering the spores to grain that is not infected. If these spores resting on the kernel of grain, are not destroyed before the grain is sown, they germinate and the fungous threads produced, penetrate the young seedling plant at a time when it is most susceptible. This is believed to be the only time that infection can take place. The disease depends on the oat plant for its nourishment, and when the oat heads form it devours the substance being formed therein and instead of bright, plump kernels of grain, nothing is left but a mass of worthless, sooty-like material. Various methods of treatment for prevention of smut have been tried with gratifying success.

BUNT.

Stinking smut, or bunt, is the most objectionable smut of wheat. Unlike the oat smut, it only attacks the kernels, causing them to become short, plump, light in weight, and filled with a black, oily-like powder possessing a disagreeable odor. Although the chaff is not directly affected, it presents a bleached appearance. These "smut balls" are broken at time of handling the grain or threshing, and the spores produced from a comparatively few heads are liable to be the source of infection for the grain from a large field. Not only does the smut decrease the yield of wheat, but a small quantity of the stinking smut is claimed to render

wheat unfit for milling purposes. The disease is carried over the winter as spores on the kernels of grain. When the seed is planted and germinates, the spores also germinate and infect the plant in a similar manner as does the smut of oats. The formalin method of treatment is practical, economical, and most effective in the prevention of the loose smut of oats and stinking smut, or bunt, of wheat. If the amount of smut seen in the grain last summer is any criterion of what will be produced this year, the farmer who does not treat his seed to prevent smut will reap a harvest that is worse than useless, rather than the life-sustaining grain.

THE FORMALIN TREATMENT.

The formalin treatment is the one most in vogue, but different strengths and methods of using it have been practiced with more or less satisfactory results.

The success depends on having the solution of correct strength, and having every part of every kernel covered with this solution. Experiments conducted by Prof. C. A. Zavitz, at the Ontario Agricultural College, Guelph, showed that the smut mentioned can be controlled, but that there was a slight variation in yield of grain from using the sprinkling and immersing methods. The average yield of oats per acre for five years was 60.3 bushels from untreated seed, 61.3 bushels from seed sprinkled with formalin before sowing, and 68.3 bushels from seed immersed in the formalin solution previous to being sown. This would lead us to believe that immersing the seed was the most satisfactory method. A similar experiment was conducted with wheat, and the average yield per acre for three years was 38 bushels from untreated seed, 36.3 bushels from seed sprinkled with formalin solution before sowing, and 43.3 bushels from seed immersed in formalin solution. Farmers who have tried both methods on their farms find that smut can be completely controlled by the formalin treatment when they do the work thoroughly.

Formalin can be purchased at any drug store for forty or fifty cents a pint. The immersion method for oats and wheat consists of mixing one-half pint of formalin in 21 gallons of water and soaking the seed grain in



A Successful Hunt.

the solution for 20 minutes, after which it is spread thinly on a clean floor or canvas, where it can be stirred and allowed to dry sufficiently to be sown. A bran sack, that is coarse in texture will admit water readily and is an excellent receptacle to use in holding the grain to be immersed. It will be necessary to raise and lower the sack several times in order that every kernel may come in contact with the solution. If the sack of grain is allowed to drain over the top of the barrel, it will be a saving on material. However, 21 gallons of the solution should be sufficient for treating about 20 bushels of grain. Raising a bag of wet grain, especially wheat, out of a barrel is no light task. By having a pulley attached to a beam or pole above the barrel, and a rope run through it and attached to the bag, the work of treating the seed may be made much easier. Care should be taken to have all receptacles, that the grain is liable to come in contact with, free from smut spores. The sooner the seed is sown after it is treated and dried the better. Where a considerable quantity of seed is to be treated, two barrels may be used. Remove the heads from both, then bore a hole at the bottom of one and fasten a screen over it on the inside, and arrange a tap on the outside. Place this barrel in the back of a wagon and the other barrel on the floor beneath it. The top barrel is partially filled with grain and the formalin solution poured over it. After the solution has been in contact with the grain for the required length of time, the tap is opened and the solution drained off into the barrel beneath, and the grain is spread on the floor to dry. The process is repeated, by using the liquid drained off, for treating the next barrel of grain. In case of wheat the smut balls which float on the surface should be skimmed off.

With the sprinkling method of treating seed, the solution is similar to that for immersing, viz—one-half pint of formalin to 21 gallons of water. The grain may be placed in a heap on a clean canvas or floor, and the formalin solution sprinkled over it with a watering can, or by any other means handy. The grain should be shovelled over and sprinkled again. Repeat

the shovelling and sprinkling until every kernel is moistened; then cover the pile with canvas or sacking, and leave for about two hours, after which the grain should be spread out to dry. Raking or turning the grain frequently will hasten drying. The sprinkling method has proven quite satisfactory and will require about as much of the solution as will immersing the seed. A strong point in favor of the sprinkling method is that a considerable quantity of grain may be treated at once. This is an important factor when the work must be done during the rush of seeding. There are mechanical smut killers, on the market, which permit of a very fine spray of the formalin solution coming in contact with the grain as it passes over a cone. It is claimed that every part of the kernel is moistened by this method, and the seed may be sown immediately after treatment.

The man treating his seed must be sure that the formalin used is of the required strength—40 per cent. solution of formaldehyde gas in water. By using material that is too strong, or allowing the grain to remain in a pile or bags too long may result in impairing the vitality of the seed to such an extent as to ruin a crop. One instance will show the result of leaving the treated seed in a pile too long. On a Saturday noon the seed was treated and spread out to dry. During the afternoon a few bags of the grain were sown and the remainder left in the pile over Sunday. That which was sown Saturday germinated and gave a splendid crop, but what was sown on Monday never grew. No doubt the vitality of the seed was injured by it not being thoroughly dried when left in the pile. Care must be taken to get the seed sufficiently dry before sowing, and allowance should be made for the swelling of the seed, due to soaking, or a light seeding may result. If treated seed cannot be sown immediately after becoming sufficiently dry to sow, it should be spread out thinly and raked occasionally.

THE BLUESTONE METHOD.

Other methods, of treating the seed to destroy smut, have been experimented with. Bluestone solution is also used for controlling smuts. A solution made by dissolving 1 pound of bluestone in 25 gallons of water, and soaking the seed for twelve hours destroys the smut spores, but has not proven as satisfactory with oats as it has with wheat. Apparently germination of oats is more or less injured by the bluestone. Sprinkling the grain with bluestone solution made of 1 pound of bluestone dissolved in ten gallons of water controlled the smut satisfactorily in wheat, but cannot be very highly recommended for treating oats. While bluestone may be used effectively for controlling the smut the formalin treatment is considered to be more satisfactory.

LOOSE SMUT OF WHEAT AND BARLEY.

There are two kinds of smut which cannot be treated with either formalin or copper sulphate, but respond to the hot water treatment. These are a loose smut of wheat and loose or naked smut of barley. While these smuts have exacted rather a heavy toll in the past, there is no practical method of treating the seed for a whole field. The spores are produced as soon as the heads begin to form, and are soon broken up and blown away by the wind. These spores lodge on the flowers. Here they germinate and produce delicate fungous threads which penetrate the developing grain. Once established inside the grain any surface treatment cannot destroy them. They remain dormant in the seed, but germinate and grow in the spring similar to the other smuts described. The only practical method of reducing a loss from this disease is to secure seed from a district where the loose smut of wheat or loose smut of barley is not present. If it is impossible to secure seed from clean fields, the hot water system of treatment may be used for a small amount of seed which may be sown, and seed from this secured another year. Material required would be two large kettles or tubs, coarse sacks or wire baskets, a reliable thermometer, and a supply of hot and cold water. In the one tub the exact temperature of the water required should be maintained, and the other one used for bringing the grain to the temperature of the water used for treatment, so as not to lower the temperature of the water in the other tub when the grain is immersed. Grain may be placed in wire baskets or sacks. For treating barley the temperature should be 125 degrees F. and the grain allowed to remain in the water for fifteen minutes. If the temperature should be 129 degrees F., five minutes would be the limit of time at which it would be safe to leave the seed in the water. For wheat it may be left ten minutes in water at a temperature of 129 degrees F. For either grain 124 degrees F. would be ineffective on the smut organisms, and under no circumstances should a temperature of 131 degrees be allowed. This treatment is effective against both smuts but it is rather a delicate one to carry out, as there is a very close margin of temperature to work on. Should the grain get too hot, its germinating power would be destroyed. If the temperature is not high enough, there will be no effect on the disease. The seed treated should be planted as far away as possible from other wheat or barley fields.

CORN SMUT.

Corn smut may not be so destructive as the other smuts, but nevertheless the annual loss caused by it

throughout the country is estimated in the thousands of dollars. Not only the ears, but stalks, leaves and tassels are attacked by this disease. Myriads of spores are produced within the large smut pustules or boils. These spores are scattered by the wind and infect any of the tender growing tissue of the corn plant. The disease is carried over winter by the spores in the soil or manure. In fact, the spores are believed to actually grow and increase in number in the manure pile. No preventative in the form of seed treatment has been found effective. Practicing rotation of crops and removing smut growths as soon as they appear in the field will tend to lessen loss due to this disease.

AVOID RISK OF LOSS.

The formalin treatment either by immersing or sprinkling, has proved successful in preventing the spores of loose smut of oats and stinking smut or bunt of wheat, from developing, consequently saving a large sum of money annually to the farmers who treat their seed. Owing to the prevalence of smut last year, no farmer should sow his oats this spring without first submitting them to the formalin treatment. Why risk losing several dollars, when a few cents will pay for material that, thoroughly applied, will eliminate the risk? Remember that formalin is a clear liquid, and is a 40 per cent. solution of formaldehyde gas in water. Follow directions closely; too weak a solution may not destroy the smut spores, and too strong a solution may injure the vitality of the seed. Dry the grain and sow it as soon after treatment as possible. If for any reason the seed treated cannot be sown for a day or two, do not leave it in the bags, but spread it out and stir occasionally. Secure your supply of formalin the first time you are in town so it will be near at hand when the time comes for using it.

More About Manure.

EDITOR "THE FARMER'S ADVOCATE":

I have noted with interest the many articles on the handling of manure. There appears to be many ways of doing the work, and surely all are not necessary to meet the varying conditions of land and climate.

As the majority of farmers manure the land immediately before a hoed crop, it seems to me that the best possible time for applying is in the spring before ploughing. Of course, all do not favor spring ploughing, but I have reason to believe that it is the best for most hoed crops, and corn especially. If the manure is applied to the sod and ploughed under it tends to create a sort of hot-bed condition, which helps considerably in forcing the corn, and it is certain that the land can not be made too warm, for there is nothing that corn needs more than heat. If the ground is cold the corn will not sprout well, if it sprouts at all. However, what is suitable in one locality may not be right for another. A farmer should make a study of his own farm. One thing is certain, there need not be so many different ways of handling manure. There must be some way through which we will obtain the best results. Chemical analysis shows us that a large percentage of nitrogen is lost through heating. Therefore, heating should not be allowed. If the manure is piled in the yard and the cattle are allowed to tramp over it there will be plenty of decomposition with little or no heating. This is one reason why manure should not be drawn and piled in the field. Another reason is the unnecessary amount of labor involved. It is by no means a pleasant job, even if it does give one a good appetite, and surely the less handling the better.

Spreading directly on the field in the winter seems to me to be equally wasteful. There is bound to be some run off. Therefore, it seems to me that it should be left in the yard until spring. Some claim that there is too much work in the spring to do this in the proper time, but I believe that a good deal could be done while the ground is still frozen before the seeding operations commence.

Spreading seems to call for some attention, too, in fact, I think it needs considerable. This is work which cannot be done too well. I have seen several spreaders work, and whether the fault is in the men running them or the machines themselves, I do not know, but there seems always to be streaks and patches that do not get anything but the smell. Hand spreading seems the only way of getting it on evenly. Of course, there is good and bad in everything. I do not advocate throwing out a ring around the heap, leaving a large quantity in the centre and nothing at all in the corners. I have seen a lot of that too. Such a practice is shiftless. If the job is worth doing at all it is worth doing right.

Where there is a large farm and a large number of animals are kept this may not always be practicable, but although there has been considerable discussion of the subject, I can see no better way than that of leaving in the yard till spring.

Lambton Co., Ont.

K. OKE.

Oats—Thick or Thin?

EDITOR THE FARMER'S ADVOCATE:

As spring is approaching, I will give briefly an account of an experiment we had seeding with oats last year. We usually sow 2 bushels, and many around sow 2 1/2 to 3. Last spring we sowed 94 lbs. of an early variety on 3 acres of clean, rich land, and they proved really too thick if anything. We had 160 bushels off the 3 acres. Sown a little thinner they would have been better. Also, another general-crop variety we sowed at 1 1/2 bushels, and others at 2 bushels and 1

peck, and the 1 1/2-bushel lot was fully as good. Can others write and speak as strongly in favor of heavy seeding?

Dufferin Co., Ont. FRANKLIN E. C. BETTSCHEN.

Conscience Will Decide.

EDITOR THE FARMER'S ADVOCATE:

I have been reading with interest the letters that have appeared in your valuable paper regarding recruiting in the rural districts. It seems to me that the majority of intelligent farmers realize that it is the duty of every eligible man to enlist, providing he can reasonably do so. Peter McArthur gives good reasonable advice on the subject. The atmosphere in Middlesex County must be more stimulating than in Wentworth, for I have yet to meet the woman who can pitch 30 loads of hay, besides pitching all the grain, making bread, etc. If I had a wife of Mrs. Remington's calibre, there is no doubt I should have had to don the khaki before now.

My own private opinion is, however, that the ordinary routine of the average woman on the farm is quite enough without expecting them to attempt any more. There is no use comparing Old Country women with Canadian women. In England and Scotland many of the young women in the rural districts start working in the fields as soon as they leave school. Then again climatic conditions are vastly different. It is doubtful if even the Old Country women could stand the extreme temperatures of Canada. The women on the farms can do their "Bit" (and are doing it) by knitting socks, etc., in war time, and have shown their patriotism in times of peace by putting up with the many inconveniences on the farm compared with the city and never making a grumble. By all means let the medically unfit come from the city to the farms, but it would take a mighty good team to haul them away from those four-dollar-a-day jobs. Some of the eligible men have actually gone to the city from this district and are making big wages making ammunition. And so Mrs. Remington thinks that the few sticks of furniture and the little cottage doesn't count to the working man in the town. It seems to me it will be just as dear to him, and ought to be, as any 200-acre farm.

In conclusion, let me say that if the Government wants the farmers to enlist, regardless of production, let them say so. It is easy enough for every man to find out whether he should enlist or not. Let him ask his conscience and he will receive the right answer.

Wentworth Co., Ont.

FARMER.

Plans and Timber for Plank Frame Barn.

Would you kindly publish plans and timber required for frame for plank-frame barn, 46 feet by 84 feet with 16-foot posts?

A. D. M.

The accompanying drawings and this specification of material will enable you to procure all the different lengths and sizes of timbers required for your barn, 46 feet by 84 feet. You do not state that the barn will have a hip roof, but I am assuming that it will, and listing accordingly.

The floor, joists, sills and girders you can easily estimate yourself. Not knowing the layout of your stable I am unable to place the girders, and in consequence cannot give the lengths of the joists. As a guide I may say that the joists should be 2 inches by 10 inches in size, and placed 18 inches on centres. Girders 10 inches by 10 inches set not over 14 feet apart, and well supported at 14 foot centres with strong columns. Sills 4 inches by 8 inches in size are about right.

Space the barn off into 14 foot bays, and drive floors may be located where desired. This makes 6 spaces and 5 bents.

Material for two end bents: 20 pieces 2 inches by 8 inches by 16 feet, posts; 8 pieces 2 inches by 10 inches by 30 1/2 feet, purlin posts; 8 pieces 2 inches by 10 inches by 24 feet, cross sills; 8 pieces 2 inches by 10 inches by 24 feet, beams; 2 pieces 2 inches

by 10 inches by 28 feet, beam stiffeners; 6 pieces 3 inches by 6 inches by 16 feet, post stiffeners; 4 pieces 2 inches by 6 inches by 14 feet, purlin braces; 4 pieces 2 inches by 10 inches by 24 feet, gable stiffeners; 28 pieces 2 inches by 6 inches by 24 feet, end girths; 4 pieces 2 inches by 6 inches by 20 feet, end braces; 8 pieces 2 inches by 6 inches by 20 feet, gable girths; 8 pieces 2 inches by 6 inches by 18 feet, gable girths; 8 pieces 2 inches by 6 inches by 16 feet, gable girths; 4 pieces 2 inches by 6 inches by 14 feet, gable girths; 4 pieces 2 inches by 8 inches by 24 feet, end truss; 6 pieces 2 inches by 4 inches by 15 feet, post fillers; 16 bolts, 1/2 inch by 8 inches; 5 inch spikes, 70 lbs.; 4 inch spikes, 24 lbs.

Material for 5 inside bents: 20 pieces 2 inches by 10 inches by 16 feet, side posts; 20 pieces 2 inches by 10 inches by 30 1/4 feet, purlin posts; 10 pieces 2 inches by 12 inches by 32 1/2 feet, roof supports; 10 pieces 2 inches by 6 inches by 13 feet, sub-supports; 20 pieces 2 inches by 4 inches by 4 1/4 feet, struts; 10 pieces 2 inches by 8 inches by 6 feet 1 inch, main ties; 10 pieces, 2 inches by 6 inches by 5 1/2 feet, sub-ties; 10 pieces 2 inches by 6 inches by 4 1/2 feet, minor ties; 10 pieces 2 inches by 12 inches by 4 feet 2 inches, collar ties; 10 pieces 2 inches by 6 inches by 7 feet 4 inches, braces; 10 pieces, 2 inches by 10 inches by 46 feet, cross sills, or use shorter pieces; 10 pieces 2 inches by 8 inches by 2 feet, short cross sills; 10 pieces 2 inches by 6 inches by 22 feet, roof support stiffener; 10 pieces 2 inches by 6 inches by 24 feet, purlin posts stiffener; 20 bolts, 1/2 inch by 11 inches; 80 bolts, 1/2 inch by 7 inches; 130 lbs 5 inch spikes; 35 lbs. 4 inch spikes.

Side timbers can be estimated from drawing Also rafters. Set rafters 3 inches on centres.

A. A. GILMORE,

Member of American Society of Agricultural Engineers

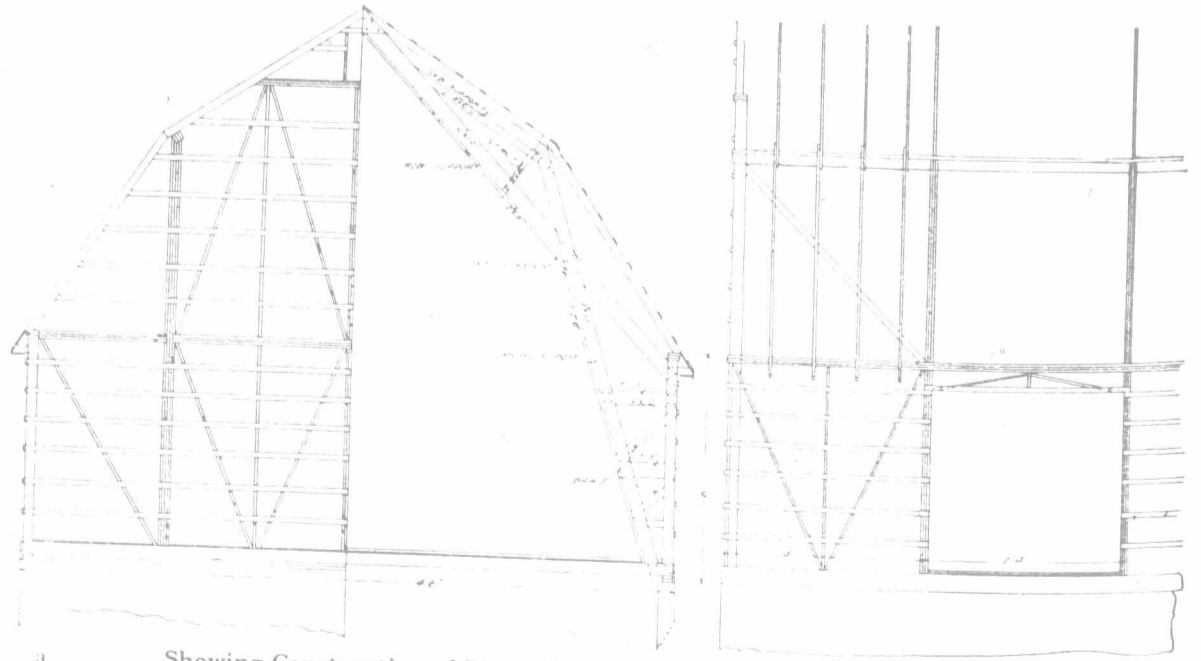
The Manure Question Persists.

EDITOR "THE FARMER'S ADVOCATE":

I am convinced that more manure goes to waste on the average farm in the ordinary way of storing it during the winter than there would be if spread immediately on the field, saying nothing of the economy of labor. It is appalling the annual waste of manure on many farms or rather in many barnyards. If piled ever so carefully in the open there is considerable waste from soakage, but how few there are that exercise much care in piling it, and, as a consequence, there is much more loss than many of us suppose. Of course, when we see a dark liquid trying to find an outlet, and in one case I know of, where a ditch is dug to allow it to escape, it seems that such a waste is a crime, and this particular farm needing it only too badly. After all I am inclined to think that those farms where it is most needed are just the ones where the most waste is going on. Is it because it becomes a case of hopelessness, a case of "well, farming does not pay anyway," or what that makes some so careless? More likely they really do not know.

At a sale last fall spring calves were selling at \$35 and yearlings at \$50 each. A farmer remarked there would not be much profit in buying at that figure, "but," he said, "there would be the manure." In many instances it is the only profit, and yet how little care is taken to save it all or as much as possible. In too many instances it is because we have not the conviction that loss is going on, that causes so much carelessness. It is a case of what the eye does not see the heart does not mourn.

If we were to find our way into a laboratory or some place where roots and herbs are made to yield up their mechanical properties and put in a form that you or I could swallow without taking that which is of no use, we would then have a better idea what every rainfall does on an exposed manure pile. Let us see. The root or leaf is ground in a mill to a degree of fineness that will best yield up its medicinal juices, not so fine as to clog, nor too coarse so the solvent would not act on it. This powder then is placed in a funnel-shaped affair called a percolator



Showing Construction of Plank Frame Barn. Design by A. A. Gilmore.

eners; 6 pieces 3
stiffeners; 4 pieces
braces; 4 pieces
gable stiffeners;
feet, end girths;
feet, end braces;
feet, gable girths;
feet, gable girths;
feet, gable girths;
feet, end truss;
feet, post fillers;
spikes, 70 lbs.

pieces 2 inches
pieces 2 inches
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or use shorter
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spikes.
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centres.

A. GILMORE,
Structural Engineers

Persists.

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and the liquid suitable for dissolving the active or medicinal ingredients of this particular drug is poured on top. If this percolator is made of glass you will see the liquid, slowly it may be, finding its way to the bottom where the outlet is, and then if you wait you will see it begin to drop, drop into a vessel below. The first drop that finds its way out will be rich looking, and so it is, more so probably than you will find in each succeeding drop until after a time the soluble part of that particular drug is all taken out, and the drops then will be nearly as clear as the liquid poured on. Now, the powder in the percolator has not decreased in quantity, any more than the manure pile that has had its successive rainfalls, but the strength of it has gone. What would be thought of the chemist who would allow that liquid from that percolator to go to waste and to use the powder that remains? It would be about as sensible as the way many farmers handle their manure. There would be this difference we admit. There would be some strength left in the manure which will have to rot or decay before available for plant life, whereas the soluble part, that could have been used for the first season's crop, has been wasted or soaked away. As I understand it, plant life can only take up that which is soluble. If so, how careful we should be that none of this is lost? I have seen loads of manure go to the field, great in size but little in value, just because the very "juice" of the meat had been allowed to wash or percolate away. Think of the folly of it! It takes the same time and strength to handle a load of what is left after percolating in the barnyard, as it would if all the juices were there, and now only worth, shall we say, one-fourth, or shall it be one-half as much? Anyway if we just realized how much it is and how foolish to waste time and money drawing to the fields loads of manure of which so much of its value is gone.

You make a good point, too, in your editorials when you refer to the wisdom of doing as much as we can in winter, and thereby save time when work will be plenty and help so scarce. I am not an advocate of slaving oneself year in and year out, but when the spring days come I do not appreciate doing work that I might and should have done in the winter. It is wisdom to leave as little work as we can undone, so that it will not come on us with a rush. Handling manure on a farm is a "man's job" and no small one at that, much better if we can do it sometime before the rush of work begins, so that we can be gathering strength for the early and late work that is sure to come, which, especially, we are told will be the case this year.

There is another point you touched upon that it might be well to emphasize. It is when applied in winter, to quote your own words, "the manure goes a great deal farther, and we believe this is a good thing, because the average man applies his farmyard manure to the soil in altogether too heavy coats. Smaller quantities at more frequent intervals would surely be a better practice than applying more manure at a time than the next two or three crops will require, thus making conditions more favorable for leaching and loss." It seems to me this is sound common-sense, and I have held this view for some time. Rather than apply a heavy coat every four years it would be more sensible to put on half as much every two years. I am of the opinion that if more manure were applied on the meadows it would be much better than plowing it under. I have practiced this plan for years. My neighbor adjoining did this the winter previous to the dry season, and the difference between his yield of hay and of others around us was very marked. The hay crop certainly is benefited, and when ploughed again the land is in the best condition to benefit the crops to follow.

Huron Co., Ont.

G. A. DEADMAN.

From Swale to Garden.

When Luther Burbank began his plant improvement work at Santa Rosa he had a four-acre plot of heavy adobe soil, wet, soggy and unproductive. His first move was to run a four-inch tile drain through the centre of the swamp hole, with two-inch laterals, 40 feet apart. People were skeptical about such a system carrying off all the water that accumulated in the basin, but it worked, and being well laid, the drain has never needed a change for over thirty years. Others thought that it would leave the plot as dry as a desert so that nothing would grow, but pending actual results, Burbank's answer to these critics was that drainage pipes would not take water from the soil except when there was an excess of it, and the dry soil like a sponge would, through capillarity, absorb and hold moisture needed to start vegetation. The next step, his narrator tells us, in the transformation of the lot was the application of 1,800 loads of manure which, thoroughly incorporated into the stiff earth, supplied it with fertility and changed its texture and moisture-retaining power. With such a start and the subsequent treatment given, little wonder that the Santa Rosa lot and his 18 acres at Sebastopol, not far away, became famous in the plant history of the world.

Beats Them All.

I have been taking your paper, along with ten or twelve others, for fifteen years or more, and I must say "The Farmer's Advocate" has them all beat forty ways at the present price.

Lincoln Co., Ont.

J. A. DYER.

Favors Hill-Planted Corn.

EDITOR "THE FARMER'S ADVOCATE":

I live in Peel County, Ontario, among the Toronto milk shippers, where a silo is found on almost every farm, and having 20 year's experience in corn growing for silage purposes, I venture to give my opinion upon this, "thick versus thin," sowing of corn. I think you do well, in closing your last article, to qualify by saying that this is only one year's test, and that it has been a peculiar season, as other conditions will surely reveal something entirely different. Your experience is different to that of the oldest corn grower here. Thickly-grown corn shows up well at first, but later on, in a dry or ordinary season, stubs off short and usually gets about two-thirds of the way up, and if it should get to full height, is composed of fine stalks and abundance of leaves, which, in a dry season, results in a poor lot of feed. Smaller stalks, if left lying on ground for some days, as we are often forced to do in waiting for a blower become too dry, and dried leaves are better out of the silo than in it. Stalky corn, which is obtained by thinner seeding and good cultivation, can remain cut for days, and will still retain enough sap and weight to make splendid silage. This wet year everything grew tall and every stalk, big or little, thick or thin, leaf and all, kept green from excess of moisture, so in this particular, was an exception. As to yield from hills and drills, we find little difference in this locality. We usually plant in hills, using hand planters, 3 to 5 stalks to hill, 36 inches apart each way, for such varieties as are grown here, viz.: White Cap, Improved Leaming, and Wisconsin. It is waste of land to hill-plant such varieties 42 inches apart. Most farmers here sow in rows, 42 inches apart with the drill, thick enough and thin enough in rows to get the most big stalks, as big stalks, and these finely cut, are what we all want here.

There is advantage, in cleaning, in favor of hill planting, as the horse-hoe can be used both ways, which leaves less hand hoeing to do. This also gives thorough cultivation, and is important when help is scarce and when a large acreage is grown, as a hand hoe is a slow implement in a 10-acre field of corn. Hand planting is not so slow as some imagine. You can buy a planter for a dollar or two, and so you can have plenty of them, and as it does not require much skill or strength to work them most any boy can take a hand. We mark five rows at once. This is a quick process, and if the planting does take more time than the drill, this time is more than picked up again in the cleaning. Then, there is a gain in harvesting, as the binder can be used all around the field by having a boy to cut a few hills off at the corners. If your field is nearly square, the gain in this will be apparent.

Do not forget that one swallow does not make a summer. In closing I repeat the warning of the dry year, and my fear that you may have from thick sowing a lot of small stalks and abundance of leaves which, in the experience of our farmers here, result most years in a poor quality of silage, often coming out of the silo in a moulded condition on account of being dry and light when put in. Then again, there is the danger of frost. Stalky corn may be frosted some, and yet make good silage, but when fine stalks and leafy stuff gets frost it is like so much paper. This in itself, when the difference is once seen, will convince any man that he wants stalk in his corn crop, and as little leaf as possible. As to the value of cobs in the silo I have nothing to say, so will leave the chemist and the cow to figure out.

Peel Co., Ont.

ROBT. McCULLOCH.

[Note.—We are quite aware that one swallow does not make a summer. We have not advised the thick-planting of corn, but have simply given the results of last year's test on our own farm, "Weldwood," where the thick-sown gave such good results that we are going to plant five acres thick this year. If it is a failure we shall tell our readers so. From working with corn for many years we have concluded that heavier yields come from thick planting. We are trying to prove or disprove our contention by actual experiment. Our last year's work demonstrated that, provided maturity is obtained, it is not necessary to get cobs. Our corn without cobs gave an analysis almost as good as if not better than well-cobbed corn. That the feeding value is there has been proven. Experiments over several years will show whether or not increase in pounds per acre is possible. The yield was practically double that of our hill-planted corn last year. If it falls down in a dry year we shall get the figures to show how far down it goes. We are doing this not only for our own good but for the benefit of our readers. Many have guessed that cobs meant better silage and that hill-planted corn gave larger yields in pounds per acre, and we know that some guessed wrongly. We do not propose to plant so thick that the corn cannot produce a stalk of any size, and that the leaves, for want of light and moisture, dry up or drop off. We prefer a fairly fine stock and plenty of leaf, provided we can get it ensiled properly. When corn becomes a little dry we add water at time of ensiling. Every grower recognizes that there is a better opportunity to cultivate where hill-planted, but we might say that with the little cultivation our corn got last year owing to excessive moisture, the thick-sown was as clean as the hill-planted. It seemed to keep down weeds. There may be a little more frost danger but we doubt it. This explanation is made, not to attempt to induce farmers to sow corn thickly, but

to let readers know how it turned out with us, and that we are taking nothing for granted because it gave favorable results one year, but are planning to carry the experiment on upon a larger scale this year and in years to come. One thing we started out to ascertain we have proved satisfactorily, viz.: It is possible to grow corn so thick it scarcely cobs at all, let it mature, and make silage of as high feeding value as from the same variety in hills on the same land with the same number of days to mature. This has surely been worth while.—Editor.]

Studies in Political Economy—II.

EDITOR "THE FARMER'S ADVOCATE":

In my last letter I tried to define the terms *rich* and *poor* in such a way as would harmonize man's reason and his conscience, and afford us a basis for accurate classification. We arrived at the conclusion that the real line of division between rich and poor was that determined by the equilibrium between service commanded and service rendered. He is rich who can command more service than he need render; he is poor who can command less.

The question now arises: Is there any possible way of determining this line of division in the actual affairs of our exceedingly complicated social and industrial life? Is there any way of even approximating to it? Shall we give up as hopeless the task of specifying who are rich and who are poor—in the sense of the terms already defined? If the problem is one of such intricacy as to entirely baffle man's powers of thought, the outlook is, I believe, very dark. Personally, I do not admit the insoluble nature of the problem in actual practice. I believe that we can at least approximate to a solution.

But we cannot find a solution by first entering the jungle and then trying to find our way out. The jungle is deep and dark, and well nigh infinite in extent. We shall get lost in its intricate mazes if we enter there. We must betake ourselves to the mountain top. We must survey the situation from afar, so as to get a true perspective. Then, having determined the lay of the land in the eternal light we may subsequently explore the jungle with some safety.

The problem is essentially that of discovering the just distribution of wealth. By *distribution* is not meant transportation or exchange. These latter activities are essentially a part of *production*. To carry the wheat from the field to the barn and subsequently to the market or mill, is just as essentially a part of the production of wheat as is the sowing and the reaping. In fact, all those activities which are directed towards bringing commodities where they are most needed, all the complex processes of transportation and exchange, are parts of *production*. Let this be clearly seen. *Distribution* is used in the sense of *sharing*. What is produced socially must be redivided. The problem of distribution did not concern Robinson Crusoe, for all the wealth produced by his own unaided efforts justly belonged to him. But just as soon as he had a partner the problem of distribution faced him: how whereby to divide what they produced by their joint efforts? With a simple industrial organization the problem is comparatively an easy one; but when our industrial life becomes complicated the problem increases in difficulty, and yet we must solve it; we must try to find out some way of ensuring to all a just return for their labors, some method of securing a just equivalent for service rendered, of getting as much as we earn, but no more.

As has been already pointed out, we cannot first study the problem of distribution from within our complicated industrial life. We must first view it from afar. We must first study it in its simplest form, and then gradually trace it through conditions growing ever more complicated. For this reason I propose to start first with a modern Robinson Crusoe, a squatter on the frontier of civilization, say in our own Northwest, and from that point to trace the origin, growth and nature of the problem of distribution. But I must reserve this for another letter.

Brant Co., Ont.

W. C. GOOD.

His Fifty-First Subscription.

Few publications in Canada can number amongst their readers subscribers who have read them for fifty years. The other day we received the following short note, along with a renewal, from D. W. Ketcheson of Belleville, Ont: "This is our fifty-first renewal for your valuable paper." "The Farmer's Advocate" has been running fifty years, so that our subscriber was scarcely correct in stating that it was the fifty-first renewal. It would doubtless be the fiftieth renewal and the fifty first time he had subscribed. In the same mail we received a letter from a subscriber, B. F. Knight, of Beebe Plain, Quebec, who stated that he had been taking "The Farmer's Advocate" for over forty years, and wanted to know whether or not we could give him the exact date of his first subscription. There must be something of outstanding value in a publication which holds its subscribers for a half century, and we are justly proud because of the number of just such letters received at this office during the past few weeks.

J. H. Patrick, of Middlesex Co., Ont., writes that he got 127 letters of enquiry from a small advertisement for Shorthorn bulls inserted twice in the columns of "The Farmer's Advocate."

THE DAIRY.

Selecting a Dairy Bull.

EDITOR THE FARMER'S ADVOCATE:

It is during the coming three months that most of the dairy calves are dropped, and every farmer that is intending to get a new bull this season is beginning to keep his eyes open for an animal that comes up to his ideal of what a dairy bull should be.

There is an old saying that the bull is half the herd, and some have gone so far as to say that he is the whole herd. This last statement is especially true if it happens to be a scrub bull at the head of a herd of good dairy cows. Instead of raising the dairy qualities in the offspring over that of the dam, he is lowering them, and for this reason the scrub bull, with or without a pedigree, is worse than useless.

The ideal bull is one that will transmit the dairy qualities of his ancestors with uniformity to his offspring. To do this the bull must first of all have a line of ancestors that have been heavy producers. The more generations this line of ancestors dates back the greater will be the probability of him transmitting these desirable qualities to his offspring. Each animal inherits 50 per cent. of its blood from its parents, 25 per cent. from its grandparents, and 12½ per cent. from the third generation. The relative value of the ancestors can be reckoned accordingly, and in taking this into consideration, a fair estimate of the value of the pedigree can be made. When studying the pedigree, it is well to remember that official records mean more than private records.

After considering the pedigree, the next thing is to look over the animal. No bull should be put at the head of a herd if he is not a strong, vigorous animal, true to breed type. A dairy bull that is fine-boned and has a feminine appearance is very undesirable, and is less likely to transmit his dairy qualities, together with a rugged constitution—so much needed by a high-producing dairy cow—as is a good strong, vigorous bull with a masculine appearance. There are some who refuse to use a bull from a phenomenal record-making cow, for fear the vitality of the calf will be weakened. The majority of breeders, however, want the dam to have the highest record possible, other things being equal.

There is one type of animal that is meeting with disfavor among dairymen—that is the animal with the sloping rump. A cow with a drooping tail-head is always short between the hook and pin bones, and short in the quarter. This gives an udder that is long and pendulous, and usually lacking in the fore-quarters. While there are some good cows that have this fault, all our highest record-making cows have good straight top-lines and well balanced udders. When purchasing a young bull, an animal with a drooping rump should be avoided, as his progeny are almost sure to have the same defect, and animals of this type will not bring the price on the market as will those with a straight, smooth conformation.

Many farmers will not keep an old bull because he is too heavy or they do not wish to be bothered keeping him over from year to year after he is about three years old. It is at this age when a bull is beginning to prove his value. When purchasing a bull, an aged animal that has proven his worth should always be preferred to a calf, as there is no certainty what a calf will develop into. Often these aged bulls are sold at very low prices. While a farmer should not consider a few dollars when buying a bull, a fancy price is not always an indication of an animal's worth or merit.

O. A. C., Guelph.

C. E. DELONG.

Plan to Prevent Limiting Competition.

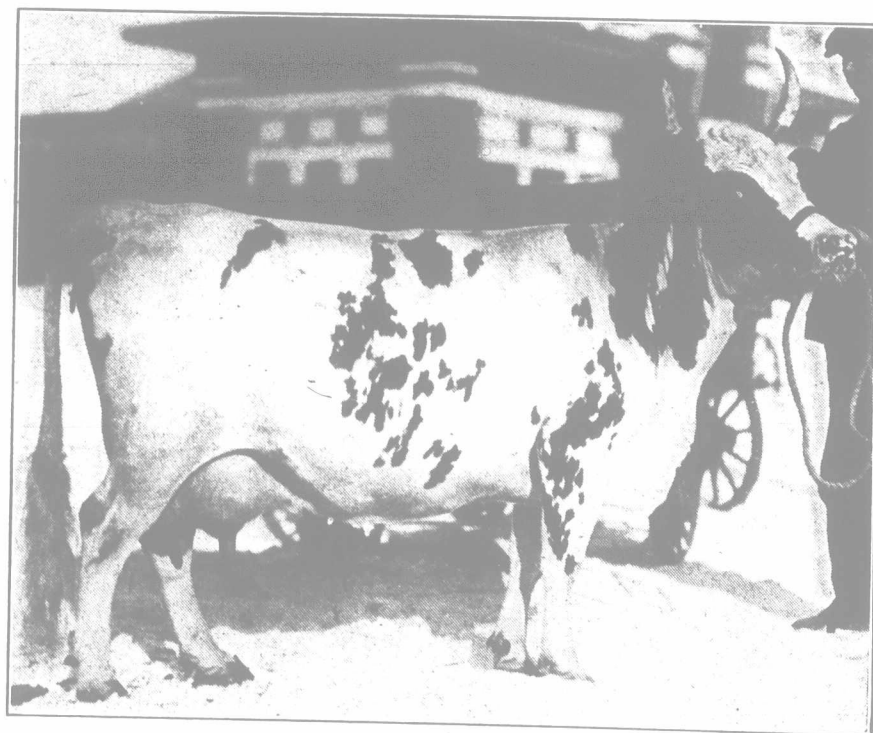
To a more or less degree the supply and demand of any commodity influences the price. Consequently, as the demand for a certain article increases, or the supply becomes limited, the price usually soars, and vice versa. Not only is this true of merchandise which the farmer is obliged to purchase, but it affects the produce which he must needs sell. As a rule the greater the number of avenues through which a product may be sold, the firmer will be the market. This applies to dairying possibly more than any other branch of farming. When the only market for dairy products was through the cheese factory, by manufacturing butter, or supplying a limited town or city milk trade, the price was considerably lower than it is at present.

During the past ten or fifteen years, the number of cows has not materially increased, although the yield of milk per cow is believed to be greater than it formerly was. The number of consumers of dairy products has increased more than has the supply of milk from which these products are manufactured. The towns and cities consume a vast quantity of whole milk, besides cream, butter and cheese, thus giving a good market not only to dairymen in close proximity to them, but by means of electric and steam roads are reaching far out into the country for their supply. A large quantity of sweet cream and milk is also used to meet the demand for ice cream in towns and cities. The dairymen who are conveniently situated so as to supply these demands, are more fortunate than those located several miles from a city or railroad. However, the milk consumed in supplying this phase of the city trade lessens the amount to be manufactured at creameries and cheese factories, or, in other words, is a competi-

tor of the cheese factories and creameries, and aids in increasing the price they pay for milk. Later, a market opened up for milk in a condensed or powdered form, and large plants were erected in different parts of the best dairy districts to supply the demands of the market. In order to secure milk the owners of these plants were forced to pay a little more for their supply than cheese factories or creameries could pay. This is but an instance of how the farmer is benefited by competition. These new plants were built in districts where cheese factories were numerous, and farmers sold the milk to the highest bidder. This increased the revenue of the man with a large herd of cows, but cast a dark cloud over the head of the owners of cheese factories in the district. With large quantities of milk diverted to new channels and the increased demand for cheese to supply war orders, cheese rapidly rose in value, thus increasing the price of milk for its manufacture. But, the milk condenseries and powder factories were able to meet the price, and have been the means of increasing the revenue of the dairymen during the past year or two. So keen was the competition that some cheese factories were forced to close their doors because they were unable to meet the price paid for milk by their competitors. In other sections cheese factories were purchased by the milk condensery and powder factory companies, and were either closed or used as collecting stations for supplying their large plants. During the past year a number of factories have passed out of the hands of individuals or farm organizations, which tends to lessen the competition.

What of the future? Is there a danger that the large companies will buy up all the small factories in order that they may shut out competition and have a monopoly which would enable them to set their own price for the milk they required? With the factories closed what other alternative would there be than to accept the price set by the companies? Closing a large number of cheese factories would doubtless lessen the supply of cheese on the market and make prices higher for patrons in districts not affected by the monopoly, but that would not help those who had lost a competitor for their milk.

These new factories are a good thing, and the extra competition has greatly benefited farmers fortunate enough to be located in their vicinity, but why allow them to swallow up the small factories which have served as an outlet for the milk supply for years past? The men who built many of the cheese factories did so in the expectation that the dairymen in the district would patronize them, but, if they are not able to pay the price for the raw material, it is only natural that the farmers sell their milk on the highest market.



Glenshamrock Canty Again.

First prize mature Ayrshire at the Dairy Test, Ottawa Winter Fair, exhibited by Alex. Hume & Co., Campbellford, Ont.

However, would it not be better if the farmers themselves purchased these cheese factories which are for sale, instead of their competitors doing so? In several communities this has been done, and, while the cheese factory may remain closed indefinitely, it is owned by the producers and can be opened whenever conditions warrant it. This appears to be a wise move, and might well be followed in other localities.

Condenseries and powder factories are not the only corporations that aim at securing a control of the dairymen's product. Creamery companies have endeavored to secure sole control of the cream in a certain district and then set their own price. Large companies have tried to secure a monopoly on their city milk supply, in order that they may pay the minimum price to the producer for milk supplied, but, on the other hand, the consumer was obliged to pay all the company thought they dare ask. If there is no competition the producers must either accept what is offered for the milk, or go on strike. For a

large number of farmers to organize and actually refuse to supply milk to a company unless the price is increased is no easy matter. However, farmers in the vicinity of a Western Ontario city organized a milk producers' association two years ago, and were able to secure about 90 members. During the spring of 1915 they felt that they were not receiving a fair price for the milk they were selling to the city company, and decided to feed the milk rather than supply that company. On a set date the members handed in the milk cans supplied them, and a strike was on. The company required milk to supply its trade, but because nearly all dairymen in the vicinity belonged to the producers' association it was impossible to procure an adequate amount. The result was that the farmers dictated their terms to the company and, by having backbone enough to stick together, received an increase in price over the previous year that meant \$3,000 to the members of the association.

This one instance has proven that by co-operating dairymen may dictate their terms to large companies. By co-operating they may also own their own factories, and by so doing be able to enter into competition with other concerns, which have a tendency to form a monopoly on the product they have for sale. The future, as well as the present, market for milk and its products should be considered by the dairymen.

HORTICULTURE.

The Plant's Start in Life.

Good seed of a variety suited to the conditions where it is to be grown is the foundation of the future plant in garden or field, but giving it a start is equally important. The first two weeks often fixes its fate. To struggle up through hard, lumpy clay is killing to the tender, slender seedling, which is often compelled to run the gauntlet of too much or too little moisture, rough winds or withering sun. From these causes and from too deep planting a large percentage of good seeds are wasted every season. Corn is often covered too deeply, and very fine seed like that of celery or begonia should simply be scattered on the surface and lightly sprinkled over with rich, mellow mold. By gardeners and farmers or their wives thousands of plants are started early every spring in boxes for transplanting. Suggestions verified by experience under different conditions will, therefore, be useful at this season. The forty years' work of Luther Burbank, of Santa Rosa, California, the famous plant

improver, in growing seeds, many of them rare and costly from all parts of the world, given in a new account of his life by H. S. Williams, is timely.

The boxes carefully and strongly made of cypress or redwood are 18 inches square by 4½ inches deep. A couple of spaces about ½ of an inch are left across the bottom for drainage and aeration. In the bottom he puts ½ to ¾ an inch of small gravel. Over this comes the main mixture made up of ½ clean, sharp sand, 40 per cent. forest soil containing leaf mold if available, 5 to 10 per cent. of powdered moss or peat, and one or two per cent. of bone meal or super-phosphate. This soil can be used year after year by adding a little fresh, and if desired to get rid of bacterial disease or insect pests it is sterilized with scalding water. The box is filled to within an inch of the top, and firmed down with a piece of board. Seeds other than the very fine ones, either in boxes

or otherwise, are covered with from ¼ to ½ inch of mold. To hold moisture and equalize temperature, hastening germination, a light sprinkling of sawdust is used sometimes. Powdered moss is also a favorite application to the rows. With the same object, lawn clippings, etc., have been used by others. Burbank does not water his boxes by sprinkling, but by partially submerging the boxes in a tub of water. Kept at a moderately warm, green-house temperature, the plants will be up in a few days and ready to transfer to larger boxes in rows farther apart or to a cold frame if the weather is right. They are easily lifted with a quill or small knife blade. In transplanting set a little deeper than in the original box and gradually harden them. Sulphur is used for fungus, and lime, red pepper or tobacco dust for slugs. Do not be in a hurry putting the plants in the open when the weather is precarious. The final transplanting is done with a trowel taking up plenty of dirt to include all the roots. Keep the earth about the plants stirred frequently for a time.

Dealers and Growers Compromise in British Columbia.

EDITOR "THE FARMER'S ADVOCATE":

British Columbia is intensely protective in its policy, as the support she gave to the recent increase in tariff on imported apples would indicate. Perhaps this tendency has been responsible for the great efforts that have been made by the leaders in the home-fruit markets to hold British Columbia markets in Vancouver and Victoria for British Columbia produce. At any rate, whatever is the cause of it, there is now a strong sentiment being worked up in these markets favoring the locally-produced articles, and it is no uncommon thing to see in the papers: "Wait for Okanagan Peaches," "Wait for the local strawberries to do your preserving," "Buy B. C. produce, only," etc.

It may be interesting to know how the Vancouver market was swung from purchasing tremendous quantities of cheap, low-grade, United States-grown fruit to buying almost five-eighths of its fruit from its own producers. Last year Mr. Abbott was appointed Coast Markets Commissioner, to endeavor to organize some system out of the confusion. His first difficulty was to be the small gardeners on the outskirts of the city, who had just a little stuff that they generally marketed either to the consumers or in uncertain quantities when ever it was ready to any purchaser that was handy. This system often caused a glut when there was no need whatever for it. The disbanding of the old market system controlled by the wholesalers was abolished and the usual open city market established.

Then the question of the wholesalers purchasing from the United States came in for adjustment. The work was first started in with the fruit, strawberries. The wholesalers when approached on the matter of handling local stuff to the exclusion of the United States product claimed discrimination, that one or two firms would get all the local goods and the rest had nothing else to do but to purchase elsewhere if they wished to supply their trade. Arrangements were finally made and a fair distribution was assured. Things went nicely for a while, till one day one of the largest growers noticed a fine chance on the prairies, and without any consideration for the wholesaler, shipped off to the prairies, leaving the local wholesalers high and dry. This made them "sore," and they got together and decided to settle Mr. Grower for good and all, and they imported outside stuff. Then when the prairie price dropped, the grower took up his old customers again and sent in a big shipment. He did not hear from them, and went to see. He found his shipment at the station drying up. They finally spoiled, and he had more coming on. He got desperate and went to the Commissioner about it. The Commissioner explained to him just what he had done. Finally the wholesalers and the grower made an agreement and stuck to it throughout the season. The lesson was well published and the growers of all the other fruits and vegetables were implored to see that the wholesalers had a fair chance to work up the home market by the support of the growers under systematic methods and shown through this berry grower what would happen if they neglected the home houses for an alluring, temporary, outside market.

Within 50 miles of Vancouver there are enough gooseberries grown to supply all of British Columbia, yet in 1914 the city imported 661 crates. By the same methods of handling as strawberries this was reduced to 50 and that could have been reduced if the growers had not the bad habit of stripping the bushes all at one picking. They were warned and asked not to do this, but to go over the bushes often and thus spread out the shipments. Bad packages were used or rather, poor system. Early berries were wanted for pies. A tradesman would drop in for a small pint basket on his way home, so that he might have pie in his lunch. Later on, the canning came on, and the larger containers were the thing.

Plums caused trouble. Formerly the growers shipped in all at once. As with the gooseberries they were kept after to ship in over a longer period by going over the trees oftener. The wholesalers agreed to hold off from imported goods if they were assured of regular supply. The growers worked well and a regular supply was obtained, with the result that the wholesalers kept their promise, and the imports were cut away almost entirely. The big trouble was that imported stuff was put up in a tin top that had been the result of years of experience, while the local growers used one very poorly adapted to its mission, and the pack looked stunted, and it was so pretty often. That is one thing Canadian growers have to come to if they wish to compete with United States stuff. The United States pack is full and then some for good measure.

Towards the end of the season onions came in with a rush. In 1914 the city of Vancouver had imported 1900 tons; this was reduced greatly, and the Commissioner hopes to induce kiln-drying, and thus spread the shipments over the season.

Some of the things about the marketing of fruit, that made themselves apparent and are of interest, call for mention here. This market has a price limit for nearly every commodity purchased, and it is an indication of a situation that is prevalent in most markets, though, perhaps, not so easily seen. Peaches here, for instance, are kept moving till they go over \$1.00 per box, then the consumers will immediately shift their purchasing to some other fruit, and it is very hard sometimes to get them back to peaches, even by dropping the price.

That the use of an unattractive package is not suited to its work, is something the farmers must learn, and they will find it very costly if they don't waken

up in a hurry to the fact that women do not buy because they like the fruit merely. If a woman goes into a shop to buy a pair of shoes, the salesman will, if he can, judge what will please her eye, in other words, he will try to fit her eye rather than her foot, with the shoe. It's the same with fruit, and the growers had a very good lesson if they only knew it. in the tin top used for plums last year.

Selling to department stores is to be discouraged every time. These houses get their business by startling bargains. They sell something at a sacrifice in order to get the customers to their stores, and then they will, when there, buy other things on which a profit is made. This season a very good example was made of one of the department stores in Vancouver. This store approached all the growers in a certain locality and made arrangements to pay them in goods from the store for rhubarb at a rate per pound quite a bit above the usual market price. They could easily afford to do this, because the goods the producers would take would cost the store a great deal less than the rhubarb. The transaction was all arranged, and on Wednesday this store came out with a display advertisement of rhubarb on Saturday at a ridiculously low price. The wholesalers went to the Commissioner about it. He found out where the rhubarb had been purchased and phoned every one of the growers, explained to them what they were doing and what the wholesalers would do to them if they broke the market that way. He advised them to hold off their shipment. They did and that settled that kind of business. The store opened on Saturday with about 10 pounds of rhubarb. The customers thought it was a put-up job on the part of the store, so their scheme came back like a boomerang.

British Columbia. WALTER M. WRIGHT.

Growing Early Potatoes.

The potato is a universal article of diet, second in importance to wheat flour. It is capable of being prepared in a variety of ways, and in many homes serves as the basis of every meal. So important is this underground tuber in the sustenance of a vast number of the human race that a failure of the crop is almost a calamity. The late varieties comprise the bulk of the main crop, as they can be successfully grown on a greater variety of soils, and are considered heavier yielders than the earlier varieties. However, new potatoes are in demand in early summer, and the price is usually high. Supplying the large cities and towns with early potatoes should be left to the growers whose land is particularly adapted to growing the early crop, but there is no reason why a few early potatoes should not be planted in every farm garden.

The soil best adapted to growing potatoes, either early or late varieties, is a deep, warm, sandy loam well supplied with decayed or decaying vegetable matter. A soil of this description is not found on every farm, but by having sufficient under-drainage and applying barnyard manure, together with plenty of cultivation, a clay soil may be made quite friable and suitable for growing early potatoes. Having new potatoes several weeks before the main crop is ready for use will amply repay a person for any extra trouble in preparing the soil and planting a few tubers of an early variety. Where a corner of the garden cannot be used possibly a piece of clover sod on some part of the farm will be available. As the potato requires considerable plant food in order to make the best growth, clover and farm-yard manure make an excellent fertilizer. For early potatoes 20 or 25 loads of manure on a clover sod would not be considered too much. Some growers apply potash, when they can secure it and some phosphatic manure to hasten the growth. The soil should be thoroughly worked and the tubers planted as soon as danger from frost is passed. The time of planting will depend somewhat upon the nature of the soil and the locality. The earlier potatoes are planted, the sooner they will be ready for use, provided they are not too severely injured by frost. Owing to the frequency of late spring frosts, many growers do not risk April planting. However, planting should be done early in the season, and if there is danger of frost when the potatoes are a few inches high, they can be protected by covering with soil, by using an ordinary plow or cultivator. Where a few potatoes are planted in the corner of the garden, it would be very little trouble to give this protection.

The Early Eureka, Early Ohio and Irish Cobbler are the favorite early varieties with many growers. In planting, a tuber is usually cut so as to leave two eyes to a set, and is planted from 2 to 3 inches deep. The nearer the surface the warmer the soil, consequently the more rapid growth. The ordinary methods of cultivation to destroy weeds and conserve soil moisture are given after planting. On account of the shallow planting it is necessary to hill the potatoes as they develop, in order to prevent sunburn.

Some growers of early potatoes prefer immature tubers for seed, claiming that they give better yields and grow more quickly. Extensive growers often procure seed from a district several hundred miles north of their own community. This, they claim, increases the yield and gives them a slight advantage in the earliness of maturity. Where only a few tubers are being planted they might be spread out weeks previous to planting in a shady, well-ventilated place where they develop strong sprouts from the eyes. These are not easily broken off and by careful handling may be planted by hand without injury to this new growth. The early varieties develop and are ready to use much earlier than the late varieties. Any farmer who has not tried growing a few early potatoes to supply the

table, between the time the previous year's crop is depleted and the new main crop is too watery and insipid to use, will find it to his advantage to plant a few this spring.

Better Net Returns for Local Associations.

Following is an address delivered before the last Ontario Fruit Growers' Association Convention in Toronto by the President, Dr. A. J. Grant. It is replete with ideas and advice which growers and co-operators will find quite applicable this coming season.

As fruit growers we are all vitally interested in money returns, and you will notice that I have chosen to speak to you on the subject of better "Net Returns," and not simply better prices. There are many ways in which the members of associations as well as individuals can increase net returns, by decreasing many of the expense items in connection with the production and handling of apples. It is somewhat surprising how few members of local associations really understand the selling standards for apples, and yet the standards are the same as those governing the sale of any other commodity, viz., Quality. Anybody can understand that a barrel or box of No. 1 apples will sell for more than the same quantity of No. 2 stock, or that good Spy and Snow will sell higher than Bellefleur, but when it comes to the sale of a carload or several carloads, or perhaps the entire pack of an association, then we are liable to loose sight of the fact that it is the complexion of the entire lot of apples, from the viewpoint of quality, which governs the price. Generally speaking, the greater the percentage of No. 1 red fruit and the fewer poor varieties, the greater the selling price per package. For instance, in the season of 1914, when low prices prevailed, I know a man who exported one car of very excellent Baldwins, making a net return of some \$3.30 per barrel. This price was noised about the district, and nobody took the trouble to ask for the details of the sale, so that much dissatisfaction arose among the members of several associations because they did not receive at least \$3.30 per barrel for their entire output, including varying quantities of inferior varieties, as well as low percentages of No. 1 apples. This brings us to the first point that I would like to drive home. If you expect your managers to get you in on the top-notch prices which you hear quoted from time to time, give them the necessary percentage of good No. 1 red fruit and a first-class variety list; these are the elements which make for high prices and the packs with a low percentage of No. 1 with perhaps a lot of poor varieties, must accept lower prices, under the same market conditions.

Thoroughness in Cultural Methods.

Thorough pruning, intelligent cultivation and persistent spraying are the things which we must look to; if we wish to raise our percentage of No. 1 apples, the poor variety list must be assisted by liberal grafting to good commercial sorts. A great many growers are afflicted with inferior varieties in the orchard and oftentimes none too freely blessed with quick selling varieties. Let us graft those kinds which are depreciating the sale of our pack and get at it quickly. When you improve your variety list, you will improve your returns by no small margin. In our own association we found it such a difficult thing to get thorough pruning that we have started out a pruning gang to make a complete circuit of every orchard in the organization. If the grower wishes, we pay the pruning expenses and charge it up to next season's apples. You can't talk good prices for apples from unpruned trees. Prune well first, then spray, as the season demands it, at least three or four times, and you have taken a big stride toward putting more money in your pocket at the end of the season. I cannot pass such a topic as spraying without emphasizing thoroughness and a sufficient number of applications. We take it for granted that all apply the three standard sprays, but there is a most critical period just after the apples are nicely formed, and lasting several weeks. If the weather at this time is damp and cool, then get busy with the spray pump and you will be making money pretty fast. Drench your trees with abundance of good chemicals and save money by anticipating your wants in spray material and ordering in sufficient quantity at the proper time to get in on the best price.

Adopt High Standards.

In the producing of this good fruit which sells for more money, you have increased your returns in another way. You will all agree with me that it costs less money to grade and pack a good run of apples than it does to handle a poor run. We sometimes hear association members complaining about the cost of packing—here is the very place to lessen the cost by producing better apples. I have frequently noted, in our own packing house, the remarkable difference between the time required to go through a good run of apples as compared to that required for apples which were grading low with a lot of culls. One of the best ways that I know of assuring yourself a ready market for your pack, at a good price, is to establish standards for your various grades, getting well in advance of the requirements of the Fruit Marks Act, and then guard those standards most zealously. One of the greatest shortcomings of the apple business is summed up right here. Most of us are too easily satisfied with the ideal apple for a particular grade. We have in mind simply what will pass inspection and forget the really important thing—what the consumer is going to think about it after he has paid some real good money for the barrel or box of apples. Why is it that we can walk down the streets of Toronto and see such an abundance of high-

class apples on sale which have been brought in from the Western United States and faraway British Columbia? You will find the same conditions in other Ontario cities. The quantity imported is steadily increasing because there is a demand for a high-class, reliable apple, properly packed and we fruitgrowers will persist in blinding ourselves to this big outstanding fact. What usually happens any line of business which refuses point-blank to supply what people are demanding? Why of course the business will have difficulties, and mighty serious difficulties, if a sane line of policy is not adopted. Our grading of apples, generally speaking, is much too low, and for this reason the trade demanding high-class stock must seek its requirements elsewhere, thereby losing for us the cream of the business with the accompanying high prices. We have some progressive individual growers and some associations who have been packing high-class grades and doing well in the industry. Why not every grower and association emulate the example of these few and bend every effort toward producing first-class apples? Let every one of us broaden our sphere of vision as to what is really a first-class No. 1 apple and a first-class No. 2 apple. We have associations in Ontario who can always sell their pack at a good advance over the common herd. Why? Simply because they have established a reputation with the trade for a high-class, uniform pack. Let every association try to establish standards of grading which will assure them a good reputation with the trade, and when you are fortunate enough to win this reputation, guard it carefully as one of your best assets.

Two Kinds of Economy.

One of the best ways to lose the reputation of a good pack is to become economical, in the wrong direction, and employ some cheap, unreliable labor; you save a few dollars in the pay roll and lose many hundred, as well as "getting in wrong" with the trade—a loss which cannot be estimated in money. There are two brands of economy: "Business Economy" or "Stopping Leaks" and "Foolish Economy." Let me commend to you the former as one of the keystones of success in the apple business or any other business, but foolish

economy is doing more right now to hold back fruit growers' associations than many other agencies combined. Commencing at your manager, who should have a thorough knowledge of business, down through the whole staff, you must have competent men. The ideal combination is "Brains" and "Energy," hard to get, but when you get such a staff, pay them first-class wages and they will show results every time if the growers will give them the proper fruit to handle. They will bring your brand of apples to the surface so that you will be sure of a ready market at fair prices, regardless of overhead conditions. There is always a demand for the good article.

Market Phases.

The market for apples is a very unstable one, and it is our business as growers to do all possible toward writing the word "Apples" indelibly upon the want-list of every housewife. How are we going to do this? First, and foremost, give the consumer a "run for his money," by supplying him with good, reliable, uniform fruit at a reasonable price; pare your cost of production and overhead expenses to the lowest possible limit, but don't do it at the expense of quality or uniformity of grade. I would like to see every association using central packing houses, as it is then possible to get uniform grading and keep to your standards. The central packing method is cheaper than the orchard pack, and it is much easier to get one good capable foreman, who will stick to his grades, than it is to get several foremen to handle orchard gangs. In the latter you cannot get the same uniformity as you have too many individual opinions. A great deal can be accomplished along educational lines. Everybody is now clamoring for Northern Spy. We won't deny the fact that it is the best general purpose apple that we produce, in its season; but there are other apples of merit which we are producing in large quantities, the virtues of which are largely unknown to the public. Some excellent newspaper advertising has already been carried on with much benefit; the efforts of our energetic Dominion Fruit Commissioner in this direction have been highly appreciated by the fruit growers throughout

the country, and we all hope to see this advertising continued. There is another method of educating the public, and that is through the legitimate fruit trade. There has been too much antagonism in the past, between the fruit trade and the fruit growers. Such a state of affairs is not in the best interests of either party, and a better understanding all around would undoubtedly help the industry. We need the fruit jobber and the retailer, and they need us. They can boost our wares to their own advantage as well as ours, but everybody concerned must have confidence in the "other fellow." Every retailer has his clientele of customers, who look to him for advice in such matters. These men can do a great deal toward stimulating the demand for apples by recommending the proper variety for certain purposes, varieties in season, etc. Let us bury the hatchet and get closer together.

Many of our associations have another pernicious habit which undoubtedly reduces our net returns and that is the forcing upon the market of unseasonable varieties. Lack of storage facilities is a difficulty in many cases, but there is always storage to be had in the larger centres, and the holding of some of the later maturing varieties for even a few weeks may make a great difference in the net returns to the grower on the season's business. I am not advising associations to go in for wholesale storage of apples, but I am advising that you offer the various varieties when the trade wants them. We growers are sometimes in such a hurry for our cheque at the close of the season, that a sacrifice is made in order to turn all the apples into money.

Stick by the Association.

The business of a fruit growers' association should be conducted upon sound business principles, keeping as free as possible from speculative ventures, but you will have your reverses, just the same as any other business. Learn to take such things cheerfully; you will have good seasons and you will have bad seasons, and I have repeatedly noticed that the fellow who is dodging in and out of associations always jumps the traces after a lean season and misses the good one to follow.

Planting and Developing Young Orchards.

After all that has been said during the last two years regarding the overproduction of fruit; after hearing of the five- or six-hundred-thousand acres of orchards in the Northwestern States, 75 per cent. of which, it is said, must go under in order that the remainder may yield a profit; after viewing the generally pessimistic attitude of teachers and lecturers along fruit lines, he has a strong nerve indeed who will in the spring of 1916 set out a large plantation of apple trees. The really great successes, however, have been made by men with strong nerves, men who grasped an opportunity unobserved by their fellowmen, men who rushed in where others feared to tread. The ups and downs in fruitgrowing are similar to the fluctuations in the swine industry, only the periods are longer and less frequent. There is always the changing element to be considered. A certain class of farmers get discouraged when the price of hogs drops. They dispose of their stock on a weak market. Eventually up goes the price. Then they stock up again at boom prices, and when in a position to sell a goodly number of hogs they find farmers, the country over, in the same position, and the stock is sacrificed again. This class of farmer always has his innings when the sun and wind are against him, and he is sure to lose out. The fluctuations in the fruit market occur less frequently than do the peaks and valleys in the swine industry, but they occur with the same regularity. The weak-hearted grower is like the man who dodges in and out of a co-operative association regarding whom Dr. A. J. Grant, President of the Ontario Fruit Growers' Association says: "I have repeatedly noticed that the fellow who is dodging in and out of the Association always jumps the traces after a lean season and misses the good one to follow." There were some orchards in the Annapolis Valley over a dozen years ago that came within a hair's breadth of being burned in the kitchen range, and as long ago as twenty-five years some of the younger generation were pleading with their parents, who were good axemen, to spare orchards, which since that time have yielded abundantly and profitably. Five and ten years ago the cry was "specialization," and if our memory is not at fault, Andrew Carnegie was credited with saying: "Put all your eggs in one basket, and watch that basket." The remark may apply to iron, but time has shown that it is not the policy for the farmer to adopt. It is just another instance where the successful business man may hand out the wrong "dope" to the farmer. Of late years "diversification" has been popular and after all, it is not a bad plan to have the eggs scattered around in a few baskets, each in a safe place. Even this system has its limitations. As applied to the apple business, it requires some modification. No one can tell what a decade will bring forth, but, judging from present circumstances and indications, it appears that the expert and extensive grower will be in a better position to market his product than will the producer with a small acreage and a correspondingly small amount of skill and ability as a sidesman. This is only a prophecy, and should be considered as such, but it is partly substantiated by conditions at the present time. However, the problem of distribution is being solved, or, we hope it is, and the small grower, we trust, will have equal opportunities with the extensive producer in a

marketing association that will make its influence felt over a large field, and will combine the drifting, struggling, and competing societies of the present time. The expert grower will always have a pre-eminent position, an advantage gained through skill and application to the one line of endeavor. This seeming digression is penned only to advance the opinion that there are good years to come in the apple growing business and the man who starts to get in now actually has a brighter outlook than did the ministers (active and retired), doctors, lawyers, school teachers, merchants, real estate agents, and all who plunged into it from five to ten years ago, and who are partially responsible for the rather gloomy prospects at the present time.

Brighter Days Coming.

There is not a man in Canada, or in the United States, to-day who is in a position to say whether it is wise to plant or not to plant. When the Dominion Fruit Commissioner, the Provincial Horticulturists, the Horticultural Professors and Lecturers advocate the planting of more fruit trees, then is the time not to plant. This sounds uncomplimentary, but the real significance of the statement is quite the reverse. The advice of the authorities is consumed in too great quantities because of the confidence we have in them. "If a little is good, a lot is better," so, instead of taking the advice moderately, as was intended by those who prescribed, it is misconstrued, wrongly interpreted and altogether abused, until everyone is planting trees. After a while the outlook is altered. Those "higher up" see a good, liberal production ahead, and they casually throw out the suggestion that there are enough trees standing. Then right-about-face for the grower who is inclined to jump the traces. Calamity, ruin, and dire things are ahead and that type of producer often gets just what he is expecting. One should keep his ear to the ground and listen to the murmurs to be heard there. If he is a watchful, listening person, he can usually judge for himself what line offers the best opportunities. Let him adopt, in a quiet way, what looks best and stay with it. Farm production always seems to right itself when it gets in excess of consumption. In the readjustment of the fruit industry there will be some heavy losses, but the readjustment will come. Where each grower will stand in those brighter days depends upon his judgment now.

This article is not intended to recommend the planting of fruit trees. If anyone, however, is setting young trees this spring, he may find, in the following paragraphs, a few suggestions very closely allied to the work in hand.

Selecting and Planting Young Trees.

The buyer cannot insist too strongly upon having only good, straight, healthy stock delivered at his place. Weak and ill-grown trees present a bad appearance for years, and more labor and fertilizer are required to make anything out of them.

The question still hangs fire as to the advisability of planting 1-year-old or 2-year-old trees. The grower must answer it for himself. Both systems have their advocates, but to the writer it appears that the orchardist who sets two-year-old trees is one year ahead of him

who sets year-old trees. This is demonstrated on Lynndale Farms, in Norfolk County. There, trees of both ages have been planted. The two-year-old trees have maintained their superiority in size, and in fact have gained on the yearling trees. In the same locality however, there are growers who prefer to, and would, plant only year-old trees. Often by reducing the yearling tree to a whip, the head can be lowered and developed according to the desires of the orchardist but this requires labor, which should be expended by the nurseryman. A two-year-old tree with the branches 18 to 24 inches from the ground, straight and healthy, is most popular with the growers to-day.

When setting, prune off the broken roots and make a fresh slanting cut near the end of each root of any size. Rootlets will be forced out around the fresh cut and the feeding system will regain life more quickly. The branches of the top should also be trimmed back to establish a balance between the feeding or absorbing capacity of the roots, and the evaporation of the branches. The top which comes on a young tree corresponds with a much larger root system than is possessed by the tree when it is shipped. Many of the feeders have been broken off in the operation of lifting, storing, and shipping. When planting again, the equilibrium must be restored or the amount of evaporation will be in excess of the absorbing capacity of the roots. In such a case the results are obvious.

A good clover sod plowed down the previous fall makes a suitable field upon which to plant trees. It would be preferable, perhaps, if a hoed crop were first taken off, but too much importance need not be applied to that feature. The field should be fertile to begin with; it should be well-drained and not too much exposed. When setting the trees, work surface soil in and about the roots and tramp it down, but leave the last dirt thrown around the tree untramped to act as a mulch to conserve moisture. After this, cultivation is in order.

Systems of Planting and Intercropping.

The nature of the crop to be grown in a young orchard depends to a large extent on the lay-out, or system of planting. Trees set 40 feet apart each way permit of almost any crop being grown between the rows, but if the filler system be adopted without modifications, the trees will stand only 20 feet apart, and the profitable use of many of our large farm implements is prevented. The six-acre, young orchard at Weldwood is planted according to a modified filler system. The rows are 40 feet apart and the trees are 20 feet apart in the row, fillers or early-bearing varieties being planted between the standard trees. This plan is admirable under almost all conditions. The general farm cannot afford to spare the land till the orchard comes into bearing, and the exclusive fruit plantation must be producing some crop while the trees are developing. At Weldwood roots and potatoes have been grown in the orchard with no apparent injury to the young trees. The harvesting is usually done late in the fall, so lifting the roots does not encourage late growth in the shoots or buds. There should be at least a four-foot strip of land left on each side of the row of trees, to be cultivated during the early part of the season. However, if some

crop is being grown near the trees, which does not require too much moisture, they should thrive on what cultivation is afforded them on account of the crop. When trees are set in rows only 20 feet apart, and from four to six feet of a strip is left on each side of the row, it can easily be seen that there is not a great deal of land left to crop. However, when the trees are set only 20 feet apart each way, one can afford to crop the land less, for the early bearing trees will soon be yielding some revenue. P. E. Angle, Superintendent of Lynndale Farms, in Norfolk County, where approximately 400 acres of young orchard are being developed, recommends the following system of intercropping: Assuming that we have a good clover sod turned down the previous fall, the land should be prepared as it would be for a good crop of oats. The trees are planted early in the season and some crop put in. Early potatoes are advised as suitable for the first season; they are harvested early and the land can be sown with clover, or a mixture of rye and vetch. One might follow this with strawberries, which would occupy the land for two years at least. Strawberries, however, should be kept away from the trees; in a young plantation at least a four-foot strip should be left between the first row of trees and the berries. Beans instead of strawberries might be grown the second year. During the second season of a strawberry plantation, it will no doubt become somewhat grassy. When plowed down, it should make an excellent field for cabbage. This again could be followed with rye and hairy or winter vetch. Factory corn has done well on Lynndale Farms, when grown as an intercrop. With all crops except potatoes a strip should be left along the row of trees, which is seeded down sometime in July, according to the season, with turnips, rape, clover, or rye and vetch. White turnips might be sown on the strip and harvested late in the fall. Three or four pounds of seed per acre is about the right quantity to use. There is such a thing as seeding too thickly. Where the orchard is fertilized and some manure is added, a liberal quantity of chicken feed might be grown on the vacant strips by sowing buckwheat.

The function of the narrow strip left beside the trees is no doubt well understood. That land should be cultivated early in the season to induce a good, healthy, vigorous growth in the trees. After mid-season, generally speaking about the first of July, some crop should be sown on it that will utilize the moisture, check the growth of the trees, and harden them so as to prevent winter injury. Mr. Angle speaks very favorably of the system of planting advocated in the preceding paragraph, namely planting 20 feet apart in rows 40 feet apart.

A test of different methods of developing young orchards in the State of Pennsylvania, showed a practice, uncommon with us, to be quite successful. The orchard in question was seeded to alfalfa, but not close to the trees, and the bare land was mulched with the crop. The alfalfa produced all the mulching material required and some surplus besides, especially in the earlier years. The mulching was always heavy enough to keep down practically all growth immediately above the majority of the feeding roots of the trees. This is probably essential for best results, with this plant as the permanent cover, because of its special affinity both for moisture and soil nitrogen. "In a good alfalfa soil," the State College reports, "it is possible to give an abundant mulch of this sort and still have a considerable surplus of good hay besides. In other words, this particular method gives us a mulch and something of an intercrop at the same time, without any tilling and without any apparent injury to the trees, where mulching and protection against mice are both sufficient." This, it will be observed, is a relatively new idea in orchard development, and the method or some modification of it is evidently very well adapted for large acreage, or for places where tillage and intercrops are not available. The trees grown in the experiments carried on by the Pennsylvania State College according to this system did exceptionally well in the first seven years, and ranked No. 1 among the trees grown according to several different methods.

The orchardist can judge for himself what system will be best for him to follow under his own peculiar circumstances. If canning crops are in demand, they can be grown quite successfully in a young orchard. On a holding where mixed farming is followed, feed for stock will likely be required, and a goodly quantity can be produced between the rows of trees without injury to them. It should always be borne in mind, however, that crops should not be allowed to rob the trees of plant food and moisture during the growing part of the season. After the latter part of June and the first of July it is necessary to check growth and harden the wood. Where a strip is left on both sides, this can be cultivated and later sown to a cover crop that may be plowed down or harvested to provide chicken feed, or feed for live stock. Any crop that must be dug from the soil during September or early October is not advisable. Working the land at that season is liable to encourage late growth in the trees, which may result in winter injury.

Pruning Young Orchards.

The subject of pruning young orchards could be discussed at great length, or passed over with the remark that excessive, or too severe pruning, is inadvisable. There are cross limbs that should come out, but when one starts in to prune the tree with the intention of keeping it low or correcting ill-shaped heads, he can make up his mind that his task will grow as the years go by. Healthy trees on fertile land will throw a large amount of wood growth after pruning. The more severe the pruning the greater will be the growth of

the limbs and branches. Some orchardists, experienced in developing young orchards and who are working on a commercial basis, do very little pruning until the trees begin to bear. They claim the trees come into bearing at a younger age when handled in this way and the expenses of pruning are slight. Such growers as the Dempseys of Hastings County, the Fishers of Halton County, and P. E. Angle of Norfolk County, advise taking out only the cross limbs and allowing the tree to develop normally. With them it is a business proposition. It costs them money to prune, but they do not forego pruning simply because it costs money. In their judgment the trees do very well without any great amount of pruning, and when the trees are left alone they require less.

In the spring of 1913 the young orchard at Weldwood was pruned by two men in less than half a day. The following year more severe work was done in an attempt to keep the heads low and well thinned out. This seemed to encourage the growth of more branches and shoots, and the time required to prune the orchard in the spring of 1915 was quite in excess of the time required in 1914. However, the man who was doing the work persevered in his endeavor to top the trees back and keep the head thinned out. The result is that new shoots have appeared on the limbs and branches which must be cut out this season, and the time required to prune the orchard will be much greater than in any previous year. This would be expected in a growing orchard, but the development of new shoots making the head quite thick would lead one to believe that the trees had been pruned too much. The reader should understand, however, that the trees have not been abused. The method of pruning was really a modification of the system that has been advised for years. Limbs were allowed to remain that expert pruners would, no doubt, have removed. Each tree was studied and handled as leniently as possible, but according to modern teaching. The forms of the heads are as near correct as was possible to make them, but in the endeavor to prune them properly a quantity of unnecessary wood was encouraged which must be taken out this year, and the removal of that will, no doubt, encourage the growth of still more. The trees are all right and growing well, but the question arises: is it wise to prune too much? The writer recently saw the trees on Lynndale Farms in Norfolk County, which have had practically no work expended on them so far as pruning is concerned. A few cross limbs were taken out, but otherwise they remain untouched. The form and character of the heads was all one could desire. The matter is worthy of consideration, and the grower should use his own judgment as to what pruning should be done. Some trees cannot be put into the best form without the use of the saw and clippers, but those trees that are tolerably well-shaped might be left alone until they begin to bear.

Hot-bed Weeds.

EDITOR "THE FARMER'S ADVOCATE":

Supplementing the excellent hot-bed plan and directions in your issue of February 24, I have found, in the course of several year's experience, that it saves a lot of subsequent trouble, after firming well the surface of the soil put into the bed, to leave it long enough to germinate the crop of weed seeds which are lurking there ready to make trouble later on. When they show green, overhaul them with a fine rake or hoe, and then re-settle the surface. Having cleared the trenches of the first band of enemies, the vegetable and flower seedlings will have a fair field to grow. The few days required to do this will not be lost time.

ALPHA.

POULTRY.

Co-operation to Produce Better Eggs.

EDITOR "THE FARMER'S ADVOCATE":

It seems to be a general impression amongst business men that there will be some remarkable changes in trade after the war, and good opportunities open to those who are able to take advantage of them. One of these opportunities will come to Canada in the poultry business, and it might be well if we farmers would realize this and prepare to take full advantage of the situation. A large part of Europe must now be entirely devoid of poultry. There can be none left where fighting has taken place or troops have been quartered. Already, Canadian eggs are finding their way into the British market, and by a recent trade bulletin we learn what is needed that we may reap the full benefit open to us. I find in this bulletin that eggs were bringing the following prices, according to the country from which they were imported:

Danish, per 120	\$5.95
Irish per 120	5.84
Canadian per 120	4.38
U. S., per 120	4.14

I have given in each case the highest price. It will be seen, at a glance, that while Canadian eggs bring 24 cents more per 10 dozen than eggs from U. S., that the Danish eggs bring \$1.57 per 10 dozen more than the Canadian, or almost 16 cents per dozen. I see also by the daily papers that American eggs are being imported into Canada, regraded and ship-

ped to Britain. It seems to me that the course to be adopted is a simple one. We must be absolutely sure of the quality of eggs that are to be shipped. To accomplish this co-operative egg circles should be formed wherever possible. All eggs should be stamped and carefully candelled and graded. To overcome the difficulty of American eggs being sold as Canadian, it would be well if the United Farmers of Ontario would take charge of exporting, adopt a trademark of their own, and have all the co-operative egg circles ship only through the association. The British market is always willing to pay for quality, and it will pay us to use the means to get our eggs up to the Danish standard. To do this we must adopt the Danish methods of co-operation. If we are willing to do this then we can go to work and increase our flocks as fast as we like, and cannot start at it too soon. Personally, I already have 400 eggs in my incubators. The demand for dressed poultry is also very great, and it should be no trouble to meet the requirements in this line also. There was not enough to meet the demand for home consumption this last season and prices were good.

Lincoln Co., Ont.

PETER BERTRAM.

THE APIARY.

Work for Beekeepers in Spring.

EDITOR THE FARMER'S ADVOCATE:

March is here upon us and with it come the thoughts of spring, but, from the standpoint of beekeeping, May and fruit-blossoming time look to be still far away; and, should there be a failure of the honey flow from this quarter, the middle of June, with clover bloom, is yet farther from us.

However, what is the use of crossing our bridges before we come to them? Why look at the dark side of the question? Rather let us change our view and look at the bright side. Perhaps we are rather depressed from the fact that we have had two poor honey crops in succession, but that is only the more reason why we should have a bumper crop this year. That reminds us of the question: "Are we ready for a good honey crop? Have we made our hives and supers, or if we intend buying them, are they ordered and our supplies purchased? If not, it is time to think and also to act, for remember it is March and the winter is going, with the busy season coming on.

In regard to the question of the beekeeper buying his hives ready-made or of making them himself, I would like to make a few remarks. If the beekeeper has plenty of cash and is very particular about his hives, but has not the necessary time to make them himself, then I would say: buy them. It is an undoubted fact that in a factory equipped with up-to-date and modern hive-making machinery the hives are extra well made; but—and here is the pinch—you pay for them.

Figure it out for yourself, at the price of lumber nearest you, and you will find, I am sure, that you can make them cheaper than they can be bought from a supply dealer.

To make one eight-frame hive with cover and bottom board, but without frames, it will take one ten-foot board, ten inches wide and planed on both sides. The best material for beehives, especially for this part of the country, is, I think, white pine. However, where other light, spongy woods, such as cedar or poplar, are more easily obtained and are cheaper than pine, then these will do equally well. Whatever kind of lumber is used, have as few knots as possible. Knots should be avoided as much as possible, as they are difficult to work up, and also because it is hard to paint them, and when the boards become very dry and shrink, they often fall out.

When the beekeeper makes his own hives, considerable care must be exercised in making the corners. As most experienced beekeepers know, the corners are the first to decay in beehives. The most suitable method of making the corners by hand is by halving the boards. This style, when painted before putting together and nailed both ways, makes a very water-tight and durable corner. Another very good way that is easier to make, and yet just as substantial as the former method, is by cutting a seven-eighths inch groove (the width of the board) in the ends of the hive and fitting the sides into this.

When making the frame rests in the hive, do not forget to make them deep enough for a metal frame rest to be put on. This device, which is simply a piece of folded tin as long as the hive is wide and tacked on above the wooden frame rest, is very handy where propolis is much used, as it prevents the bees gluing the frames to the hive.

The frames of the hive should be purchased ready made. The ordinary beekeeper, who has not special machinery, cannot, with the common tools, make his frames straight and true enough to give satisfaction. Those who have a foot or hand power circular saw can, however, make the stapled Langstroth or old-style Langstroth frame themselves, but those who use the self-spacing Hoffman frame must buy them, as it requires special machinery for the manufacture of the end bars and self-spacing device of this frame.

Regarding the style of frame to use, this is a matter for the beekeeper to decide for himself. The Hoffman frame is used extensively, but some apiarists object to this frame on account of the bees gluing them together. The new metal spacing device used on the Langstroth frame overcomes this difficulty, and this seems to be getting very popular. However, many

beekeepers use the old style Langstroth frame, depending on their own judgment in spacing them. A large majority of my own hives are equipped with this latter style, although I have some hives with the Hoffman frame.

The style of cover to use must be chosen by the beekeeper also. There are several very suitable covers, each adapted to its own section, mostly. The metal-roof cover is very handy and serviceable, although lately it is becoming rather expensive on account of the rise in the price of zinc. The excelsior cover is also very suitable, although it is rather hard to make at home. These two, I think, are the most popular covers, although there are several other styles, including the gable roof, etc., which are very common. Lastly, whether you buy your hives in flat or make them yourself, use care and time in putting them together, as it will repay for the trouble later.

Middlesex Co., Ont.

BEEKEEPER.

FARM BULLETIN.

"I Hear the Feet of the Young Men."

BY PETER MCARTHUR.

The papers have had much to say about the youthfulness of Sir Douglas Haig as General-in-Chief of the British Armies in the West. If my memory serves me, Sir Douglas is forty-four years of age. When I saw the fact commented upon that he was a young man to be placed in so responsible a position, I reached for a pencil and paper and a not entirely satisfactory dictionary or biography and began to jot down the ages of the great Generals of history. The result was amazing. I found that at Sir Douglas Haig's age practically every great General was dead or had retired. Only two outstanding figures had attained a greater age. At Waterloo, Wellington had reached the culmination of a long career as England's greatest General, and his age was forty-six. When George Washington took command of the American Army he was forty-three, and naturally was older than Sir Douglas Haig, when his rebellion was successful and became dignified by the title of Revolution. Alexander The Great was a boy in his teens when his military career began, and at the age of thirty-one, having already conquered the known world of his day, he was weeping for new worlds to conquer. Julius Cæsar had fought his way to the position of Pontifex Maximus at the age of thirty-seven, and Hannibal was at the head of the army of Carthage at the age of twenty-six. William Wallace was the liberator of Scotland at the age of twenty-three. Napoleon Bonaparte was at the head of the army of Italy at the age of twenty-six, and at thirty-two was practically the master of Europe. His great marshals, Murat and Ney (bravest of the brave) were at the height of their power at the age of twenty-eight, and Bernadotte became marshal at the age of thirty-two. When Napoleon grasped imperial power, his wisest adviser was General Duroc, aged twenty-four. Most incredible of all, George Washington's wisest adviser on matters of finance and public policy was Alexander Hamilton at the age of nineteen. Even at his death after having established a financial system of the United States, and after becoming the head of the American Army, Alexander Hamilton was killed in a duel at the age of thirty-two.

I might go on indefinitely naming the heroes and fighters of the past, and I think that at least an overwhelming majority of them would be shown to be young men. Fighting appears to be a young man's business, not simply in a hand-to-hand conflict, but also in strategy. The Austrian Generals complained of Napoleon, that he did not fight according to established military principles. The dear old men who were at the head of the Austrian Army expected him to fight "according to the book of arithmetic," but he did not do it, and although they knew that all logic and history was on their side, as to the best way of conducting battles, they went down to defeat. In the business world it is the same. The old men may have charge of the money bags, but the daring ideas that mean economic revolution and make new captains of industry are the ideas of young men. "Youth will be served."

And yet we are now suffering the horrors of an old man's war. With old men marshalling the legions in the field and old men planning strategy, the boys of the world are being sacrificed. The reason for this is obvious. Europe had comparative peace for at least a generation. When the Kaiser ran amuck, he naturally had with him the Generals and military advisers whom he knew as a young man, and who had grown up with him. Like himself, they were all old, and although they might be efficient, they lacked the splendid imagination and daring of youth. Opposed to him are the Generals and Statesmen of the rest of Europe, who have also grown old during the time of peace, and their methods of fighting are the methods of old and cautious men. It is all nonsense to say that this war is different from any other war. Every war in history is different from every other war. Probably the first troglodyte who superseded the stone axe with a bow and arrow was regarded as an innovator, and as a man who had developed the last possibility of war. But to-day science is providing the militarist with miracles—miracles of hell—no one seems to know how to use them effectively. Only old men would ever be content with the long-drawn horror of a "war of attrition." Youth would have grasped and hurled the thunder-

bolts of science. Do not forget that the Prime Minister of England, who dragged down Napoleon, was William Pitt—a boy in his twenties.

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Instead of being alarmed to think that the fate of the present war may be in the hands of a man so young as Sir Douglas Haig, it seems to me that we should look forward with eagerness to a time when still younger men will be promoted to command. When men in their thirties take charge, matters will look more hopeful; when men in their twenties come to the top, the end will be in sight. We have heard how the Germans have passed from the use of heavy artillery to the use of machine guns, and each change has been regarded as an advance. But if there is anything in the lessons of history, the one change that will bring victory will be that which brings young men into supreme command. The side that manages first to shake off its incubus of old men will have victory within its grasp. The world is growing weary of this old man's war, in which the youth of the nations is bleeding to death. The young men are doing the fighting. Let them have the leadership of young men.

The Farmer and the Various Governments.

EDITOR "THE FARMER'S ADVOCATE":

The farmer is without any doubt engaged in the most noble, and honorable calling in life. He is the mainstay and backbone of our country. All other vocations are appendages from this one main trunk. His work is closely associated with nature, is pleasing, interesting and scientific. The man engaged in this work, who is a student of nature, has before him one continuous, interesting panorama, both in the products of the soil and the growth of the various animals. Men engaged in such honest work and free from the greater immorality that exists in the larger centers are naturally much less suspicious, and more easily hoodwinked than men in cities and towns. Environments are such that it is not surprising that the farmer has been slower to waken up to the fact that he has been the butt of every government we have ever had. Governments have all been sinners so far as we farmers are concerned. The fact is the farmer who is the backbone of the country has been ruled by these various off-shoots, instead of managing his own business, it is being managed for him, in other words the tail is running away with the body. The reason for this is not lack of intelligence on the part of the farmer as some of the brightest minds to-day are in the rural districts. It is a thing of the past for the farmer to cast his parental eye over his sons and decide which of them are bright enough to send to the city. The question now is, which of them is bright enough to take up the vocation of modern and scientific farming. I repeat then, it is not the lack of intelligence on the part of the farmer; but it is lack of union and co-operation. The scattered population of the rural districts makes the union more difficult; with the coming of the rural phone and rural mail, these obstacles have been overcome to a marked degree; consequently the establishment of co-operation to-day is very simple compared to the hard labor our forefathers had, in their efforts along these lines. Men engaged in all other walks in life are a unit. The banks and financial institutions of this country are practically one great trust. The manufacturers, packers, etc., have their interests well looked after. Professional men have their societies and mechanics their unions. Every government has to reckon with these various bodies, and as each of these organizations gains some advantage through legislation, the farmer who has very little direct protection, has to take on a still greater load. Surely all of us who have raised and fitted a lot of hogs for the market must realize how completely we are in the hands of the packer and middlemen, when we find the price drop severely just when every one has fat animals, and it does not pay to continue the heavy feeding. If by chance you called at the grocery for a few pounds of bacon you would not find the drop in price had ever gotten that far. The facts are we are the only industry in the country that buy retail and sell wholesale. Any other industry conducting business along those lines would soon be in the hands of the receiver. Take our horse market during the past year and a half. When war broke out anyone with a little grey matter would be perfectly justified in believing the price of horses would naturally go up. Our Dominion Government issued a war book on agriculture. We were given statistics for the whole world, giving the total number of horses in the world as 93,000,000. We were told a very conservative estimate of the losses would be 1,000,000 per month. One does not need to be very much of a mathematician to estimate the effect this condition should have upon the horse market. What has been the result, there never has been a time when the horse market has been so dull in the past several years.

The government no doubt had good reasons for closing the horse market; but when they did, surely we were entitled to as good a price for our horses as we were getting in peace times. The price fixed by the army buyers was from \$50 to \$100 lower than we had been getting during peace days. The number of horses required by the Canadian army was only a drop in the bucket, and as there were no public works or railroad building going on, horses were actually a drag on the market. The result was a tremendous falling off in the breeding this last season.

Stallion owners complain of a very quiet season. If we were properly organized we would know what was the proper course to pursue in regard to breeding, instead of going along like a ship without a rudder. We would have known in advance if the Canadian Government intended to allow John Bull and Allies permission to buy here this fall, and we could have guided our breeding accordingly. When any of us intimated we should at least get what our animals were worth in peace times we were accused of being selfish and unpatriotic. If we were an organized body is there any farmer in this country who thinks any government would dare to have closed our market, then offer us \$50 to \$100 less than we had been getting? Compare the manufacturer with us, and how do you find them. If ever there has been unpatriotic proceedings, it has been the unholy profits extorted from the Mother country and her Allies in this hour of distress. From 100 per cent. up seems to be their motto. It is these very men who consider us unpatriotic, unless we are willing to sell our stuff at a great reduction. Let us be honest with ourselves and admit the fault does not lie with the various governments. The fact is this condition of affairs rests with ourselves. All governments, Dominion and Provincial past and present, have done a great deal for us in establishing Experimental Farms, Agricultural Colleges, Exhibitions, Fat Stock Shows, Demonstrations, etc. They have taught us to increase our production until we have made rapid strides in this direction. The wonderful work carried on by men like the late Dr. Saunders and Dr. Mills, backed up by the various governments, has been marvellous indeed.

Now that we have increased our production, if we are willing to sit back and allow all these off-shoots to grow rich at our expense, we farmers are bigger fools than I think we are. What we need is organization and co-operation. In a great many cases we have selected men for Parliament, who, after they get elected, worry as much about the farmer as a nursing baby about its breakfast. We have listened to these men preaching legislation that was weaving the rope to tie us hand and foot, and as they would make each statement we would cheer them to a finish. It would be just as sensible for the people of London to rush out and cheer when they saw a German air-craft hovering over their city dropping bombs. The old saying is, the crying baby gets the milk, and it is our business to see to it that the men representing us will soon realize they have an organized body to deal with. Under these circumstances our interests will be as carefully watched as those of all other organizations. There never was a time when the farmers of Canada had a more golden opportunity than the present to launch their claims. The masses of the people have had a good opportunity to see how the financial institutions, manufacturers, middlemen, etc., act during war time. Consequently it does not require much argument to prove to the voters of this country what they have done and will do in peace times. We have made many efforts at organization and co-operation. Our first great effort dates from 1866, The Grange Movement, which was very successful for a time then gradually had a slow death. In 1890 the Patrons of Industry were organized, and for a time they were very successful; but they had a more sudden death than the previous movement. In 1914 we had another movement started known as the "United Farmers of Ontario," this movement is the remnant of these other organizations, it is still in very young babyhood.

Far be it from me to attempt to dictate to these old, wise, deep-thinking, common-sense farmers; but before this movement becomes too strong let us profit by our past experiences. If you examine a few of the planks in the platform drawn up by the Patrons of Industry, you can easily see why it was a failure. Among a great many other things in their platform were such planks as Civil Service Reform, Abolition of the Senate, etc., questions that would be very difficult for any old established party to deal with, much less one in its very infancy, problems that had very little to do with the farming industry and certainly not any more than with all other industries. We made the mistake of introducing too much politics into our Constitution. Let us bear in mind the fact we must creep before walking. What we want first are questions in which all farmers are interested from poultrymen to wheat growers. Any organization starting in Ontario mixed with politics has failed and will surely fail again. Many of us on election day would cast our farming interests to one side and vote for the Devil, provided he wore a Grit or Tory jacket. Consequently we must be extremely careful in drawing up our platform. Look at the success attained by the wheat growers of the West, an organization just a few years old and now handling millions of bushels of their own grain, operating their own elevators and terminals at Fort William, also branching into the flour business. This is becoming a great and powerful organization with a wonderful future. Already the effect of this organization is being felt in the House of Parliament. I will grant you it has been easier in the West, as the Western man is not bound to party ties as we are in old Ontario, and when questions relating to the farmer arise he sticks to the ship and is either for or against the government, not so much Grit or Tory as he is farmer. However, with those advantages this movement in the West owes its great success to the skillful manner in which it was first started. This movement owes a great deal of its success to R. MacKenzie, Secretary of the Manitoba Grain Growers' Association. It would be wise for the United Farm-

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ers of Ontario to get in touch with and take a leaf from the book of the Grain Growers' Constitution, then launch a movement of unity, having in view the management of pork packing, dairy products, etc. Once we get launched along such lines as these we would soon become a unit in politics, especially where legislation is unfair to us. I am just offering these suggestions, basing them on our past experiences. Like many others, I have been cultivating land both East and West, and can see the candle burning at

both ends of the country; that is pork, dairy products, etc., in Ontario; wheat, beef, horses, etc., in the West. Once each of our provinces become united to look after its own particular interests, we will soon unite to look after the interests of our brother farmers throughout the Dominion, whether they are interested in sheep raising or market gardening, just as in the labor unions the brick layer will often come to the assistance of the machinist although their work is so different. Experience has taught them, united

they stand, divided they fall. Once that great sleeping giant, "The Farmer's Vote" is aroused and thoroughly organized, the industry of this country which is the most important, will not only be managing its own business; but will exercise a great influence on many now unscrupulous industries that are growing rich at our expense.

"PATRIOTIC CANADIAN."

When the Sweet Sap of the Maple Starts to Run.

When the warm rays of the March sun begin to melt the snow on southern slopes, there is a suggestion in the air of the approach of spring, which is an indication that the time of year has once more rolled around when the maple trees will give up that substance known as sap, to supply the wants of man. No doubt but that from time immemorial maple trees have been used as a source of food supply. While the forests have become vastly decreased in size, the maple industry is still an important one in Canada. Many thousands of dollars' worth of sugar and syrup are made each year from the sap of the maple tree. Large maple woods are still standing in Eastern Ontario, Quebec, and the Maritime Provinces. Even in Western Ontario it is not uncommon to find from 800 to 1,000 maple trees on one farm suitable for tapping.

With the passing of the years maple products have gained in favor, and there is a ready market for all produced. Maple syrup making is a business proposition. The method of manufacturing and mode of handling is now on a more scientific basis than formerly. Every precaution is taken to produce a product which shows a rich, golden color, and is free from impurities. Boiling sap in the open in iron kettles has given place, in large sugar camps to the use of large, flat-bottomed pans, or to continuous evaporators that are set on closed arches installed in a building, which prevent leaves, ashes, or dirt from contaminating the sap during the process of boiling down. The result is that a clearer and possibly a cleaner product is produced than could be done with the open fireplace and iron kettles. The new method is more economical on fuel, which is an important consideration, and the automatic feed eliminates all danger of burning so long as there is sap in the supply tank. The work is made easier, and it is believed that a more marketable product is manufactured.

The Camp.

The dimensions of the sugar camp depends on the size of evaporator used, but a well-ventilated building 12 feet wide, 20 feet long, and possibly 10 feet high, in order to give plenty of room for steam to rise, is found to be quite satisfactory. An opening is usually left at the ridge of the roof, to allow steam to escape. Preference is given to having the main door facing west, as it permits of more breeze through building than if placed in any other direction, and aids in driving out the steam. An arch is built of either brick, stone or steel, and raised sufficiently high above the ground to permit of easy firing. A large, flat-bottomed pan is used by many syrup makers and is found to give splendid satisfaction, but the continuous evaporator especially designed for manufacturing a high-quality syrup, with less attention than the ordinary pan or kettle, is gaining in favor. Where possible the camp is located on a slope, which makes it easier to place the large receiving tank so that the sap may flow by gravitation through a pipe to the evaporator. The wood supply may be stored in the main camp, or in a shed adjoining it.

To what extent the soil on which the trees grow influences the amount and quality of the sap is not definitely known. A high, gravelly soil is claimed to give a larger flow, but not quite so strong a sap as low land. The location and size of tree will also influence the amount of sap. Sap will start to run earlier in the season from a tree located on a southern slope, but it is doubtful if any more sap is produced during the season than from trees on a northerly incline. Trees on the edge of the woods produce the first sap, but are also the first to stop running. A large-bodied, heavily-branched, black-barked, hard maple is considered the ideal tree.

When to Tap.

The time of tapping varies with the season. Some years the weather will be warm early in March, other years it may be the last of March before the sap will run. It is predicted that the season will be late this year, as the weather at full moon in April is usually favorable for a good flow of sap. It is not always necessary to tap on the south side of a tree. It is believed that the direction makes no appreciable difference to the sap flow, consequently trees may be tapped on any good, live part of the bark, preferably over a large root if one is visible. By this method the wound made one year has time to heal before it is necessary to tap in that place again. A half-inch or nine-sixteenths inch bit is used in preference to a larger size. The holes slant upward a little, and are bored from one-and-a-quarter to one-and-a-half

inches deep, about thirty inches from the ground. The smaller the hole the quicker it will heal after the spike is drawn out. A conical spile, or spout, with no flange to injure the tree is preferred. Only those that are tinned should be used. The outlet for the sap should be as near the bottom of the spout as possible, which will allow the bore to completely drain off the sap and so prevent souring in warm weather. A slight tap with the hammer will fasten the spile securely enough in the tree to permit hanging the pail on it. Care should be taken to have the pails hanging level, and so set that they will not tip from side to side.



Sap's Running.

Sap troughs and wooden buckets, which were used in olden days, have been superseded by good, strong, tin pails with lids, in many cases, to prevent leaves, snow, rain-water, or dirt getting into the sap. In order to prevent pails from rusting they may be painted on the outside at least. The pails used vary in size from eight to twelve quarts. Collecting the sap is no light task, especially in a large woods where the ground is somewhat rough. The man who only taps a few trees may be able to gather the sap in pails and carry it to the kettle or evaporator, but in a woods where several hundred trees are tapped it is necessary to have some conveyance for hauling sap to the camp. For this purpose some use a threshing tank, but if the ground is very rough or soft, it is difficult to get around with it. Milk cans or barrels are frequently used, but a small tank made of heavy tin, supported by an iron frame with a wooden bottom, is preferred. The top of the tank should be concave with double strainers in the centre. This

tank may be fastened on a sleigh or sled. The large storage tank made of heavy tin plate should be placed under a roof just outside the boiling room, so as to allow a free circulation of air to keep the sap cool. If the camp is built on a side of a hill, by driving above the camp the sap can be easily piped from the gathering tank to the storage tank, and from there to the boiling room.

Weather conditions most suitable for a good flow of sap are detrimental to wheat and young meadows. The night air, tingling with frost, and the sun coming out warm during the day are the conditions most favorable for syrup making. Cold, cloudy, or windy days, or continued warm weather, are not conducive to making the sap run. Frequently a cold spell setting in after the trees are tapped stops the flow of sap, and tends to dry up the tissues of the wood to such an extent that a full flow of sap is not secured when ideal conditions do come. In this case it may be advisable to remove the spile and ream out the hole. This may be done without causing injury to the tree.

Boiling Down.

Boiling sap in kettles or large pans necessitates continual watching, especially when it is boiled almost to syrup, in order to prevent burning and yet have the syrup of the right consistency. The continuous evaporator does away with a good deal of this careful watching, as the automatic feed keeps the sap in the first pan at the proper height. It is a continuous process. The sap, which has been carefully strained, flows from the large supply tank to the first pan of the evaporator, which is divided so that the sap flows fore and back and is then siphoned into another compartment, where it is further boiled. From here it is again siphoned to the finishing pan from which the golden-colored syrup is drawn off and poured through a felt filter which makes it ready for the market. The siphons are constructed so as not to siphon either sediment or scum from one part of the pan to the other. The automatic valve and the fire may be regulated to suit the operator doing the work. In a large sugar camp there is usually a sufficient supply of sap to keep the evaporator going continually from the time the trees are tapped until the season closes.

Sap is at its best when it first comes from the tree, but deteriorates quickly if allowed to stand. Consequently, in order to manufacture the highest grade of syrup it should be boiled down when fresh. If sap is to be held for a day or two it must be kept cool. Care should be taken to prevent souring of the sap. In tapping, remove all chips or dirt, that might obstruct the passage from the bore. Towards the close of the season there is frequently trouble from sap souring in the bucket. Rinsing the utensils with hot water will tend to lessen the trouble, but is hardly practicable where there is a large number of trees.

In many parts of the country the large evaporator is not used, but pure, clean, maple syrup is made and will continue to be made in the old way. The syrup may not have that high color so much sought after by consumers to-day, but it will have the pure maple flavor. The open camp was more conducive to merriment than the modern method. There was something attractive about tending the old log fire

at night and testing the syrup by pouring it on the snow to see if it was ready to "draw off." "Sugaring off" in the woods was an event long looked forward to by both young and old, and it is to be hoped that a few at least of the old customs peculiar to the sugar camp will not pass out with the advent of modern inventions.

Where syrup is made in the open a certain amount of sediment is found in it when first taken from the fire. The usual custom, where only a small number of trees is tapped, is to finish the boiling on the house stove. It is usually necessary to cleanse it. This may be done by placing cool syrup in a small pan and heating it until it reaches blood heat, then put in about two cups of milk to five gallons of syrup, and bring to the boiling point. The milk, when heated in the syrup, curdles and all impurities in the syrup attach themselves to the curdled milk, which rises to the surface just before the boiling point is reached, and may be skimmed off. The white of eggs is frequently used for cleansing purposes instead of milk. Strain the syrup again through a felt filter or flannel cloth.

About 32 gallons of sap will make one gallon, or 13 lbs. 2 ozs. of syrup. In order to secure a uniform product of standard quality, it is necessary to use a syrup thermometer, and when it registers 219 degrees F. the syrup is supposed to have been boiled sufficiently. In order to determine accurately the point at which sap becomes syrup, the hydrometer and the thermometer may both be used. With standard hot syrup the hydrometer will settle to 30½ degrees, and the thermometer should register 219 degrees F. With standard cold syrup, the hydrometer will settle to 35½ degrees. Frequently syrup will spoil, or at least take on a sour or mouldy taste. This may be caused by the containers not being thoroughly clean when the syrup was put into them or the syrup may not have been boiled sufficiently. If syrup does sour, it is claimed that by adding a little baking soda and heating the trouble will be overcome. Standard syrup should keep indefinitely if put in clean containers.

The amount of syrup per tree will depend on the season. Some years it is more than others, but the average will not be much over one-half gallon. In one sugar bush where 400 trees are tapped annually, the owner considers he is doing exceptionally well if he secures an average of 150 gallons a year.

In making sugar it is best to draw off the syrup before it becomes too thick, and pour it through a felt filter or flannel cloth. Pour the filtered syrup into the pan again and continue boiling until it reaches a granulated state, hard enough to cake. This state may be ascertained by dropping a little of the boiling syrup into cold water, or on the snow or ice. If it firms into a lump it is boiled sufficiently. The thermometer may also be used, and when it registers 242 degrees F. it is an indication that the sugar is ready to remove from the fire. After allowing it to cool a little, pour into tins or moulds. One imperial gallon of syrup should make about nine pounds of sugar.

Work in the sugar camp is not easy at any time, and the money received for the products is usually earned. Going into the business even on a small scale necessitates a large amount of labor, and also expense for equipment. However, the equipment lasts a long time if properly looked after. All utensils should be thoroughly washed with hot water in the spring, and stored in an absolutely dry place for the summer. With the best of care it is difficult to keep the buckets and pans from rusting. The scarcity of help may prevent many from tapping this year, but a few jars of maple syrup in the larder never come amiss.

The Church and the Rural Community.

EDITOR "THE FARMER'S ADVOCATE":

It was the pleasure and privilege of the writer to spend a week-end amid the scenes of his boyhood, in his native county of Wentworth, in the township of West Flamboro—only a few days ago—and to officiate at the 50th anniversary of the little church that has been such a social centre and uplifting agency to that community for the past half century. Memories were stirred and mental pictures of the orchard and meadows, and vine-covered arbor—and the old oaken bucket that dripped with coolness as it hung in the well, again passed before the vision—and thoughts that will not be quiet struggle for expression. There is a vital relation between the farm life, and the moral and intellectual life evidenced by the presence of the church and the school.

Every community is richer because of their presence. The teacher and the pastor are among the most valuable assets of any community in moulding the intellectual and moral life of the people of the neighborhood.

The jubilee celebration of this little rural church away from even village surroundings, known for 50 years as the "Bröck Road Methodist Church," has caused many to ask the question: What is the value of the church to the rural life of the community? The presence of a church doing business for fifty unceasing years, begins to make history for itself, and makes its influence felt as the young men and women, touched by its ministries, radiate out into the varied walks of life to enrich business and professions, and make life everywhere better by sterling character and well-developed physical organisms. It is an admitted fact that all trades and professions have been splendidly reinforced from the farm.

The rural church is admittedly the social, as well as the moral centre of the community, and the pastor one of the most potent factors in moulding the family life of the community. He enters the life of the home and touches it at all vital points in baptizing the members of the household, marrying the young folks, and officiating in the last sad rites when loved ones are laid at rest—he is the one above all others who mingles with the family on all occasions. He enters their life in field and pastures, amid flocks and herds, as well as ministering in holy things on the Lord's Day.

No field offers such opportunities for social and intellectual development among our young friends as the farm. The church should seek to emphasize this and direct it to splendid results. The church should be as much interested in a good road to town as in the golden streets of the New Jerusalem. While it is important to eradicate sin from the community, it is also necessary to stamp out hog cholera and all forms of disease from flocks and herds.

If the social, intellectual and material welfare of the community is a part of the business of religion, then there is a brighter day for the rural district. There is no reason why our rural constituencies may not have all the modern equipment for social, intellectual and religious activities the same as the most up-to-date barns have machinery for assisting in daily toil, and increasing the pleasure of farm life and adding another attraction for the boys to stay on the farm.

Country life has its charms, which pale into miniature, much of our common city life. What with God's great out of doors—with open fields and running stream, and garden-plot edged with flowers—and an orchestra of native birds to add sweetness to the scene—and the long winter evenings so full of splendid

chances, offers a life of peaceful happiness akin to that of Eden.

We have admired the loyalty of our sons and daughters of the farm doing their "bit" in answer to the Empire's call. I wish that we all might know more intimately such products of country life as my friend Jack Miner, of Kingsville, who is doing so much for the bird life of our province, and Peter McArthur, the sage of Ekfrid, who is using his splendid talent for the betterment of humanity in showing some of the charms of a simple rural life. And while the little home church may be far removed "from the madding crowd"—in her ministry to the country folk she has a mission of untold value, judged by the standard of the farm—by their fruits ye shall know them.

Lincoln Co., Ont.

R. D. HAMILTON.

[Note.—Our correspondent has opened an interesting subject—or at least one which should interest every minister of the gospel in rural districts as well as those in town. We sometimes wonder how much effort some rural ministers put forward to stem the great tide which has caused, and will continue to cause, the rural depletion about which we hear so much. We wonder how many of them have been instrumental in starting debating and literary societies among their people, how many have encouraged and helped form baseball, football, lacrosse, tennis, bowling, hockey or curling clubs among their church members and adherents. There is a great field. Why should not the ministers representing the various denominations in rural districts get together and organize church leagues for debate and sport? It is done in the city. In last week's issue a correspondent cited the case of a small country town with seven churches and no organization or place to entertain the young people of the place, and the District Representative endeavored, through his office, to make some arrangements. We sometimes wonder, too, if all ministers in rural districts make themselves conversant with the business of their people, with its trials and tribulations. The pastor, who most endears himself to his people and does the best work, is generally the one, who, through his help outside of the pulpit and prayer meeting, interests them in going to church where he has the opportunity to drive home gospel teaching. "By their fruits ye shall know them."—Editor.]

The Budget in Ontario.

The Hon. T. W. McGarry, Provincial Treasurer in Ontario, in his budget speech in the Legislature last week announced some new war taxes which will meet with the approval of the rank and file of the people of the Province. The mill-on-the-dollar direct tax levied a year ago will remain. Race tracks will be required to pay \$1,250 a day instead of \$500 as heretofore. On every admission to a theatre, amusement hall, skating rink, baseball, Rugby or hockey game, or any other similar form of entertainment, the Provincial Government will impose a tax of one cent. The Provincial finances showed a surplus of \$271,000.

The Government plans to exact, in future, a 25 per cent penalty charge on estates undervalued for succession duties.

The Hon. Mr. McGarry is to be complimented upon the excellent manner in which his direct tax worked out last year and he is hitting the right spot when he taxes amusements.

I may say that it is a treat to get hold of a paper that is not politically biased; and one that hits out straight from the shoulder for the farmer. He surely needs someone to take his part, as he has not as yet learned to fight for his own interest.

Northumberland Co., Ont.

H. A. GRANT.

Toronto, Montreal, Buffalo and Other Leading Markets.

Toronto.

Receipts at the Union Stock Yards, West Toronto, from Sat., March 11, to Mon., March 13, numbered 175 cars, 1,899 cattle, 926 hogs, 17 sheep, 108 calves, 1,699 horses in transit to France. Trade active. Cattle 10 cents higher. Choice steers \$8.00 to \$8.25; choice butchers, \$7.75 to \$8; good butchers, \$7.50 to \$7.75; medium butchers, \$7.25 to \$7.50; common, \$6.90 to \$7.25; cows, \$4.50 to \$7; bulls, \$6 to \$7.25. Sheep, lambs, calves and hogs firm at the quotations stated in the following paragraphs.

The total receipts of live stock at the City and Union Stock yards for the past week were:

	City	Union	Total
Cars	91	427	518
Cattle	470	4,613	5,083
Hogs	210	6,396	6,606
Sheep	101	595	696
Calves	31	601	635
Horses	74	1,014	1,088

The total receipts of live stock at the two markets for the corresponding week of 1915 were:

	City	Union	Total
Cars	44	378	422
Cattle	382	4,142	4,524
Hogs	998	12,833	13,831
Sheep	141	162	303
Calves	61	505	566
Horses	142	26	168

The combined receipts at the two markets for the past week, show an increase of 96 cars, 259 cattle, 66 calves, and 1,820 horses; and a decrease of 7,245 hogs, and 210 sheep, compared with the corresponding week of 1915.

The past week has been noted for activity in all classes of live stock. Receipts of cattle were moderately large, and the percentage of good to choice quality was larger, and the common and medium half-finished class was much smaller, in fact not half as many of them as for the previous week.

As a rule prices were 25 cents higher straight through the week, quality considered. Choice heavy steers, sold by the load, at \$7.90 to \$8.25; choice, heavy steers in small lots, \$8.40 to \$8.50; choice butchers', \$7.75 to \$7.90; good butchers', \$7.40 to \$7.60; medium butchers', \$7 to \$7.30; common at \$6.50 to \$6.90; choice cows, \$6.50 to \$7; good cows, \$6 to \$6.30; medium cows, \$5.50 to \$5.85; choice bulls, \$6.75 to \$7.25; good bulls, \$6.50 to \$6.75; common bulls, \$5.25 to \$6.

Stockers and Feeders.—There was a little more business, being transacted in these classes, but values did not increase in proportion to the prices paid for fat cattle, although they were high enough. Steers weighing 850 to 950 were most in demand, and they

had to be of good quality and good colors to bring from \$6.50 to \$6.85, a few sold up to \$7, but they too had to be choice and dehorned. Stockers sold from \$6 to \$6.25.

Milkers and Springers.—The demand for these was not as strong as it has been although a very few choice cows have reached \$90 to \$100 each. There has been a lot of medium to good cows sold at more reasonable prices than usual, ranging from \$60 to \$75 each.

Veal Calves.—Receipts have been a little larger, but not equal to the demand, and good to choice calves have been firm at \$10.50 to \$12, the latter price seemingly being the limit that the abattoirs and wholesale butchers are willing to go, and the percentage of calves that sell for these prices is comparatively small.

Sheep and Lambs.—As usual the demand was greater than the supply, and prices were firm all week. A new record in yearling lambs was reached when \$13.75 per cwt. was paid for 55 Shropshire lambs, bred and fed at the Experimental Farm at Ottawa, averaging 100 lbs. each. The first spring lambs of the season made their appearance this past week. They were 9 in number, of the Dorset breed, brought on the market by John Quinn, of Myrtle,

Ont. They were bought by the Harris Abattoir Company at \$10.60 each.

Hogs.—Receipts did not equal the demand, which caused values to advance. Selects weighed off cars sold at \$10.65 to \$10.75; and \$10.25 to \$10.35, fed and watered, and \$9.90 to \$10, f.o.b. cars to the drovers.

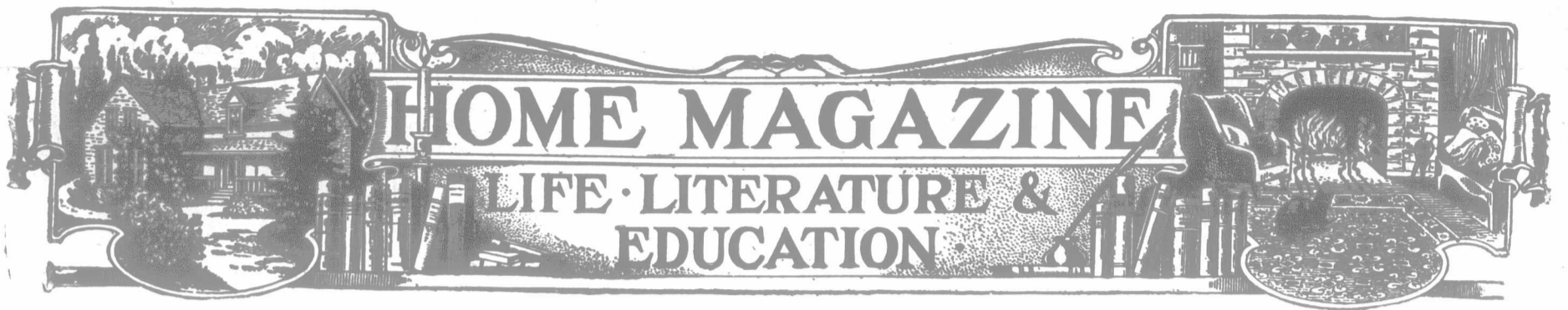
Butchers' Cattle.—Choice heavy steers at \$7.90 to \$8.25; choice butchers' cattle at \$7.75 to \$7.90; good at \$7.40 to \$7.60; medium at \$7 to \$7.30; common at \$6.50 to \$6.90; choice cows, \$6.50 to \$7; good cows, \$6 to \$6.30; medium cows, \$5.50 to \$5.85; common cows, \$4.75 to \$5.25; canners and cutters, \$3.50 to \$4.50; light bulls, \$5.50 to \$6; heavy bulls, \$6.50 to \$7.25.

Stockers and Feeders.—Choice feeders, 850 to 950 lbs., each, dehorned, \$6.75 to \$7; steers, 750 to 800 lbs., \$6 to \$6.25; and light stockers, 500 to 700 lbs. each, \$5.75 to \$6.

Milkers and Springers.—Choice milkers and springers at \$90 to \$104; good cows at \$70 to \$80; common cows at \$45 to \$65.

Veal Calves.—Choice, \$11 to \$12; good, \$10 to \$11; common, \$5.50 to \$7.50; heavy, fat, \$7 to \$8.50.

Sheep and Lambs.—Light sheep at \$8.50 to \$9.50; heavy sheep at \$7.50 to \$8; cull sheep, \$5.50 to \$6.25; lambs,



Creed of the Wood.

BY KATHARINE LEE BATES.
A whiff of forest scent,
Balsam and fern,
Won from dreary mood
My heart's return,
From its discontent,
Joy's run-away,
To the sweet, wise wood
And the laughing day.

Simple as dew and gleam
Is the creed of the wood:
The Beautiful gave us life,
And life is good,
Be the world but a dream,
Let the world go shod
With peace, not strife,
For the Dreamer is God.

Among the Books

The Country Home.

Continued.

["The Country Home," by E. P. Powell; McClure, Phillips & Co., New York.]

Mr. Powell is pre-eminently a plant-lover, yet he would not have a conservatory attached to the country home unless facilities for heating are very favorable. He prefers to have tables of plants before sunny windows, especially eastern windows.—"Babies and plants should be seen by the rising sun," he says—"old folks also, if they would have sweet dispositions and long lives." By inverting the marble tops of two old tables he improvised capital plant stands, from which water could not drip to the floor; any handy man should be able to make very satisfactory stands with zinc-lined tops. On these tables he grew "magnificent pelargoniums, five feet high," a few fuchsias, and some Rex begonias; and, elsewhere, geraniums, a rose, Chinese primroses, "nasturtiums galore," and a hoya, or wax-vine, one of the best vines for the house.

His especial delight, however, was in fruit-bearing house-plants: "It is just as easy to grow a dwarf orange, with its delicious perfume and its golden fruit, the guava, with its sweet flowers and abundant fruit, as it is to grow flower-bearing plants. The American Wonder Lemon is, all in all, the most perfect pot plant that I have ever grown. It is loaded constantly with flowers, twice as large as orange blossoms, and the lemon itself is larger than any Florida orange—while its quality is perfect. A lemon may be seen growing on a tree two feet high, and weighing from one to two pounds. Dwarf peaches may be grown with equal ease in a cool, light room, if the trees are given an annual rest. I recommend my readers to try growing in pots fruit-bearing as well as flower-bearing plants."

The Home Shop.

A home shop the author considers essential to every complete country home. It is a matter of economy, he notes, and, in repairs alone, will be worth annually more than the cost, to say nothing of the time saved. It is taken for granted, of course, that a "handy" man is about the place. "My own shop," he says, "is always called upon at least once a week. It is furnished with engine, lathe, forge and all tools necessary for carpentry as well as for turning. A screw can be turned or a bolt made at short notice. Here is our saw for cutting wood, our bone-grinder, and a cider press. For utilizing waste fruit, we sometimes grind one hundred barrels of apples in a year into cider and vinegar. But construction is even more important than repairing. A shop leads a boy

to try his skill. He thinks, he invents—he and the tools think together. The shop is a needed alliance of mechanics with agriculture. It not only makes tools, but better-rounded characters; it widens the power of our young folk."

The Fireplace.

In regard to the open grate, now popular everywhere, even in the rural districts, where the old-time fireplace in which huge back logs blazed gave way long since before the advent of close stoves and hot-air furnaces, Mr. Powell has something to say: "Your chimney should be built out of doors, with just as little as possible contact with woodwork, and the flue should be so small that the heat of the fire will easily send the draught upward. Nearly all smoking chimneys are caused by the fact that the fire is not strong enough to send up a column of hot air to overcome the dropping column. In other words, the chimney draws backward. To lift the chimney higher does no good, but makes the trouble worse. Old-

by it obviates the necessity of keeping the furnace going.

The Lawn.

When Mr. Powell reaches the lawn and gardens he is clearly in his element. He has arrived at his hobby,—and what good things hobbies are, in helping to keep people interested and happy, therefore, *sane*. "The creation of a beautiful lawn is the work of an artist," he says.

"If you have culture yourself, it will find shape and expression without trouble in lovely grass plots, and in the grouping of trees and shrubs. You must never get very far from nature; that is, you must not adopt artifice and artificial arrangements that bring you into contrast sharply with natural grouping. The first thing to do is to lay out a drive. If you have secured an old homestead with trees, the drives must adjust themselves to whatever is in the way. Fashion has a whim for straight paths; but common sense and good taste place the entrance or

sor," says a neighbor from Erin, "says I to Margaret, 'I'll not say but the pig will have as good digestion a little out of the sight of the people, and a few roses in his place.'" So betwixt us we just imitated the fine places upon the hill, and, sor, now we can think beautiful things ourselves. My Irish friend hit the mark precisely. The educative force of a beautiful place, or an effort at creating a beautiful home, is very great and constant. The influence is interactive—always so. You become admirable by admirable deeds; and beautiful by planting beautiful things."

Mr. Powell has no idea that everyone should cling to the rule usually laid down by landscape gardeners, that there should be a broad sward of unbroken grass before the house. He grows quite enthusiastic about a "tree lawn," with rustic seats and hammocks a-plenty. The trees may be orchard trees, or a "natural" grove of whatever species suit the locality,—maples, including the quickly growing Norway maple, beeches, elms, white elms, basswood, and catalpas where they will grow, with the evergreens, Norway spruce, cedar, white pine, Scotch pine, and hemlock. Nor would he omit the nut trees, hickorynut, butternut, walnut and chestnut. If there is room for but one he would select the common butternut.

Among the flowering trees are named, our native bird cherries, double rose-flowered crabapple, mountain ash, and double scarlet thorn.

This idea of a tree lawn has much to recommend it. Trees invariably give the air of "homefulness" to a place, and if close enough to provide a continuous shade, may greatly reduce the area to be kept cut with a lawn mower. The comparatively grassless ground of a natural grove, covered, as it may be, with tender green woods plants, is always beautiful. If the plants do not come up of themselves they may be introduced, without cost save the expenditure of a little time,—trilliums and adder's tongue, bloodroot and violets crowsfoot and spring beauties, ferns and pigeon-berry, bunch-berry and foam flower and Jack-in-the-pulpit. Where can one end? Their name is legion.

(To be continued.)

Our New Serial Story.

The Farmer's Advocate and Home Magazine invariably keeps in mind two aims—one negative, the other positive—in selecting a serial story for its pages. In the first place it aims at not insulting the intelligence of its readers by imposing "trash" upon them; a story that has absolutely nothing to recommend it but the sickly species of sentiment or quite impossible and misleading adventure is invariably rejected. In the second place it aims at suiting the taste of the various classes of intelligent readers. Hence, at one time has been given "Rebecca of Sunnybrook Farm" with its especial appeal to the younger element; at another "The Garden of a Commuter's Wife," beloved of all true gardeners; and at another "The Scarlet Pimpernel," with its historic sidelights, and "The Chaperon," light reading, perhaps, but affording a very accurate picture of that most interesting little country, Holland.

In choosing our new story, "The Road of Living Men," by Will Levington Comfort, we have had in mind pre-eminently the more thoughtful element in our vast circle. True, this story contains adventure—plenty of it,—there is a love-interest, there is a geographic interest hinged upon the first-hand acquaintance of the author with the lands that he describes; there



Children and Birds Fit Naturally Into a Garden.

fashioned fires, made of piled logs in huge fireplaces, would heat big chimneys and drive upward a column of smoke and heated air; but our furnaces and grates are not able to do this if the flue be large. An open fireplace is desirable in the family room if possible." To which observation those who appreciate real homefulness will readily assent. There is nothing more cheerless than the dreary succession of black holes in floors and walls that follow in the train of the hot-air furnace. Even one fireplace, in the living-room of the home, provides an escape, and is, besides, an economy in the chilly spring and fall nights, when the heat afforded

entrances of your place where they will allow an approach to the house very nearly as you would stroll in if there were no roads at all. In this way the drives would probably start not far from the corners, and would curve about your shrubs and trees. I do not argue that a poor man should trace out long drives and make picturesqueness the dormant idea in creating a country homestead. Yet the poorest resident in the country cannot afford to omit a regard for the beautiful. In the long run the cheapest place gains in money value by having sacrificed a little in the way of making things pleasant to the eye. Well,



Erin, 'says
say but the pig
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people, and a
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the fine places
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precisely. The
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is all the fascination of an artistry in expression new in writing—a "Comfort" style, now bold in coloring and tremendous in word-force, now mystic, elusive, suggestive, leaving much to the imagination—an artistry that grips and holds while it beckons. All this granted, yet it is still to be said that, to those who can see, there still remains the deeper power bound up with the psychologic unfolding of the characters, and the bits of delightful and deep-seeing philosophy strewn along the narrative. Will Comfort is a mystic. More than that he is a man who knows human life as few know it, in an entirety hidden from those who walk always in grooves. Perhaps this is why, as revealed in his writings, he is possessed of the great humanity that sees and feels and makes allowance, knowing that beginnings do not make a whole story in any life, nor apparent endings an end.

Will Levington Comfort has written better books than "The Road of Living Men," but no other quite so suitable for running serially. To those (and there will be many) who become interested, may be named especially "Down Among Men," which has been named in the same breath with the works of the great Russian masters.—"Red Fleece," "Midstream," "Fate Knocks at the Door," "Lot and Company," "Routledge Rides Alone" (Edwin Markham's Choice for the Nobel Prize)—all are books that show the touch of a writer unique among the novelists of the North American Continent, a writer who is still on the younger side of forty, and from whom many more books of—shall one say yet ever-advancing quality?—may be expected.

In conclusion it may be an item of interest to note that Mr. Comfort, although born a "cousin across the line," has recently come to live in Canada. May we, for the readers of the Farmer's Advocate, bid him a hearty welcome?

Off Duty.

BY PATRICK MACGILL.

The night is full of magic, and the moonlit dewdrops glisten
Where the blossoms close in slumber
and the questing bullets pass—
Where the bullets hit the level I can hear
them as I listen
Like a little cricket-concert, chirping
chorus in the grass.
In the dugout by the traverse there's
a candle flame a-winking,
And the fireflies on the sand-bags
have their torches all aflame.
As I watched them in the moonlight,
sure I can not help but thinking
That the world I knew and this one
carry on the very same.
Look! A gun goes flash to eastward!
"Cover, matey! Under cover!
Don't you know the flash of danger?
— Ah! You know the signal well;
You can hear it coming, coming. There
it passes; swooping over—
There's a threat of desolation in the
passing of a shell."
Little spears of grass are waving, decked
with jewels iridescent—
Hark! A man on watch is stricken—I
can hear his dying moan—
Lies a road across the starland near the
wan and waning crescent,
Where a sentinel off duty goes to
reach his Maker's Throne.
—Evening Standard.

The Furrows,

BY M. FORREST.

Last year we ploughed the furrows
straight together, Jean and I,
When down the Flanders Road a lark
was singing, sweet and high.
With Paris, white and beautiful, as
mirage on the sky.
This year, in kepi smart and red, and
jacket short and blue,
My Jean towards the trenches went to
help his country thro';
Alone I drive the sleek, white ox along
the fields he knew.
Soft o'er a stretch of fallow ground the
tender spring grass waves;
I toil with anxious care to-day (for toil
a sick heart saves),
Yet cannot keep the furrows straight—
There are too many graves.



Our New Serial Story "The Road of Living Men"

BY

Will Comfort

Author of "Down Among Men," "Fate Knocks at the Door," "Routledge Rides Alone," "Midstream," etc.

Serial rights secured.

It occurs to me, Thomas Ryerson, that I have a story to tell, and I can tell it after a fashion. It is my story of the world and the woman.

At Oporto, a little watering-place in northern Spain, I first met Mary Romany. I can shut my eyes, when all is still, and drift back. My father and I were world-wanderers. He never found sunlight, after the darkness of my mother's death, but traveled and traveled. Very quiet in his sorrow he was, and very dear to me. There was but one romance in his life, as in mine; it was his life's largest affair, as is mine.

I was sixteen, and Mary Romany two or three years younger, but films from lost ages stirred within me, at the turn of the maid's hand. As men, we seem to have come a very long way to this latest life. Sometimes I believe that we come with loves and hates unfinished; that certain contacts take up the old stories again; that sudden gusts of love are far deeper matters than men make of them. I seemed to have known the arch of Mary Romany's brow, the arc of her eyelash, the imprint of her finger—before Atlantis was lost. The slender flying figure animated a vague but passionate spirit of quest.

There was a touch of wildness about her that awed me and often made me speechless. Yet we were much together—bathing in the surf, sailing when

I preferred. There are young men to play with everywhere. Come with me. I will show you something—"

She followed adventurously, impressed by the look of my face. To the east of the Muriel, the cliffs for some distance about directly from the sea. There is no slope nor beach. According to the tide, from five to ten feet of water lies at the base of the cliffs, which rise at this point to a height between forty and fifty feet. A few minutes' hurried walk, and Mary Romany and I stood together upon the eminent point. She laughed nervously as I whipped off coat and collar.

"You think me a coward," I said with emphasis, "but I will show you something those men and boys in the surf dare not do—"

I pointed to the circling gulls to distract her attention, and dived—her scream in my ears—half a hundred feet to the sea. It was twice the height I had ever before attempted, though I loved the sport, and had thought much of the science of it; dived amazingly in imagination, as a youthful mind fascinated with billiards describes possible caroms in the dark. Aiming far out toward a patch of darker water, I held the point luckily, struck the sea at a good angle, and ruddered with my hands at the impact since the depth was so slight. Then I fought the surf to a rock and climbed up-

of brilliant inaction—a still mystery, like an afternoon valley or a cliff in moonlight. But now, something from her race seemed to come to me. She was the source and sanction of my love for the maid so like her. In them was the ineffable, the latent treasure, the Ryerson Grail. Afterward my mind was held by interpretations of that high, strange moment.

Her words I scarcely remember. She asked me not to be so thoughtless again; spoke of the tragedy my death would have been to my father; told me I would have been braver merely to answer a foolish girl's question. "Girls are always asking foolish questions. Mary wanted to hear what you would say. Girls always do—want to hear what boys will say."

Then her eyes lifted to my father's. I was conscious of his pallor. They had not met. . . . He had been waiting until we should be alone in the apartment to speak of my foolhardiness, but the intention seemed gone from him. With bowed head, he sat lost in thought, his face pale and anxious, as I bathed and dressed. He tried to speak, while I stood by waiting for him to go to dinner; made several attempts, of which only this sentence came:

"I haven't seen the little girl's father—"

"He's in Egypt," said I.

Before he broke the silence again (a silence I did not understand at all then) I anticipated with sickening dread his next words:

"We shall leave here to-morrow, Thomas."

I had never disputed his plans. I did not now. . . . At dinner I told Madame Romany we were going away. About nine o'clock I was sitting alone on the piazza. Mary was in the drawing-room playing—those old sweet lesser things, designed to enchant a young soul—the *Melody in F*, *Blue Danube*, even *Traumeri*, the *Spring Song*, a bit of *La Norma* and Schubert's *Serenade*.

I was devoured by tragedy. She had laughed at the old black upright at the Muriel, but it was all I could ask or bear. She seemed very far from me, strangely finished and consummate. I was sick with shame for the cheap boyish thing I had one—yet afraid to go in, afraid to speak, lest she tell me of my commonness. I was deeply sunk in the silence at the end of the playing. There was a light swift tread behind me, the touch of hands and lips to my cheek, and she was gone. . . . Through the hall, I saw her, light-limbed, agile, her dark hair flying. . . . The next day I took her hand, and turned away to the bleak world—fit companion for my gentle and melancholy father.

At the very first (and this paragraph is an insertion), it seems good to explain that there is a moment in this narrative, in which I really came to know Mary Romany, to see her as a man sees a woman. It is absorbing therefore to discover upon these early chapters, the very vagueness and ineffectuality, where the girl is concerned, that actually pervaded my mind in those days. She seems a girl of the dusks, catching an occasional ray from a youth's wide-flung beaming. I disclaim any artistic idea of planning this preliminary filminess. It was so in life; and when I came, in the fulness of time to write of these beginnings, acute adolescence was upon me once more and her face turned away. After a certain altering adventure, and in the midst of certain incomparable days, the romantic illusions fell from her and the reality stood forth.

II.

I remember awakening in the midst of the night, previous to my father's death. It was in St. Petersburg four years after Oporto, and I had not seen the Romanys again. We had been quartered by officer friends in the old Rudinoff Palace, where the ceilings were dim from altitude, and silence was bred of space and massiveness. The seasonal mystery of the northern country was taking place in the night. I felt the change in the air as I lay awake in the vast room, open to the east and north. The cold had ached in my nostrils and eyes as I fell asleep, but now the resilience of spring had entered the dead pressures of icy atmosphere—forerunner of the "green noise" which resurrects the earth.

Our servant came through the apartment in the gray of morning to close the windows and turn on the steam. Presently my father emerged from his chamber and

Continued on page 474.



The Edge of a "Tree Lawn."

the ocean was still enough, strolling along the cliffs and beaches, or reading on the quiet verandas of charming old Muriel. . . . Once when we were walking along the cliffs, she paused to watch a group of men and boys playing in the sea. They were shouting and diving into the combers, playing water-polo and having much sport. I had scarcely noted them nor heard their voices, until she pointed down.

"Why don't you play with them, Tom Ryerson,—and not always with me—a girl?"

It was pure poison—that she could think me but part of a man. Instantaneous rebellion was mine. In a flash the way came to mind.

"I have 'played' with you because

on it. For a moment the girl's horrified face strained down from the cliffs.

My father liberated me a half-hour later with a skiff, and rowed to a landing, quietly regarding me. At his heels, I followed to the hotel. Mary Romany was there before me, standing afar off, scarlet and ashen by turns—scorching me with her rage. As I passed through the hall in my wet clothing, her mother rushed forth from a room. For an instant, I was pressed to her frail breast. In some unearthly way, my mind received an imperishable impression of the width and depth of dark unmerciful eyes.

I shall never forget that. I loved Madame Romany with instant impetuousness. I had never before seen her in a fathoming sense, rather as a study

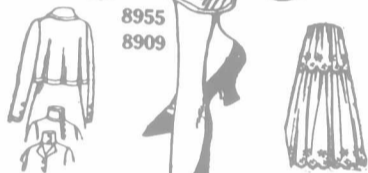
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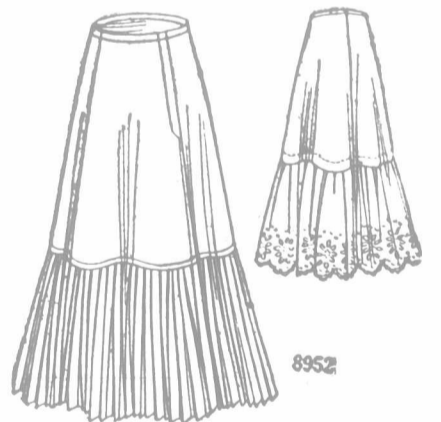
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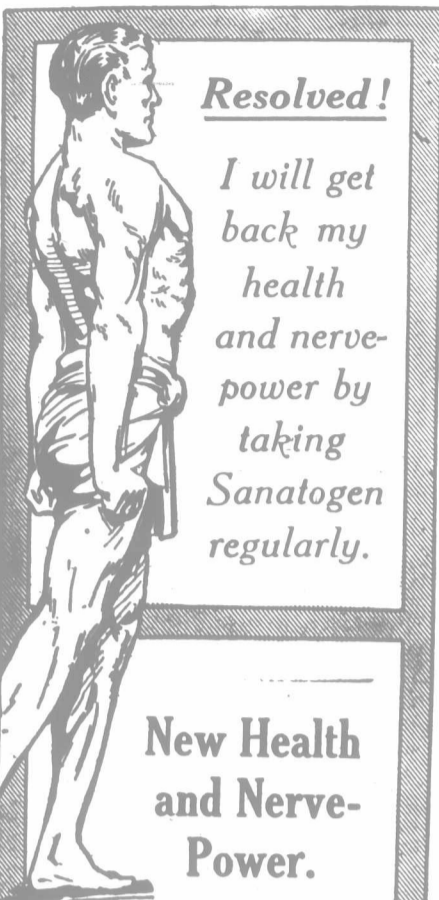
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Hope's Quiet Hour.

An Ensign for the Nations.

It shall come to pass in that day, that the Root of Jesse, which standeth for an Ensign of the peoples, unto Him shall the nations seek; and His resting place shall be glorious. . . . and He shall set up an ensign for the nations.—Isa. xi., 10, 12. R.V.

His banner over me was love.—Cant. ii., 4.

This week I have had the privilege of attending a Missionary Institute. You know I like to share my privileges with you—passing on the special Vision which has been given to me each week. Today my chief difficulty is to choose what to tell you, for my note-book is crammed and I feel as if missionary information had been poured into my mind in such quantities that I can hardly digest it.

To take you in detail through the various classes and lectures of the last two days would be impossible, and it would be a great interruption to the thread of this Quiet Hour if I explained that one lecturer said this and another said that. Therefore I explain at the start that I am passing on to you information gained from the various lecturers, colored—no doubt by my own thoughts.

In this time of turmoil, when the nations are holding on high the banner of Hate, and millions are crowding after it, let us raise our eyes to Him who said: "I, if I be lifted up from the earth, will draw all men unto Myself".—S. John xii. 32, R.V.

The Jews were told over and over again, by their own prophets, that Jehovah was not like the gods of the heathen. Other nations worshipped their tribal deities, but Jehovah is the King of all earth's kings, the Ruler of all nations.

When the fulness of time had come the Ensign of the nations hung visibly before the eyes of men. The peoples' true Banner is not one of hate but it is LOVE, eternal and infinite. In this time of strife our only hope is that the Prince of Peace and King of Love shall lead the brokenhearted people of the earth into His own glorious resting-place. Peace must in the end prevail over war, and we know that Love is mightier than hate.

The Bible is a missionary book from cover to cover. The first chapter shows us God is the Almighty Creator of the visible universe, the last chapter confronts us with its promise of the Tree of Life healing the nations, and in the chapters between we find God's revelation of Himself as the Father of all men. The glory of His love was veiled at first, but it blazed out before a wondering world in the Life and words of Him who is the living Word of the Father.

If we have not the missionary spirit—if we are satisfied to enjoy the light without making any attempt to dispel the darkness of other nations—we do it at our own peril. When we are weakened by the loss of our strongest men in Europe, "the Yellow Peril" may bear down upon us. If we do not teach the nations the glory of love, we must suffer the consequences of this ignorant idea that hatred of other nations is natural and reasonable. Even in the midst of war we must never follow the banner of hate—it is Satan's banner and leads its devotees to destruction.

The British Empire is upholding, at tremendous cost, the right of each nation to develop its powers. The Christian aim is the same. We see that LOVE is the Light of the World, and we see the light streaming from Him who stands as an Ensign for the nations. We know that no nation can develop its powers in the darkness of ignorance. If we withhold the light from others we are really crushing them down, and arresting their progress and the progress of all the world. We need the other nations' contributions to our common humanity, as they need what we have to give them.

Is the common saying true—the easy statement that the religion of heathen nations is all right for them, and that we have no right to force our faith upon them? Let us study the facts a little, and see whether Christianity or heathenism can best draw out the possibilities which lie latent in every race of mankind. Of course it must be

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merely roll down a tarviated macadam and make it smoother. The tarviated surface is water-proof and frost-proof, and will not ravel when rain torrents sweep down steep hills.

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THE CARRITTE-PATERSON MANUFACTURING CO., LIMITED
ST. JOHN, N.B. HALIFAX, N.S. SYDNEY, N.S.



Kennedy Road, Scarborough Township, York County, Ontario. Tarvia filled macadam.

SOW SIMMERS' SEEDS
Established 1856
Our handsome Spring Catalogue now ready. A copy will be mailed free on request.
J. A. SIMMERS Limited
Bulbs, SEEDS, Plants
Toronto, Ont.

\$11.00 fits out a work team
This complete draught for heavy teaming includes clip or book hames, hame straps, wide leather plow pads, belly bands and billets, and the Griffith Giant Rope Trace. (\$12.00 west of Fort William.)
\$4.00 Giant Rope Traces alone, complete with malleable ends and electric-weld heel chains at \$4 a set! Man, you couldn't repair an old set for that price. Leather traces would cost four times as much. (\$4.50 west of Fort William.)
Griffith's GIANT ROPE Trace
See them at your dealer's or write us for booklet. Address G. L. Griffith & Son, 68 Waterloo St., Stratford, Ont.

It pays to Underdrain

The illustrations here are drawn from an actual photograph.

The large plant was grown in soil that was drained three feet deep. The smallest plant was only drained three inches deep.

The soil in the other cans was drained respectively—two feet—one foot—and six inches.

What better proof than this do you want of the value of drainage?

The Government Agricultural College will send a man to your farm to survey it and plan out a drainage survey for you, showing where to run it—how to run it—what to do—and the size of tile to use. All this at no cost to you, except the expense and the railway fares of the man.

For any ditching or draining down to a depth of two to three feet the MARTIN cannot be beaten.

The MARTIN Farm DITCHER and Road Grader (PATENTED)

will do as much work in one day, as fifty men can do with picks and shovels and do it better.

No farmer should be without it. It is a necessary part of every farm equipment. Its first day's work will pay for itself. It is very simple and will last a life time.

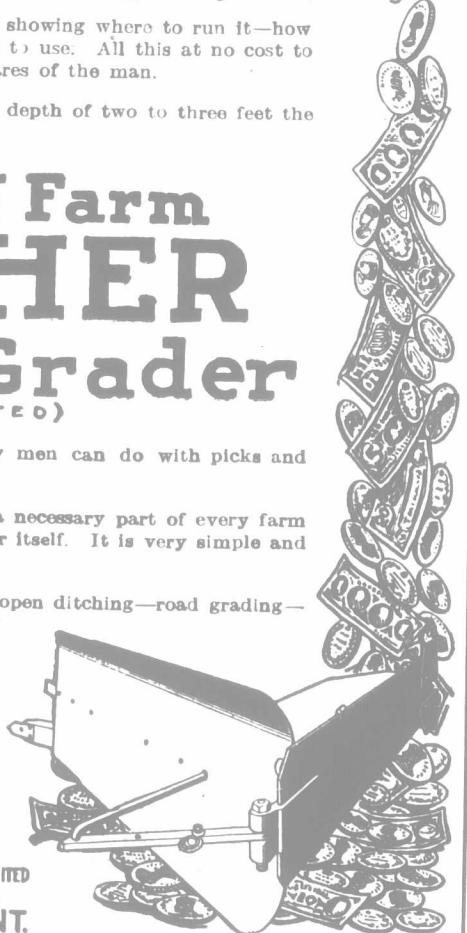
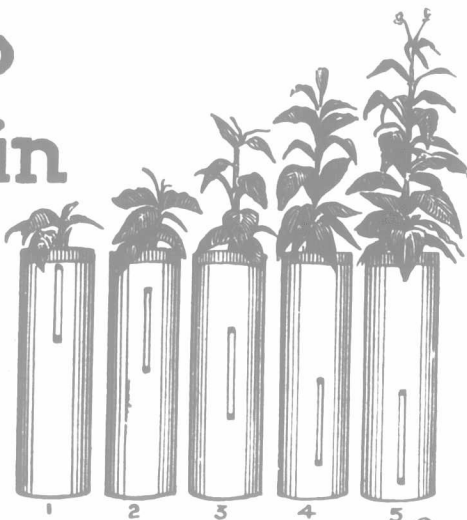
It is used for tile draining—all kinds of open ditching—road grading—for cleaning out ditches—grading up low ground—filling up gulleys—grading up your roads and driveways—landscaping, etc.

And the price only **\$47.50**

Don't delay, but investigate at once. Write to-day for illustrated booklet.

MADE EXCLUSIVELY BY
THE PRESTON CAR & COACH CO. LIMITED
97 Dover St. PRESTON, ONT.

1860



real Christianity—the real following of Christ in purity of heart and loving service. It can only degrade us to call Him Master, and refuse to obey His orders.

It was nearly a hundred years ago when a man named Johnson, a workman in the White chapel district of London, was reduced to a state of despair. He was nearly starving when a text that had been impressed upon him at eight years old flashed suddenly across his mind: "Call upon Me in the day of trouble, I will deliver thee, and thou shalt glorify Me". His despairing cry to God brought a swift and full reply and the grateful man set out to obey the latter part of his text. He brought his wife to the Master he had chosen, and later on went out as a missionary to Africa. The slave traders had stolen many negroes from their homes. Men, women and children had been chained in miserable gangs, driven to the coast and packed by hundreds into the stifling holds of the vessels, where numbers of them died and the survivors were broken in constitution and utterly hopeless. The English cruisers pursued the slave-traders and set the captives free. Johnson was given 1500 of these miserable negroes to teach and care for. They were degraded in mind and body and were dying at the rate of seven or eight a day. The missionary set out to conquer their horrible superstitions, their witch craft and devil-worship, holding up before them the Vision of purity and love—the Life of our Lord Jesus Christ.

He died at the age of thirty-five, yet his last report tells of "1,079 scholars, of whom 710 could read; he could tell of his 450 communicants; he could rejoice over his prosperous Missionary Association, and the liberality of his people's contributions to it." The climate was deadly and men sent out to help him died at his side, yet he worked on devotedly until his own health gave out and he died on the ship which was carrying him to England. The record of those few years reads like a miracle. Instead of miserable savages there was "a Christian community, living in a well-built town of their own construction, with a church capable of containing 1,300 people, and filled to overflowing three times on each Lord's Day, with attentive congregations." a daily service at which never less than 500 and sometimes as many as 900 attended." Thirty years later, when the first bishop was sent out to this colony at Sierra Leone, 3,000 candidates were presented for confirmation.

Just think of it! An ignorant workman, with very few assistants, "organizing, civilizing and humanizing a large body of rescued slaves, of a different race and of various other tongues." Could anything but the religion of Christ and the power of God work such a change in five or six years? Would anyone but a Christian attempt such a task? Are Missions worth while?

Sometimes the seed sown springs up after the worker has passed into God's secret garden. Think of Henry Martin—the accomplished and gifted student—apparently wasting his life in India. Look at this great scholar preaching to a crowd of native vagrants, "a frightful crowd, clothed with abominable rags or plastered with mud, every face foul and frightful with evil passions." The Missionary seemed to be casting his precious seed on desert soil. One evening some young men sat on a wall, amusing themselves with the "folly" (as they considered it) of the Englishman. They came to scoff, but the good seed took root in one heart and he became the first Indian clergyman. Through his splendid work among his own countrymen many were converted to Christianity. Henry Martyn died at the age of thirty one, without a friend near him except the Friend who was nearest and dearest of all to him. Ten days before his death he wrote in his journal: "I sat in the orchard, and thought with sweet comfort and peace of my God, in solitude my Company, my Friend, and Comfort." Was his life wasted? He translated the New Testament into Hindustani and into Persian—in this way giving the Word of God to millions of people. It is more than a hundred years since that brave and gentle young scholar passed to his reward, yet his life is still an inspiration to the world. The inscription on his monument is written in four languages.

THIS WASHER MUST PAY FOR ITSELF

A MAN tried to sell me a horse once. He said it was a fine horse and had nothing the matter with it. I wanted a fine horse, but, I didn't know anything about horses much. And I didn't know the man very well either.

So I told him I wanted to try the horse for a month. He said "All right, but pay me first, and I'll give you back your money if the horse isn't alright."

Well, I didn't like that. I was afraid the horse wasn't "alright" and that I might have to whistle for my money if I once parted with it. So I didn't buy the horse, although I wanted it badly. Now this set me thinking.

You see I make Washing Machines—the "1900 Gravity" Washer.

And I said to myself, lots of people may think about my Washing Machine as I thought about the horse, and about the man who owned it.

But I'd never know, because they wouldn't write and tell me. You see, I sell my Washing Machines by mail. I have sold over half a million that way. So, thought I, it is only fair enough to let people try my Washing Machines for a month, before they pay for them, just as I wanted to try the horse.

Now, I know what our "1900 Gravity" Washer will do. I know it will wash the clothes, without wearing or tearing them, in less than half the time they can be washed by hand or by any other machine.

I know it will wash a tub full of very dirty clothes in six minutes. I know no other machine ever invented can do that without wearing the clothes. Our "1900 Gravity" Washer does the work so easy that a child can run it almost as well as a strong woman, and it doesn't wear the clothes, fray the edges nor break buttons, the way all other machines do.

It just drives soapy water clear through the fibres of the clothes like a force pump might.

So, said I to myself, I will do with my "1900 Gravity" Washer what I wanted the man to do with the horse. Only I won't wait for people to ask me. I'll offer first, and I'll make good the offer every time.

Let me send you a "1900 Gravity" Washer on a month's free trial. I'll pay the freight out of my own pocket, and if you don't want the machine after you've used it a month, I'll take it back and pay the freight, too. Surely that is fair enough, isn't it?

Doesn't it prove that the "1900 Gravity" Washer must be all that I say it is?

And you can pay me out of what it saves for you. It will save its whole cost in a few months in wear and tear on the clothes alone. And then it will save 50 to 75 cents a week over that on washwomen's wages. If you keep the machine after the month's trial, I'll let you pay for it out of what it saves you. If it saves you 60 cents a week, send me 50c a week till paid for. I'll take that cheerfully, and I'll wait for my money until the machine itself earns the balance.

Drop me a line to-day, and let me send you a book about the "1900 Gravity" Washer that washes clothes in six minutes.

A.K. Morris, Manager 1900 Washer Company, 357 Yonge Street, Toronto

HUNT'S

Established 1854

A never varying combination of the best wheats of Manitoba and Ontario. You can depend on it—always the same.



DIAMOND FLOUR

OTHELLO TREASURE

THE WONDER BAKER

LARGEST RANGE ON THE MARKET

WRITE FOR BOOKLET

The D. Moore Company
Hamilton Canada

AGENTS EVERYWHERE

Assured or Insured-- Which?

Should we say life assurance or life insurance? Many insurance (or assurance) people have wrangled over this.

It depends upon whether you wish to refer to the policyholder or the beneficiary. The policyholder is assured, the beneficiary is insured.

The instant that a man comes into possession of a Mutual Life Policy he becomes possessed with an assured feeling as to the security of his family.

On the other hand his family is immediately insured by means of the policy against poverty and all the misery it entails.

So a policy in the Mutual of Canada is at once a policy of assurance and a policy of insurance. You are assured, your family is insured.

Our object is to give the largest amount of insurance for the least possible outlay.

DEMOCRATIC ECONOMICAL
UP-TO-THE-MINUTE

The Mutual Life Assurance Company of Canada
Waterloo, Ontario

It speaks of him as "a man of God," whose great object was to proclaim to all men his God and Savior, and it ends with an appeal to all who look at this monument "to honour, love, and serve the God and Savior of this devoted missionary." So he is still giving his message, seeking not his own glory but the glory of his loved Master.

Christ is the Hope of the nations, the Light of the world. Are we seeking His glory or our own? We are called to be missionaries, at home or abroad. No one can serve Christ without trying to extend His kingdom on earth. We can all do something to carry out one of the last commands written in our Bible:

"Let him that heareth say, Come."
"Be the Banner still unfurled,
Still unsheathed the Spirit's sword,
Till the Kingdoms of the world
Are the Kingdom of the Lord."

DORA FARNCOMB.

The Beaver Circle

Our Senior Beavers.

[For all pupils from Senior Third to Continuation Classes, inclusive.]

A Child's Wonderment.

- What makes the water wet instead of dry?
- What makes you laugh when most you want to cry?
- What makes the horrid whiskers on the rye?
- What makes you smile so brightly while you sigh?
- And why do you count up instead of down?
- And what makes kings fight just to get a crown?
- And why are rivers always at a town?
- What makes the blue skies smile unless they frown?
- What makes some barks so smooth and others rough?
- What makes some grasses tender, and others tough?
- What makes the sunshine not quite bright enough?
- What makes our Tabby give her puss a cuff?
- And why won't "time and tide wait for a man?"
- And does he always catch them when he can?
- What makes it cooler when you use a fan?
- And how would God be here 'fore time began?
- What is it makes the breezy smell of hay?
- What makes it always night unless it's day?
- Why can't you answer all my questions—say?
- I'd rather know the answers 'stead of play.

Funnies.

"Describe the manners and customs of the people in India," wrote the geography-teacher on the blackboard. A small boy on the front seat chewed the end of his lead-pencil into pulp, and then disposed of the subject by writing laboriously, "They haint got no manners, and they don't wear no customes."

"Don't cry, Willie! Grandpa will play Indian with you."
"B-but you won't do any good. Y-you're scalped already."—Judge.

The Story Competition.

Calling on the Gipsies.

BY HELEN E. JARDINE, CAMLACHIE, ONT.

Little Tommy Smith lived with his parents in a little grey farmhouse among the hills. It was rather a lonely place as the only neighbors very near were Betty Brown and her aunt, who lived across the road, and an old cobbler, who lived alone in a little hut, beside a big wood not very far away.

As neither Betty nor Tommy had started to school they spent most of their time together. They wandered over the meadows and hills, or played in a creek close by. The children were great friends of the little old cobbler, too, and often went to visit him, as they liked to watch him at his work, and talk

\$280 for a Separator A Farmer's Startling Discovery

THE other day a startling discovery was made by a leading farmer. He found that his cream separator had cost him nearly \$300, and if he continued to use it as long as it would likely hold together (10 years or so) it would cost him altogether very close to \$500.

This farmer milks 18 cows (good ones), for they average 6,000 lbs. of milk each, yearly. Altogether he gets 108,000 lbs. of milk in the year. He skims that milk and sends the cream to the creamery, getting about 25c. per lb. for butter-fat. So far, so good.

.16 per cent.

BUT this farmer has discovered that his separator does not skim as close as a really good separator should. It leaves .16 per cent. butter-fat in the skimmed milk, and .16 per cent. butter-fat lost in 108,000 lbs. of milk amounts to 172.8 lbs. of butter-fat. Figuring at 25c. per lb., this means \$43.20 lost on the herd yearly.

The loss on a separator, like the Standard, that skims to .01 per cent. will be only \$2.70 on the whole herd, so that the actual UNNECESSARY loss to the farmer is \$40.50 per annum.

\$40.50 x 6

This farmer has had the machine for six years, and it has therefore cost him six times \$40.50, a total of \$243. The first cost of his separator, \$55, added to \$243, makes a total of \$298, the actual cost of his machine to date. If he uses his machine four years longer it will have cost him \$460, whereas the first cost of a good machine like the Standard would be about \$85.

The Renfrew Machinery Co., Limited, RENFREW, ONTARIO

AGENCIES ALMOST EVERYWHERE IN CANADA



MADE IN CANADA

How about your machine? Do you know how it skims? You may claim that what you don't know cannot hurt you. We assert that it is what you don't know that does hurt you. The money value of the fat your separator leaves in the skimmed milk is lost just as much as if some one took it out of your pocket. An inefficient separator is just as much a thief as the slick pickpocket, a worse thief, in fact, because a poor separator keeps picking your pocket all the time.

On the other hand, a good separator like the Standard will put money into your pocket. The

Standard

skims to .01%. This statement may surprise you, but Government Dairy School tests will prove it. No matter the season of the year, or the quality of the milk, or the breed of the cow, there is no separator made that can do better work than the Standard. We doubt if there are any that can do as well. We are always looking for opportunities to have the Standard tested alongside other makes.

Full particulars about the Standard are given in our Separator Catalogue. Send for a copy. It's free.

Head Office and Works:
RENFREW, ONTARIO

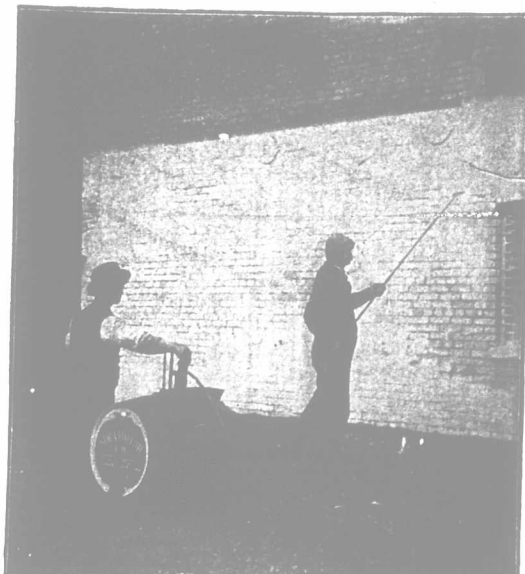
WISCONSIN INCUBATOR AND BROODER BOTH FOR \$13.90

130 Egg INCUBATOR
130 Chick Brooder
BOTH FOR
\$13.90 Freight and Duty PAID

If ordered together we send both machines for only \$13.90 and we pay all freight and duty charges to any R. R. station in Canada. We have branch warehouses in Winnipeg, Man., and Toronto, Ont. Orders shipped from nearest warehouse to your R. R. station. Hot water, double walls, dead air space between, double glass doors, copper tanks and boilers, self-regulating. Nursery under egg tray. Especially adapted to Canadian climate. Incubator and Brooder shipped complete with thermometers, lamps, egg testers—ready to use when you get them. Ten year guarantee—30 days trial. Incubators finished in natural colors showing the high grade California Redwood lumber used—not painted to cover inferior material. If you will compare our machines with others, we feel sure of your order. Don't buy until you do this—you'll save money—it pays to investigate before you buy. Remember our price of \$13.90 is for both Incubator and Brooder and covers freight and duty charges. Send for FREE catalog today, or send in your order and save time.



Write Us Today—Don't Delay
WISCONSIN INCUBATOR CO. Box 228, RACINE, WISCONSIN, U. S. A.



Why don't you paint the barn?

Costs too much just now, you say. Ordinarily you would be right; but not if you use a Spramotor. It may surprise you to know that a barn 40 x 60 x 18 feet, with two gables—4,320 square feet, to cover with paint—can be covered with 200 pounds of fire-proof paint for \$18, and can be done in half a day, with two men. The

Spramotor

applies the paint as fast as twenty men with brushes, and it drives it into every crack and crevice. It is possible and profitable to make your buildings fire-proof and sanitary at a cost of one-tenth the price of oil paints. Then in addition to this you have the Spramotor for other uses. Divide its cost by the number of things you can use it for, and you'll be surprised to find how quickly a Spramotor pays for itself.

MADE IN CANADA.

NO DUTY TO PAY.

B. H. HEARD SPRAMOTOR

2731 King Street

LONDON, CANADA

Concrete Fence Post Molds (Makes 100 posts a day)



Concrete Fence Post

Our regular price is \$15.00 each, but during next 60 days we are making a special offer to progressive farmers.

Our offer: Send us only \$7.50 (half price) and we will ship you our Concrete Fence Mold, with instructions for using. We cannot sell more than one to each farmer at this price, but two or more farmers may order and have shipped together.

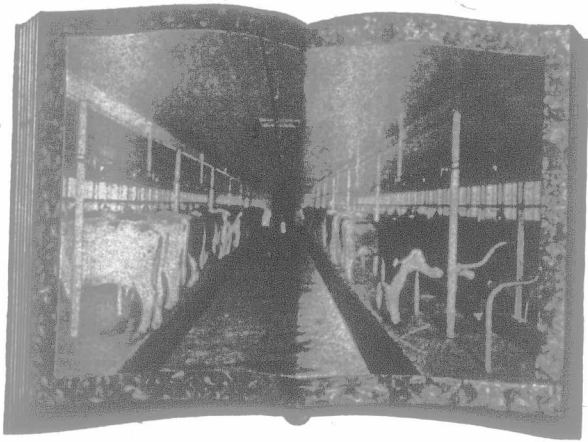
Write to-day enclosing \$7.50 and get your mold at half price as we intend to withdraw this offer as soon as first 500 are sold.

West Lorne Motors Limited
West Lorne, Ont.

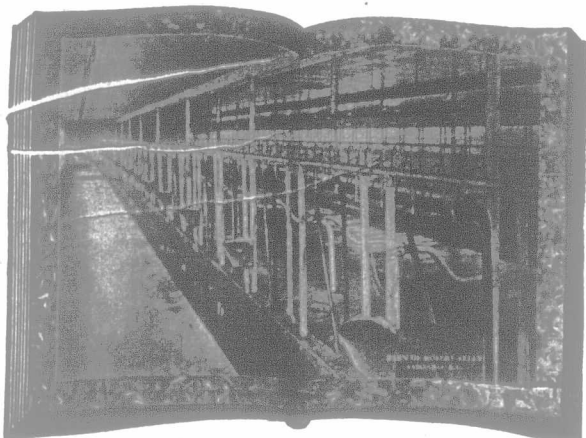
Rack-cured Seed Corn—All varieties.

Write us before placing your order for seed corn. We have quantity and quality. Our Seed Corn is all hand-selected and thoroughly rack-cured.

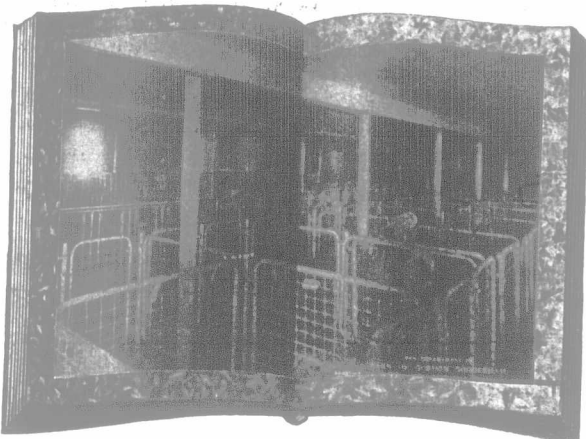
ST. JOACHIM CORN GROWERS' CLUB,
Box No. 4, St. Joachim, Ont.



Double page photo of modern barn. There are also 60 full page photos of good barns.



One of 20 double page illustrations. These big cuts are almost a foot wide.



A double page cut that shows a good method of stabling calves, adopted by a popular breeder.

Wonderful Pages of a Wonderful Book

Here is a book the farmers have needed—a complete and practical text on stable construction and stable equipment, illustrated by full page photos of actual barns. Not only well illustrated with plans and photos, but well bound, so it can be kept and referred to for help when needed. A book so well printed that you will prize it and keep for years.

The new BT Barn Book is a treat for any farmer who is thinking of building or remodelling his barn. Full page and double page photographs, and blue print plans, make every detail clear.

Seeing The Best Canadian Barns

The book is as good as a trip across Canada to see the best Canadian Dairy and Stock barns. It gives you a rare opportunity to study the best methods of stabling stock.

It shows how BT Swinging Steel Stanchions give comfort to the cow, allowing her to turn her head freely to lick herself, preventing big knees, bruised shoulders, lumpy necks.

It shows how steel stalls line up the cows in their stalls, so that they are even with the gutter and no dung falls on the cattle stands or walks.

It shows you how bright, fresh and clean the sanitary steel stalls make your stable, so clean milk can be produced and labor saved in stable cleaning.

It shows you a system of feeding that detects the boarder cow and enables you to increase the milk yield of the profitable cow.

It shows how overfeeding and underfeeding can be prevented.

It shows how calves should be stabled so they will grow up strong and healthy. Tells an easy way of feeding them, so each gets as much as it needs and the big bully doesn't get it all. Shows how the sucking habit can be prevented or overcome.

It tells the best way of stabling the bull so he will get plenty of sunlight and fresh air. How to keep him contented, how to feed him and handle him without danger.

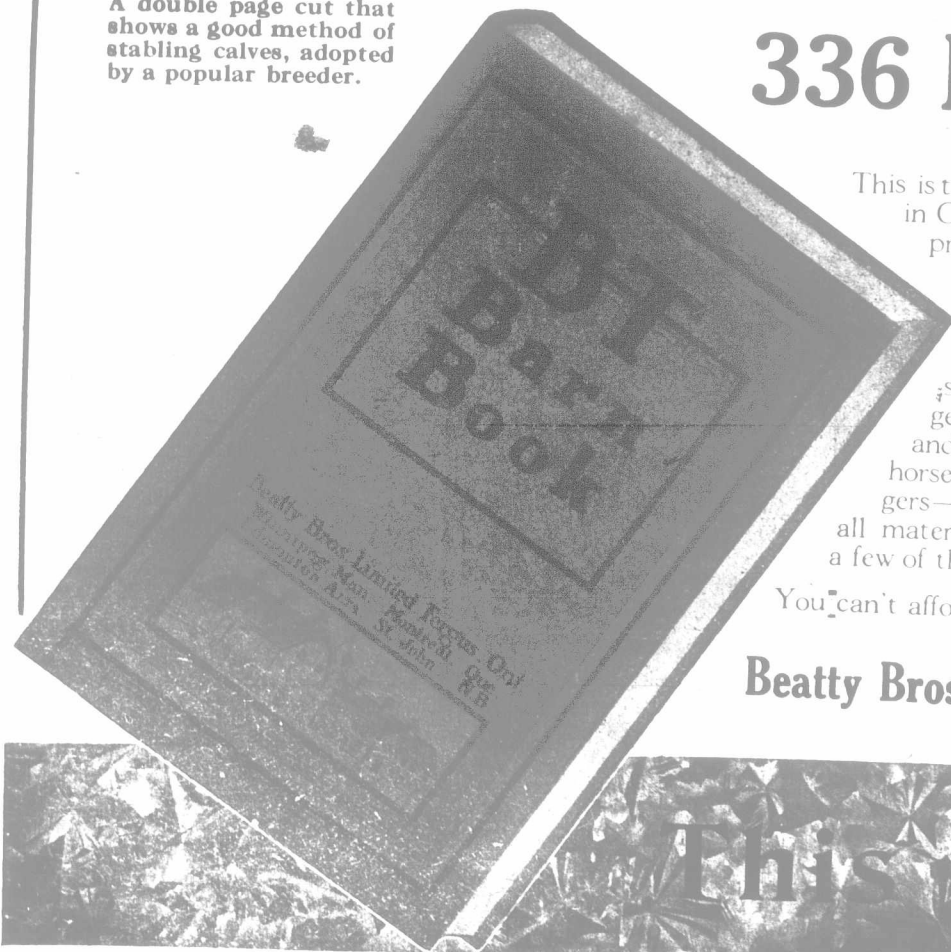
It shows durable steel fittings for the horse stable, steel oat bowls, steel stall posts, steel guards and steel mangers.

336 Pages of Information

This is the most elaborate and complete book on barn construction ever printed in Canada. There are useful tables and charts showing floor levels—best proportions for concrete for floors and walls, materials for plank framing, plank framing for different widths of barns, capacities of mows, sizes of gable doors, sizes of drive-ways—height of ceilings—proper temperature for dairy barn—sizes of stable doors and best sizes of windows—amounts of ventilation for different kinds of stock—best sizes of inlets and outlets—best measurements for cattle-stands, mangers, gutters and passages in barns of different widths—sizes of walls and foundations—costs of cement work—best measurements of cow stalls, horse stalls, box stalls, hog pens—capacities of silos—best types of mangers—loads that supporting columns will bear—complete specifications of all materials to be used in sanitary steel stable construction—these are only a few of the items of valuable information in this fine book.

You can't afford to be without it if you are building or remodelling.

Beatty Bros. Limited, K242 Hill Street, Fergus, Ontario.



Invaluable To You If Building or Remodelling

The building or remodelling of your barn is one of the most important jobs of your lifetime. It pays to do the job right, for it can't be done over again and mistakes are costly.

A silo in the wrong place, bad arrangement of stalls and box stalls, wrong measurements for cattle-stands, ineffective system of ventilation, windows improperly placed, these and a hundred other mistakes are liable to occur if one does not study up the subject and make plans before he commences the work.

What The Book Tells

This book describes the principles of modern stable construction, illustrates every point with blue print plans and with full page photographs.

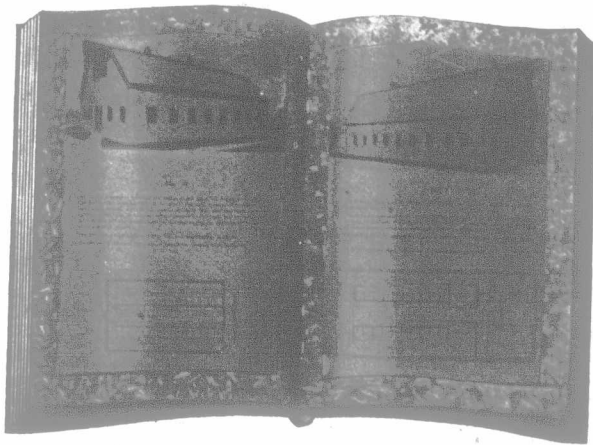
It describes site, appearance, design, size, tells how to lay the foundations and floors, how to frame a barn by the plank frame method and how to erect it with only a couple of men and a team to help, framing for wide barn, circle roof, heavy timber barn and steel truss, explains very fully the King and Rutherford ventilation systems, telling which is best for our severe winter climate, shows how to build ventilation intakes and outlets and frame a cupola for the foul air shaft, tells the best types of mangers for different barns and how to build them so feed won't be wasted by the cattle, best shape and size for gutters and how to build them.

It gives working plans for different types of barns, with exterior views of the barns when completed. These plans alone are worth many a dollar to a man building.

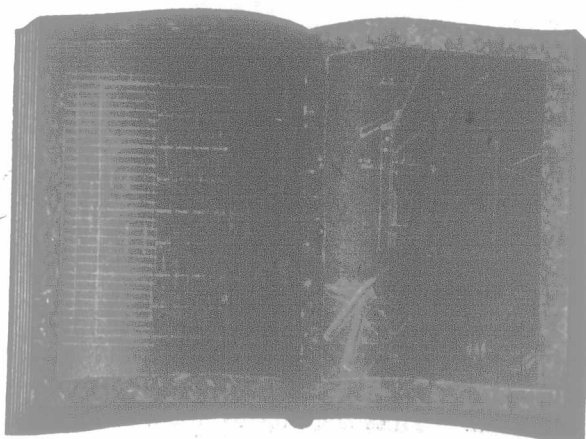
Practical Hints on Equipment

You will appreciate the pointers on stable equipment that this book gives. There are facts you should know before you put in any stabling. The BT Galvanized Steel Stalls, Stanchions, Pens for Calves, Hogs, Cows, Steers and the Bull, Steel Horse Stable Fittings, Water Bowls, Manure and Hay Carriers, are shown.

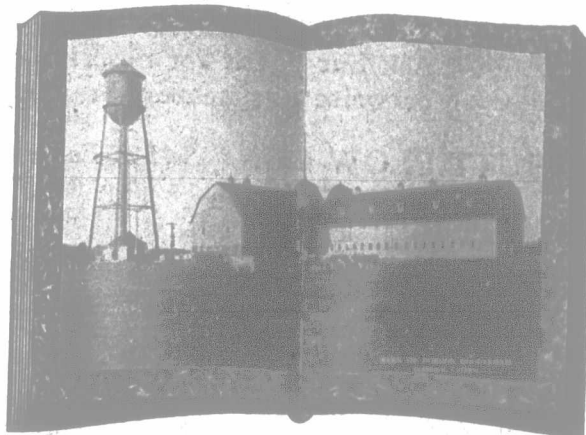
Complete specifications for every item of stable equipment are given, sizes and weights of steel tubing and other material used, and the process of manufacture is described. The need of having stable equipment galvanized is discussed, and the galvanizing plant at the BT Foundry is shown in operation.



There are 14 pages in this book showing model barns, with plans for them.



Two pages showing details of plank frame construction. Details of plank frame at end bent, middle bent, joints at purlin plate and trusses, are all shown by blue prints.



One of the fine barns shown in the book, built from BT plans.

Get This Book To-day--Now!

Now's the time to get ideas on stable construction—now while the nights are long, now while you have time to study.

The winter evenings will seem short enough with this interesting book to occupy the time. It is a treat for you, if you are building or remodelling, a treat for the boys and for the whole family.

Every page is interesting and helpful.

We have published this book at our own cost, to further the cause of sanitary stable construction and sanitary stable equipment. We will send it free to any farmer if he is building or remodelling his barn, who will write us stating amount of stock he expects to keep and when he will start the work.

The book has cost us many thousand dollars, and we want to get it in the hands of those who will appreciate it and use it.

Send your name on the coupon and your copy will come by first mail in a neat cardboard box, post paid.

Beatty Bros. Limited, K242 Hill Street, Fergus, Ontario.

FREE COUPON.
Beatty Bros. Limited,
K242 Hill Street,
Fergus, Ont.

Send me, without charge or obligation *your new 330-page barn book. I have answered the questions below.

Are you building or remodelling? Yes No

In what year?

How many cows will you keep?

Are you interested in steel stalls?

Horse stable fittings?

Manure carriers?

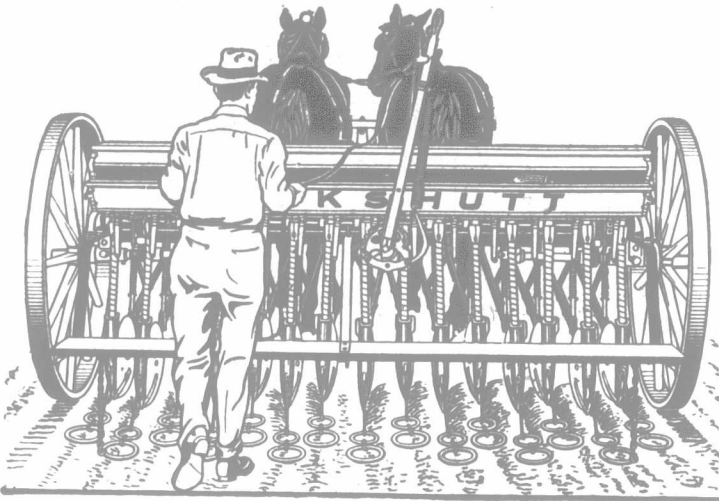
Water bowls?

Prov.

Your Name

P. O.

Perfect seeding means better crops



Don't take chances on imperfect seeding. It is just as important to get the grain properly planted as it is to select clean, plump kernels for your seed. Canada's most prosperous farmers invariably prefer the Cockshutt Drill.

Buy a Cockshutt Drill

For best Results. It is made in Canada.

You sow with certainty when you seed with a Cockshutt Drill—the certainty of having given your seed the best possible chance to produce good crops. That is going to mean a lot with the 1916 crop. Should you increase your acreage it will mean less time for seeding if advantage is to be taken of every day of growing weather. Buy a Cockshutt Drill this spring—it will insure you against seeding delays. Your time, your seed and your soil all demand the

dependable Cockshutt Drill. From them must come your whole season's profits.

With the Cockshutt you put every seed in its proper place—in the centre of a specially prepared channel—at uniform depth and well covered. Expert Canadian workmanship and finest tested materials go into each machine. We guarantee the Cockshutt to work well, wear well and be of exceptionally light draft.

Ask our agent for descriptive booklet on this Drill, or write our nearest branch or headquarters for it.

COCKSHUTT PLOW CO.
LIMITED
BRANTFORD, ONT.

Sold in Eastern Ontario,
Quebec and Maritime
Provinces by

The FROST & WOOD CO.
LIMITED
Montreal, SMITHS FALLS, St. John

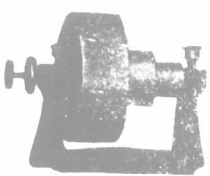
**Right Now You Need A Pair
DELIVERED
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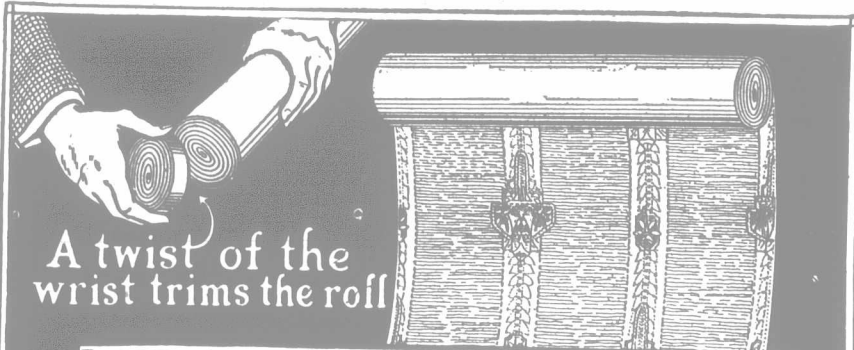
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to him. They also liked his big hound, Bruce, who was very fond of them. When they came to visit the cobbler, Bruce would always meet them, wagging his tail, and go ahead of them to the house.

One day when they were down to see him, Bruce began to bark and whine. Looking out, they saw a woman and a little girl, with shawls on their heads, each carrying a basket.

"They are gipsies", said the cobbler. Bruce was not going to let them in till his master opened the door and told him to be quiet. The gipsies came in and asked if they could borrow a loaf of bread. The old man gave them one and they soon went off. Betty and Tommy had been rather frightened, and had said nothing while they were there, but as soon as they left they asked all about them. The old man told them he thought they had a camp in a clearing by the creek in the big woods near.

"If you come down to-morrow afternoon, I will take you to their camp," said he. The children were eager to see it, and as their elders gave them permission they were at the cobbler's hut before he had finished washing his dinner dishes.

When the old man was ready, he and Bruce led the children down the road till they climbed the fence into the big woods. They were walking towards the creek in silence, when Tommy shouted, "Oh! I see the tents." "Oh, I'm frightened to go any nearer," cried Betty.

As they came nearer, some dogs about the encampment began to whine, but they were afraid of Bruce and kept away. The tents were in a half circle and in the space was a fire. Over it was a large iron kettle filled with soup. The men and boys were sitting about on the grass, eating out of bowls with wooden spoons, while the women were filling the bowls with soup from the pot, or working around the tents.

"Good-day. We have come to visit you," said the cobbler, as they stepped into the clearing.

Some of the men half-grunted a reply, and the rest just looked at them. They seemed quite friendly, though, and one of the women came and asked the children if they would like some hare soup. The men thought Bruce would make a good dog to catch game for them, and wanted to trade a thin old horse they had for him, but his master only laughed and said, "I guess I would rather have Bruce."

Some of them tried to pat him, but he showed his teeth, and they backed away. The cobbler and Betty and Tommy stayed talking with the gipsies for some time before they went home. The scene had greatly impressed the children and they always remembered their call on the gipsies.

Note to the Beavers.

Please Beavers do not write any more letters until you are given notice. There are on hand nearly a hundred letters waiting to be printed.

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.]

What Our Readers are Thinking.

The following letters on the various subjects selected for discussion will be read with interest. Friendly discussion and criticism are invited.

Why I Want To Leave The Farm.

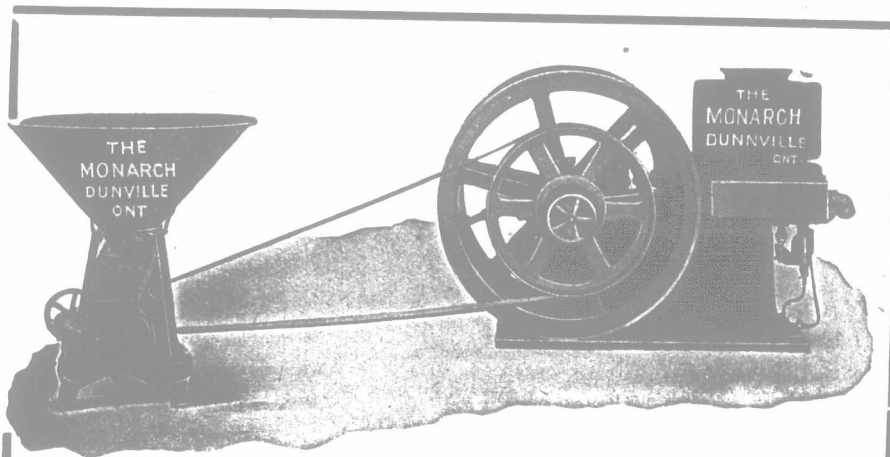
Dear Ingle Nook Folk.—An old subject remodelled. Hitherto having been dealt with under the name of "The Trend to the City," or "Keeping the Boy on the Farm," etc. However, old it may be, I believe it will remain ever new, as long as it is not successfully solved.

While the "Trend to the City, etc." may not be so much in evidence at the present time, owing to special conditions, caused no doubt by the war, the difficulty upon which our subject is based becomes no less prevalent. A dissatisfied condition among the young

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people of the farm continues to be very evident, and many are simply watching and waiting for the times to turn a bit, when they may leave the farm to satisfy their long felt want.

Why such a deplorable condition, when nearly all will admit that the farm is the ideal place to grow and develop upon?

Let us picture the country during the past. Someone suggests rural mail delivery as a convenience, which will help to keep the young folk satisfied on the farm; another suggests telephones; another modern conveniences in the home, such as heating and water systems; another mechanical power; mechanical milkers, etc., etc., etc. Many of these conveniences are now found on the average farm, and yet the dissatisfaction of the young folk remains largely unchanged.

Very frequently we hear statements made, which, if properly analyzed, plainly show us that the older people of the farm think the younger generation expects a living without labor. I believe what this generation expects is a fair reward for labor. We find the cities hold out attractive sums of money for labor, with the privilege of being independent from the beginning. And so money in figures looms up before us in beautiful homes, etc.

But let us look back to the farm. Is there not enough money in it? The young people have been doped with "facts" whereas they are looking for "figures" as well. Let us ask the average well-to-do farmer concerning his income and expenses. Rare, indeed, will we find one who is able to give the desired information in a business-like form. Rather will he relate to us the amount of capital he had when he started, and, of course, as he goes along from year to year in his farming experiences, telling of the different new buildings which he has erected in the course of time, and many other improvements which have been made and paid out of the revenue of the farm. He also prides himself with his stock, which, he considers, has been greatly improved and value of same materially increased. And so the farmer believes that there is money in farming. But here again he has given us "facts" instead of definite "figures."

Let the farmer post himself concerning his income and expenses in such a way, that, at the end of year he will be able to tell us how much the "old farm" has paid him and his good wife for their labor, besides a good living, and I believe a few will become more interested.

Waterloo Co., Ont. M. A. B.

What Has been the Greatest influence in My Life?

Dear Junia,—What a beautiful question to write about! And what a soul confession one must make to truthful and honestly answer such a question!

The greatest influence in my life has been the example and teachings of an aunt,—one of those dear, sweet, unselfish women who, for reasons best known to themselves, never married—who filled the place of mother to me, her orphaned niece, seemingly without recompense this side of heaven.

I was motherless at the tender age of three, and she taught me to lisp my childish prayers, and early planted in my young heart the truth of God's love for little children such as I.

Never once can I look back and see her as anything but the truest of Christian women.

Although circumstances were such that we were separated when I had just finished celebrating my thirteenth birthday, and I was practically alone in the world, she had so moulded my young life that I was always able and willing to trust in God—her God—at all times. And now, as I try to teach my own dear children, I am trying to be to them what she was to me.

Poor aunt! And to think I have heard the thoughtless sneeringly call her "an old maid!" I hate that expression! Don't you? I hate it, because I know aunt was called it, I do not know—in my own personal experience—a married woman who is her equal. God bless her! And all unmarried women like her!

Simcoe Co., Ont. ANONYMOUS.

HINMAN CO. WINS IN BIG PATENT SUIT

GIVEN JUDGMENT WITH COSTS.

Hinman Milking Machine Company of Oneida Awarded Damages in U. S. District Court Against the Visible Milker Company for Infringement—Watertown Concern Restrained—Judge Ray's Decision.

The following is from the Oneida, N. Y., Despatch:

Judge George W. Ray, of the United States District Court, just handed down a decision in the action brought by the Hinman Milking Machine Company, of Oneida, against the Visible Milker Company of Watertown, for infringement of patent, in which the court directs an injunction and judgment against the Watertown concern with full costs and an accounting to fix damages.

The decision is a notable victory for the Hinman Milking Machine Company, whose machines, which have gained a world-wide reputation, have been imitated and infringed in various parts of the country because of their sound basic principles and wonderful success.

The action was brought by the Hinman Milking Machine Company to restrain the Watertown company from committing further infringement on the complainant's (Hinman's) patent and for damages for the infringements already committed. This case was tried in United States District Court at Syracuse, Aug. 31st and Sept. 1st and 2nd, 1915. Attorney Ralph H. Woolver of this city appeared for the Hinman Milking Machine Company with Attorneys H. P. Dennison and E. A. Thompson as counsel. The Visible Milker Company was represented by Attorneys John Conboy, of Watertown, and Fred Gerlach, of Chicago.

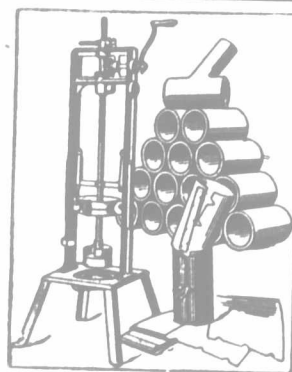
What the Decision Means.

This decision gives the Hinman Milking Machine Company a practical monopoly on the manufacture and sale of the valve-type milking machine industry, and it was in anticipation of a favorable decision that the company recently enlarged its plant on Elizabeth Street to about double its former capacity. Their product is sold in every state in the Union, in Canada, Mexico, South America and a number of European countries, and orders from new territory are received almost every day.

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"I am well satisfied with my Buckeye. That machine is making me more money than 10 acres of land. I have made about \$1200 in a single season. This season, and you know what a bad season we have had. But I am getting on my feet, and if I had another machine I could have 1000 acres of them done. I have never worked faster than I can do, and another thing I think the Buckeye Traction Ditcher Company used the best rate." EDWARD YOSTER

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Subjects for Discussion.

As the spring is so far advanced, and "spare time" upon the farms becomes an ever-lessening quantity, this will be the last series of subjects set for discussion this season.

1. Is there such a thing as "divine discontent"?
2. Discuss money-making for women on the farm. What are the farm woman's assets, and how may she make the best of them?
3. Garden Experiences, Serious and otherwise.

In regard to topic No. 3.—There are many who have found a really humorous side in gardening experiences. We all need "smiles" in these strenuous days, and we are sure that some of our readers can give us something to smile over as well as something to think about in regard to this subject. We have some very nice little gardening books on hand, which we shall be pleased to send as souvenirs to those who succeed in writing the best essays on topic No. 3.

General Correspondence.

Whitening a Straw Hat.

For "Enquirer," Nipissing Dis., Ont. There are several ways of whitening a straw hat that has become yellow.

1. Wash it well with a strong solution of hydrogen peroxide.
2. Wash with a solution of oxalic acid, rinse thoroughly.
3. Leave for an hour in a weak solution of chloride of lime (1 part chloride, 20 parts water) rinse, and dry slowly.
4. Scrub well with lemon juice mixed with sulphur, let dry, and brush well. There are also hat cleaners that are very good sold at the drug-stores. If one wished to color the hat very good hat enamels and stains may be bought all ready to use.

Seasonable Recipes.

Fish Cakes.—Wash salt codfish and separate in pieces—enough to make 1 cupful. Wash, pare and soak potatoes and cut in bits enough to make 2 heaping cupfuls. Put fish and potatoes in a kettle with a generous supply of boiling water, and cook until the potatoes are soft. Drain, mash, add one beaten egg, 1 teaspoon butter, dash of pepper and a few drops of onion juice. Shape in flat cakes, roll in flour and fry.

Fish Toast.—One cup flaked cold fish. Heat in enough water to moisten, add butter, pepper and salt. When hot pour on slices of hot buttered toast, garnish with hard-boiled eggs or poached eggs, and serve.

Stuffing for Baked Fish.—For a fish weighing 4 to 6 lbs. take 1 cup cracker crumbs, salt and pepper to season, 1 teaspoon chopped onions, 1 teaspoon chopped parsley, 1 teaspoon chopped pickles.

Potato Puffs.—Mash the potatoes and season well with butter, pepper and salt. Shape into balls about the size of an egg and dip in beaten egg. Butter a baking pan and lay the balls in it, taking care that they do not touch. When a golden brown serve.

Potatoes on the Half Shell.—Bake medium-sized potatoes, and when done cut each carefully in two and remove the inside, leaving the shells intact. Mash the potato with a little milk, butter, salt, cayenne pepper and celery seed, then refill the shells. Cover the top of each potato with grated cheese and brown in the oven.

Carrot Salad. Put boiled carrots through a colander or ricer and serve on lettuce with a regular salad dressing.

Orange Marmalade with Grapefruit.—Take one grapefruit, one orange and one lemon, and put through the grinder. Add the juice of two oranges and of two lemons, measure the whole, and add three times the amount of water. Let all stand until next day. Boil 10 minutes and let stand again until the next day. Measure, and add an equal amount of sugar. Boil until it jellies. This will make 11 or 12 tumblerfuls. Pour into glasses while warm. When cold, pour over the top a thin coating of melted paraffin.

Orange Marmalade.—Pare off as thin a peel as possible from the oranges, and soak this rind in salty water for 24 hours, then boil it in fresh water, changing once, until tender, and cut



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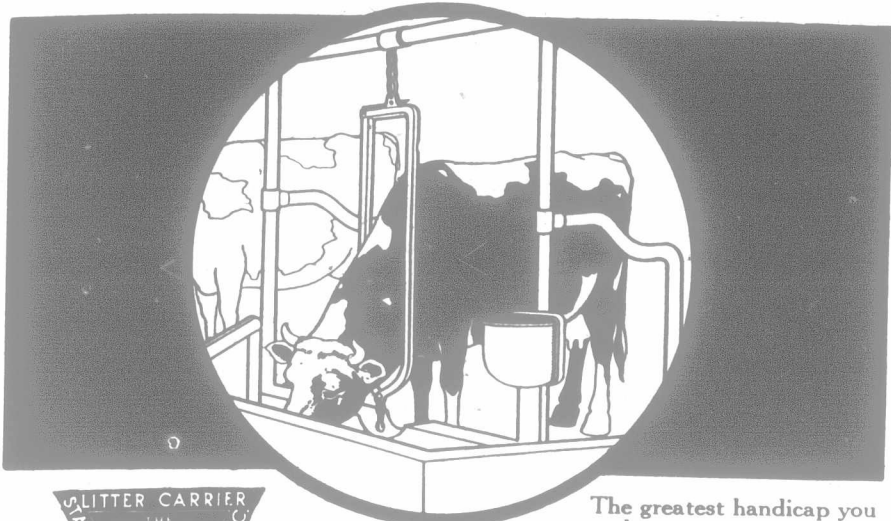
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Made from finest tubular steel, Dillon Stalls and Stanchions have both strength and simplicity to recommend them—yet their cost is extremely low.

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And do not stop at a mere request for the book. By telling us something of your requirements—how many cows there are to stable, what sort of a barn you now have, etc.—you can get from us that practical, sincere advice which experts alone can give.

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fine with scissors. Add the pulp of the oranges, rejecting white fibre and seeds. Measure, and allow an equal quantity of sugar. Simmer until clear and ready to jelly.

Candied Peel.—This is easily prepared in much the same manner as indicated in the last recipe. Boil down until nearly dry, and finish in a warm oven. Fresh orange peels can be kept for several days in a jar of salted water while gathering.

Scalloped Parsnips.—Boil 4 or 5 parsnips and mash smooth. Add 1 tablespoon butter, 1 level teaspoon salt, and pepper to season, also 1 tablespoon chopped onion and 2 tablespoons milk. Butter a baking dish. Put a layer of parsnips in the bottom, then a layer of breadcrumbs, then another layer of parsnips. Dot with butter. Brown in the oven and serve hot.

Parsnip Balls.—Boil the parsnips and put through a colander. Add salt, pepper and butter to season. Beat an egg and add, also 1 tablespoon flour. Form the mixture into balls, first dipping the hands in flour. Then roll the balls in flour and fry in dripping to a golden brown. Deep fat is the best for these.

The Scrap Bag.
To Brown Pancakes.
Add a teaspoonful or more of molasses to the batter before frying.

To Clean Kid Gloves.
Put the glove on the hand and rub with a rag dipped in milk then rubbed on white soap. Clean little by little. This method is effective for colored kid gloves; to clean white ones wash with gasoline and soap, taking care that the work is not done in any room where there is fire or lighted lamps.

Differences in Milk and Water Bread.
Bread made with milk is more nutritious than bread made with water. Bread made with water and no shortening, well kneaded, gives French bread. This is a rather porous bread with tough, flinty crust; such bread is sometimes called true bread, and bread made with milk and shortening a variety of cake. Bread made with milk, or half milk and half water, is thought to remain moist and in good condition longer than bread made with water.—American Cookery.

Butter as a Food.
Since the invention of cold-storage butter has come to be among the costly foods. And yet it cannot be discarded from the daily diet. True, it is not nearly as nutritious as cotton seed oil or refined lard, and is just about even with beef suet and fat pork. Its value lies: first in its flavor, which induces people to eat more of other necessary foods; and in the second place in properties recently discovered, "vitamines," which are very needful for the health of the body. Experimenters have found, indeed, that mice thrive on grain and butter, but starve on grain and lard. Among other foods that contain vitamins are cod-liver oil, egg-yolk and corn meal, all exceedingly useful, especially for growing children. Owing to the costliness of butter investigators at various experiment stations have been striving to find an effective substitute, and of late seem to be nearing a solution of the problem in the possibility of altering certain vegetable oils into fats. The tropical nut oils, then, appear to be coming to the fore as a possible source of the butter of the future, a butter that will be less in cost and equal to the dairy product in nutritiveness. This will by no means, however, do away with the dairy product. It will still be on the market for the people who buy the choicest of everything. The difference will be that there will be no second rate dairy butter anywhere. Every pound sold will be of the very finest quality.—Abridged from "American Cookery."



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\$6.00 a year protects your new Ford Touring Car from loss by fire to the extent of \$500, including loss from explosion and self-ignition. Covers fire loss while car is in any building or on the road—lower rates and more liberal terms than any other policy you can procure. Write for rates on Ford Cars up to three years old.



LONDON MUTUAL FIRE INSURANCE COMPANY
F. D. WILLIAMS, MANAGING DIRECTOR
HEAD OFFICE - 33 SCOTT ST. TORONTO.

MAIL CONTRACT

SEALED tenders, addressed to the Postmaster-General, will be received at Ottawa until noon, Friday, the 14th day of April, 1916, for the conveyance of His Majesty's mails, on a proposed contract for four years, six times per week, over Glanworth No. 1 Rural Route, from the 1st of July, 1916, next. Printed notices containing further information as to conditions of proposed contract may be seen, and blank forms of tender may be obtained at the Post Offices of Glanworth, Belmont, St. Thomas and Wilton Grove, and at the office of the Post Office Inspector, London. G. C. ANDERSON, Superintendent. Post Office Department, Canada, Mail Service Branch, Ottawa, 3rd March, 1916.

Steel Rails
for Reinforcing Bridges and Barn Driveways
CUT ANY LENGTH
JNO. J. GARTSHORE
58 Front Street West, Toronto

For Sale—Valuable Draft Stallion, "Clavion De Queumont," rising eight years old, weight 1,800; will be sold by public auction at F. M. Sherk's, 3 miles west of Ridgeway, Bertie Township, near Point Abino Station, on Wednesday, March 22nd, 1916, at 2 o'clock sharp, if not previously sold.
FRANK M. SHERK, Proprietor.

It means the bakeday smile
of perfect satisfaction 18

PURITY FLOUR

"More Bread and Better Bread"

HUNDRED-CENTS-TO-THE-DOLLAR MONEY

will be demanded from you when you buy a piano. Why not, for your part, demand hundred-cents-to-the-dollar piano value?

You are entitled to the full purchasing power of every dollar you spend—and you get it, when you buy a

SHERLOCK-MANNING 20th Century PIANO

"Canada's Biggest Piano Value"

Your money—\$100 less of it—buys superior piano quality—an instrument containing the highest grade action, hammers and strings that money can buy.

Canadian families to the number of 1,200 bought Sherlock-Manning instruments last year, and each saved \$100 by our direct-to-user methods and prices.

Let your cash buy all piano value. Not a dollar of it should be spent for a name only. We are willing and anxious to prove our claim to give "Canada's Biggest Piano Value"—a beautifully toned, handsomely cased instrument, backed by an unflinching ten-year guarantee—all for \$100 less than you'll pay for the same value anywhere.

Ask Dept. 4 to send you our Art Catalogue "L."



Colonial—Style 70.

The Sherlock-Manning Piano Co.

LONDON

(No street address necessary)

CANADA



International Stock Food Tonic

is equally good for

COWS

HORSES

PIGS

THIS famous Tonic is for all livestock—to make cows give more milk—to keep working horses in prime condition—to keep pigs healthy and promote very rapid growth and at a small cost of "3 Feeds for One Cent." How does it produce such results? **International Stock Food Tonic** is prepared from powdered medicinal roots, herbs, seeds and barks for the special purpose of giving a small amount with the usual grain feed for each animal. The pure vegetable ingredients we use purify the blood, cure indigestion and many other forms of disease;—"tones up" and "builds up" the entire system permanently.

It is the best thing you can give a horse for Epizootic, Indigestion, Liver Trouble, Coughs, Influenza, Hide Bound or Blood Trouble. If you have horses or colts for sale, be sure and give them **International Stock Food Tonic** for thirty or sixty days. Its every-day use will often add \$50.00 to \$100.00 to their value because it quickly causes them to greatly improve in general appearance. **International Stock Food Tonic** is a wonderful cow tonic and milk pro-

ducer. It increases both the quality and quantity.

This famous tonic is endorsed as the surest hog tonic in the world. Twenty-six years' use by over two million farmers indisputably proves its extra money making results.

If you are not using this Reliable Tonic to-day, you are missing a whole lot of actual profit. Get a package or pail at your dealer's. See what wonderful results can be obtained.

It is put up in all sizes: 50c. and \$2.00 packages, \$2.50 lithographed tins and 25 lb. pails at \$1.75 each. For sale by Dealers everywhere on a spot cash guarantee.

International Stock Food Co. Limited
TORONTO, CANADA 170

News of the Week

The Ontario Government has arranged to take over twenty sources of water-power in Eastern and Central Ontario for the extension of hydro-electric lines.

Prohibition may be introduced into Ontario, for the duration of the war, without a referendum.

As a consequence of the murder of many American citizens living in Mexico, 7,500 U. S. troops have been sent with orders to take Villa, alive or dead.

The Turks are said to be retiring from Southern Palestine.

On the Western war front, at time of going to press, terrific fighting still rages about Verdun, where the French lines still hold except in the Corbeaux wood which has been taken by the Germans, but may be speedily relinquished when the heavy reinforcements now being prepared are rushed to the front. The German losses in the attack at Verdun are estimated at 200,000. In the East the Russians are advancing on Trebizond, a port on the Southeast of the Black Sea. Gen. Aylmer, after a fight with the Turks, has been obliged to retire again, for want of water, but Gen. Townshend's forces in Kut-el-Amara are not held in immediate danger. In Persia the Turkish and Persian forces are retiring from the city of Ispahan.

The Dollar Chain

A fund maintained by readers of "The Farmer's Advocate and Home Magazine" for (1) Belgian Relief; (2) Soldiers' Comforts; (3) Red Cross; (4) Serbian Relief.

Contributions from March 3 to March 10 were: Mrs. W. T. Johnson, Perth, Ont., \$1; P. H. Conkey, Arkona, Ont., \$1.50; "Toronto," \$2; Geo. G. Trussler, Berlin, Ont., 50 cents; H. K. Saunders, Jarvis, Ont., \$1; A. Friend, Langton, Ont., \$2; Jas. Hutcheson, Ingersoll, Ont., \$1; I. H. G. Stratford, Ont., \$1.

Amount previously acknowledged.....\$2,116.85

Total to March 10th.....\$2,126.85

IF YOU CAN'T GO TO THE FRONT, GIVE.

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

The Windrow.

One of the curious things among the many tragedies of the war is the number of soldiers found dead without wounds. The doctors attribute the deaths to the sudden pressure and its too sudden release, consequent upon the concussion of high explosives. "The whole effect," says Literary Digest, "takes place in the fraction of a second, and the man dies where he stands, sits, or lies, without changing his position."

Anton Lang of Ober-Ammergau, who took the part of Christ in the famous Passion-play, is now training for hospital work. He is just forty years of age, married, and with a family of four children. Critics have said that he took his strenuous part in the play magnificently, and that it is strenuous is proved by the fact that on more than one occasion an actor has been known to faint in the great final scene.

"The most unlikely spot is often the one in which we find what we are looking for," remarks Literary Digest, "but the Arctic Ocean is hardly the place where one would look for Russia's only open port in winter. Yet such is the case. The only port that is not closed to Russia by the exigencies of the war or the rigors of winter, lies well within the arctic circle, yet day by day throughout the winter months munitions and supplies are pouring into it and its importance has become so great that a regular passenger service has been established with England and Sweden." The port referred to is Novo Alexandrovsk, a port even further north than Archangel but kept open for navigation

Selected Seed Grain

	Per Bus.
O. A. C. 72 Oats.....	\$0.75
Banner Oats.....	.70
Newmarket Oats.....	.70
American Beauty.....	.70
Early Yelder New (Imported).....	2.00
Early Empire.....	
Barley O. A. C. 21.....	\$0.80
Black Barley.....	1.50
Golden Vine Peas.....	2.00
Some No. 1 Red Clover.....	17.00
Still on hand Alfalfa.....	16.00
Timothy, No. 1 for Purity.....	5.50
Alsike No. 1.....	14.00

You might beat the price but not our quality.

We have some good value in Seed Potatoes for future shipment, also seed Corn.

Write for prices. Terms Cash.

Bags extra at value.

Ex. Warehouse Guelph.

THE HEWER SEED CO.

90 Macdonnell St. East,
Guelph, Ont.

CREAM WANTED

We think we have the longest experience.

We try to give the best service.

We need your cream and will make it "worth your while" to ship to us. A card brings particulars.

Toronto Creamery Co., Ltd.
TORONTO

Brant Creamery

Brantford, Ontario

Guarantees to you a high-priced market for cream every day of the year. Write for our book.

Reference: Bank of Nova Scotia

London Engine Supplies Co., Limited.

Our L. E. S. Water Works System will give you the comfort of High Pressure Water System for your home or about the farm. Refer to the Christmas Number for details.

NONE-SUCH SEED CORN

Our Guarantee

If not satisfied in ten days, return corn at our expense and money will be refunded. Bags furnished.

Don't delay. Write at once for our price-list giving free delivery offer.

R.R. No. 1, Cottam, Ont. JACKSON BROS.
The Roselands and Alfalfadale Farms

Mallory's Strawberry Plants for Satisfaction and Profit.

Leading varieties \$4.00 per 1,000. Fifty plants each of four choice varieties, early and late for \$1.00. Send for price list.

N. E. MALLORY, Blenheim, Ont.

Skirts for spring grow wider and wider and from New York, which is supplanting Paris to some extent as the originator of styles, comes word of the revival of the bustle. And yet economy and sobriety because of the war are being preached. Verily who can explain the mind of woman!

STRAWBERRY PLANTS

If you are interested in the growing of this fine fruit, write for price list of varieties and valuable information how to grow healthy plants and best quality berries.

Jas. E. Johnson & Bros., Simcoe, Ont.

War Portraits Free

We have prepared a handsome little booklet containing miniature likenesses of the men who are directing affairs for the Allies in the European war.

It is as dainty a little book as ever you saw. It fits nicely into the vest pocket or wallet and enables one to visualize a personality whose name receives prominence in the news columns of the daily papers.

While the limited supply lasts we will send a copy of this souvenir post free to anyone who will fill in and return the coupon below.

Name.....Age.....
Address.....
Occupation.....Married?.....
Single?

THE IMPERIAL LIFE Assurance Company of Canada
HEAD OFFICE - TORONTO

Branches and Agents in all important centres

by the influence of the Gulf Stream, which passes here on the last stage of its journey.

We rather incline to think that the great war of to-day has abolished history. Before the war we of this generation sat with a vista of past ages behind us, and we were overawed by their achievements. Nothing stupendous had happened in our own time to dwarf the majestics of the past. Now in one department of human activity we have dwarfed everything which went before us.

The exploits of Hannibal in crossing the Alps would, if repeated to-day, win for him about fifty lines or thereabouts in the daily papers. Wellington would probably be just mentioned in despatches for a battle like Waterloo, and people would forget all about it and him next month unless he provided another Waterloo in the interval. Napoleon was more spectacular than most conquerors, but his greatest battles would be incidents soon forgotten in a huge affair like the struggle going on in Russia. Cortez and Pizarro might have got the D.S.O. for their forays into Mexico and Peru and the exploits of Thermopylae have been outdone by millions of men who get no place in history at all.

Yes we have abolished history, and the commotion in the world prevents us seeing the past, as some upheaval of mountain ranges in an earthquake might shut out beyond great new uprisen peaks a distant country that men once saw. There is nothing to do now but to think of the future.—Irish Homestead.

One of the marked effects of the war, notes a writer in London Times, is the decline of social humbug. "We ought, of course," says this writer, "to have freed ourselves from this without the help of the Germans; but the release, now it has come, is grateful. There is no longer any need to pretend to be richer than we are. Everyone is desperately poor. And with a jolly shamelessness we all admit our condition. Fifteen months ago there were circles in which the man or woman who said 'I can't afford it' was stared at. Only bad manners or stinginess could explain the use of such a phrase; while to say 'I'm hard up' meant simply 'I have been spending too much on my pleasures or vices, and amounted almost to a double entendre. Now everybody says it. In entertaining too, there is a blessed freedom from humbug. Looking back one recalls with something like shame the awful dinners given by people who could not afford to give elaborate dinners, and would not give simple ones. Those dishes, that wine, and the dismal making of conversation by people who had never expressed any desire to meet each other! If we dine out to-day, the party is scarcely ever more than four. We go because we want to see our friends, and they want to see us. We eat plain dishes, drink little or no wine, and go home early and happy after a good talk or a quiet game. The pleasant custom of taking 'pot-luck' leads to genuine hospitality. Friends 'drop in'; acquaintances 'drop out' of sight, or turn into friends. We can be, at last, ourselves.—In short the rich and those who have idealized and aped the rich, are learning, to their surprise, what the sane among people of moderate means have always known—the real pleasure that may be found in the simple, honest, unaffected, untrammelled life. It is to be hoped that the ideals will continue to obtain "after the war."

POULTRY AND EGGS

Condensed advertisements will be inserted under this heading at three cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are omitted. Cash must always accompany the order for any advertisement under this heading. Parties having good pure-bred poultry and eggs for sale will find plenty of customers by using our advertising columns. No advertisements inserted for less than 50 cents.

A FEW nice Golden- and Silver-Laced Wyandotte cockerels for sale. Winners at Mitchell and Goderich Winter Shows; prices right. Peter Daley, Box 12, Seaforth, Ont.

ARE YOU INTERESTED—Eggs from winners at Panama Pacific Exposition, Madison Square Garden, Guelph, Ottawa, Brahma, Spanish, Partridge Rocks, Partridge Wyandottes, White Leghorns, Barred Rocks, Ontario Agricultural College strain, Indian Runners, Pekin Ducks. War Prices. John Annesser, Tilbury, Ont.

BARRED ROCKS, Buff Orpingtons and White Wyandottes. True bred-to-lay strains, the result of years' selection. Eggs, one dollar per fifteen. Send for Circular. "Ingleside Farm," Rural 1, Ancaster, Ont.

BEULAH Farm White Wyandottes have proven by their record to be the best laying strain in Canada. Storrs College record, 247, Missouri record 220. Hatching eggs from \$2 per setting, mating list free. McLeod Bros., Box A, Stony Creek, Ont.

BUY EGGS—For hatching from the money making kind of Barred Rocks, White Wyandottes and Buff Leghorns. Our selected breeding pens are from America's best laying strains and will produce strong healthy chicks of superior quality and pullets that will be early and persistent layers. Your order will have the benefit of our fifteen years' experience in poultry breeding. Eggs \$1.25 fifteen, \$6.50 hundred. Safe delivery and satisfaction guaranteed. Catalogue free. Charles Watson, Londesboro, Ont.

CHOICE Indian Runner Ducks from imported stock. Only two dollars each, five dollars trio; also Large Toulouse Geese. S. R. Copland, R. 1, Harriston, Ont.

EGGS for Hatching—Nearly all varieties poultry, ducks, Bantams; eggs dollar-fifty per fifteen, eight dollars per hundred. Won over 1,000 prizes, medals, specials at leading shows 1915-16, including Canadian National, Toronto, Guelph Winter Fair. Geese, turkey eggs four dollars dozen. Nineteen years breeder. Motto: square dealing. Luxton & Sons, Mt. Forest, Ont.

HIGH Grade Barred Rock cockerels. Correspondence invited. Prices right. Leslie Kerns, Freeman, Ont.

HAVE you heard of the Table Egg Duck? Here is a new asset for the farm. Write for our circular, it will surprise and interest you. W. A. Staehler, Box 68, Gananoque, Ont.

LAYING strain Barred Rocks, Cockerels, two dollars, pullets one-fifty each. Rouen drakes, two dollars. Central Poultry Yards, Colborne, Ont.

MAMMOTH Bronze Turkeys bred from prize stock. R. G. Rose, Glanworth, Ont.

ONTARIO Agricultural College strain of bred-to-lay Barred Plymouth Rock eggs, \$1.50 per 15. J. P. Hales, Ontario Agricultural College, Guelph, Ontario.

REGAL White Wyandottes, Champion winners, New York State Fair, ten years in succession. Big, vigorous snow-white cockerels, \$2, \$3 and \$5, each bred from heavy laying females. Pullets, \$2 and \$3 each. Eggs \$3 per setting. Satisfaction guaranteed. Send for catalogue. John S. Martin, Drawer F, Port Dover, Canada.

SINGLE-COMB White Leghorns "Roseheath Strain" of beauty and utility, bred-to-lay. Eggs one-fifty per fifteen, \$7 per hundred. Chicks fifteen dollars per hundred. Fertility and live chicks guaranteed. Roseheath Poultry Farm, Richmond Hill, Ont.

TRAP-NESTED White Leghorns. Certified egg record with every bird. Eggs, chicks, for sale. Welland View Poultry Farm, Welland, Ont.

WHITE WYANDOTTES, Pullets and Cockerels. Bred from heavy-laying stock. Prices reasonable. F. Mulligan, Delhi, Ont.

WHITE WYANDOTTE Cockerels, bred from record laying hens—big, blocky, stay-white birds—\$3 and \$5 each. Eggs for hatching, \$1.75 per 15. John M. Bell, Cataract, Ont.

Free to stockmen and poultrymen, our 80 page illustrated booklet on feeding; how to construct a house which will accommodate 100 hens; gives dimensions, and measurements of every piece of lumber required. Deals with the common diseases of stock and poultry, and the remedies. Tells how to cure roup in four days. Contains full information about Royal Purple Stock and Poultry foods and remedies.

THE W. A. JENKINS MFG. CO. London, Canada

\$7.00 for this Collins Natural incubator. Hatches largest percentage of eggs. Money back if you don't like it. Write today for catalogue. C. W. Collins, 417 Symington Ave., Toronto.

Spruce Grove Holsteins

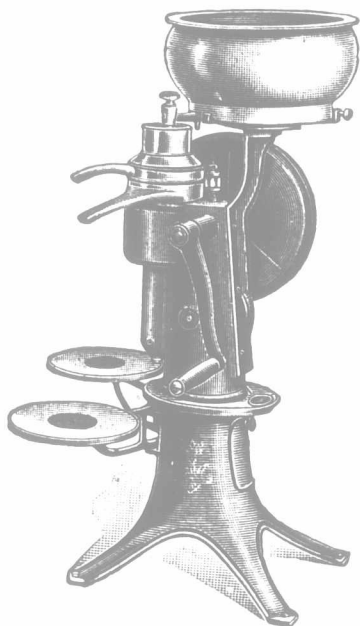
Sir Lyons Hengerveld Segis 69859
I have for sale three sons of the above sire, from 6 to 16 months old, from large and high-producing cows.

GEO. COOPER Willowdale, Ont.
T. & V. Railroad Line.

Choice Seeds—Alsike at \$10; O. A. C. No. 21 Barley at 80 cts. New bags 25c.; samples sent.

A. BINGLE Grimsby, Ontario

Mr. Implement Dealer!



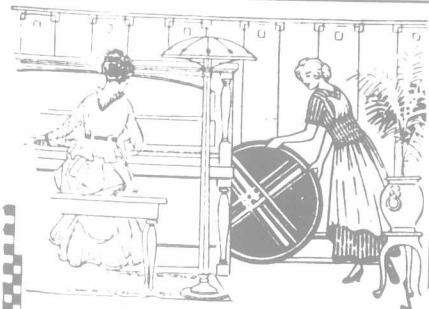
King Cream Separator

This Cream Separator when being shown at the Toronto Exhibition and other fairs last fall was admired by the dairymen for its strongly-built gearing and appearance, its ease of operating, its sanitary, heavily constructed, smooth tinware and easy-assembled parts.

It simply gets all the cream at all seasons of the year.

If you are interested in handling a high-grade cream separator on a most liberal commission with settlements four times a year, write us, and we will interview or send you our proposition.

King Separator Works of Canada
Bridgeburg, Ontario



MADE IN CANADA

Write for illustrated Book describing the various styles of Peerless and "Elite" Folding Tables. It's FREE.

BEHIND THE PIANO

THINK of it! A table so compact that it can be folded flat and slipped behind the piano, yet strong enough to support half a ton, by actual test. The

PEERLESS FOLDING TABLE

weighs but 12 lbs. It can be set up, instantly, when required for luncheon or a party of cards. Its uses multiply. Every home needs such a table. Firm—practical—durable—convenient. Your Furniture Dealer has it, or will get it for you. Ask him.

HOARD & COMPANY, LIMITED
Sole Licensees and Manufacturers
London, Ontario

Graves Registration Committee.

Those at the front probably know of the good work being done by the Graves Registration Commission, in recording the location of the graves of our fallen comrades. The Chaplain must report to them every burial with the Location of the grave. But now the Commission is prepared to do more. They will furnish to the wife, mother, or other near relatives of a deceased man, a photograph of his grave. The relatives must make application to the Chaplain of the unit to which the deceased was attached, giving his name, rank, number, etc., and the date of his death.

Makes Fine Bread



Everyone who bakes bread should know about Cream of the West Flour. It is without a peer as a bread flour.

With every four 98 lb. bags of Cream of the West Flour and our other guaranteed flours we give an interesting war book or cook book free. Make out your order now.

Cream of the West Flour

the hard wheat flour guaranteed for bread

GUARANTEED FLOURS.	Per 98-lb. bag.
Cream of the West Flour (for bread)	\$3.50
Toronto's Pride (for bread)	3.30
Queen City Flour (blended for all purposes)	3.05
Monarch Flour (makes delicious pastry)	2.95

CEREALS.	Per 100-lb. bag.
Cream of the West Wheatlets (per 6-lb. bag)	.30
Norwegian Rolled Oats (per 90 lb. bag)	3.00
Bob-o-link Cornmeal (per 98 lb. bag)	2.50

FEEDS.	Per 100-lb. bag.
"Bullrush" Bran	\$1.35
"Bullrush" Middlings	1.45
Extra White Middlings	1.60
"Tower" Feed Flour	1.75
Whole Manitoba Oats	1.80
"Bullrush" Crushed Oats	1.90
Sunset Crushed Oats	1.80
Manitoba Feed Barley	1.80
Barley Meal	1.85
Geneva Feed (crushed corn, oats and barley)	1.90
Oil Cake Meal (old process, ground fine or nutted)	2.20
Chopped Oats	1.90
Feed Wheat	2.25
Whole Corn	1.90
Cracked Corn	2.00
Feed Corn Meal	1.90
Monarch Scratch Feed	2.30
Monarch Laying Mash	2.23
Monarch Chick Food	2.60

Prices on Ton Lots: We cannot make any reduction on above prices, even if you purchase five or ten tons. The only reduction from the above prices would be on carload orders.

Terms Cash with Order: Orders may be assorted as desired. On shipments up to five bags, buyer pays freight charges. On shipments over five bags we will prepay freight to any station in Ontario, east of Sudbury and south of North Bay. West of Sudbury and New Ontario, add 15c. per bag. Prices are subject to market changes.

LIST OF BOOKS

Tale of Two Cities, by Dickens.	The Woman in White, by Collins.
David Copperfield, by Dickens.	The Pathfinder, by Cooper.
Oliver Twist, by Dickens.	Never Too Late to Mend, by Reade.
The Talsman, by Scott.	The Scarlet Letter, by Hawthorne.
Waverley, by Scott.	Poems, by Longfellow.
Last Days of Pompeii, by Lytton.	Poems, by Tennyson.
Last of the Barons, by Lytton.	Arslip Andy, by Webster.
Three Musketeers, by Dumas.	Tom Fairfield at Sea, by Chapman.
Vanity Fair, by Thackeray.	Ruth Fielding at Snow Camp, by A. B. Emerson.
Cranford, by Gaskell.	

Ye Olde Miller's Household Book. — Over 1,000 tested recipes, and large medical section. Enclose 10 cents to pay postage and packing on this book. No postage asked for on other books. No book forwarded unless an order for four or more bags of flour is received.

The Campbell Flour Mills Company

LIMITED
(WEST) TORONTO, ONTARIO.

The Road of Living Men.

Continued from page 461.

sat down beside me. We seldom really see the faces of those with whom we pass our days, but that morning the veil of familiarity was lifted. Years of loving had refined the face; sorrow had become tenderness. The glow of it was there like the pale sunlight in the room. The flags of the court below were black-wet where snow had been, and in the niches of the looming gray masonry, the birds were stirring with excitement. Every unshadowed place was touched, not with ruddy gold, but with the paler spirit of sunlight. The prison-house of winter was broken. Death was turned to victory again.

"Can you smell the river?" he asked, brushing back his hair. "It came in the night."

That day shall always mean the beginning of a new blooming to me—an expiration of the old. . . . We sat long at breakfast, my father eating little or nothing, and from time to time turning his eyes timidly to me. I would smile at him, and cover my embarrassment with a laugh. It had been often so in his presence—my spirit hungering to say the intimate, unerring truth of the relation, but offering no adjustment to words. The flesh seems integrated with evasions. When we become greater beings than men, we shall be simple instruments to express the honor and beauty which now are but the surgings of our silence.

Quietly, my father leaned forward to say—as if death had been a common topic between us—instead of virgin to our exchanges:

"We fall into dreams so full and perfect—that the rousing from them is pain. . . . Suppose it should be just the—I mean, suppose Death should be just that—falling into a dream that has no rousing?"

Thus he stated the conclusion of his years of thinking and hungering for the woman who clothed my spirit with her flesh.

He leaned back and shut his eyes. A quiver passed through him, as through a forest at the end of strange stillness before a storm. You have seen the trees bow to whisper a greeting to the first wind-messengers. "We are ready," they seem to say. . . . I crossed to him in terrible concentration, and caught the hand that lifted blindly . . . and then I was alone. . . . The ceilings of the old palace seemed to me an unscalable height.

To be continued.

President Wilson and Congress are at loggerheads. The President is determined to uphold the right of merchantmen to carry arms, and to defy Germany's attempts to interfere with their commerce. The majority in Congress, on the contrary, in accordance with the request of Germany, favors warning to keep off such vessels. . . . The President's strong and rather unexpected campaign for a speedy and thorough "preparedness" both by land and sea, is meeting with much criticism, especially in the Western States. The United States navy, he asserts, in consideration of the extent of coast-line to be guarded, should be the greatest in the world.

The Germans have forbidden the flying of the United States flag on American motor cars distributing food in Belgium, but the initials C. R. B. (Committee for Relief in Belgium) are permitted, and are known everywhere. The assistance carried by these motor cars is often welcomed with tears, and, to show their gratitude, the Belgian women often make pieces of beautiful embroidery on strips of the flour bags and send them back to the donors.

Gossip.

Since the advertisement went to press, Ralph Ballagh & Son, of the old Sorby Farm, Guelph, write that stallions offered are not for sale, as they have made arrangements to keep them for service this year.



Advertisements will be inserted under this heading, such as Farm Properties, Help and Situations Wanted and Pet Stock.
TERMS—Three cents per word each insertion. Each initial counts for one word and figures for two words. Names and addresses are counted. Cash must always accompany the order. No advertisement inserted for less than 50 cents.

FOR sale Farm of 100 acres. Lot 17, Con. 13, Yarmouth. New bank barn and stables, good brick house. Close to church, school, powder-milk factory, cheese factory and station. Rural milk and telephone on road. Well fenced and drained and in first class state of cultivation. If not sold by March 20, will be leased for a term of years. Apply to: John M. McKellar R.R. No. 3, Belmont, Ontario.

FOR SALE—Small farm, good buildings and soil; no waste; some fruit; good location. Box seventy-five, St. George, Ont.

WANTED to hear from party who has farm 200 acres or more to rent in good dairy section. Must have fairly good buildings—considerable grass. Apply Box 2, Farmer's Advocate, London, Ont.

WANTED—Competent Woman for House Work, mite from town. Two in family. Companionable. Box 304, Paris, Ont.

WANTED at once an experienced farm hand, single, good habits, for 8½ months; state wages. W. B. Roberts, Sparta, Ont.

J. VICAR MUNRO, Architect
Designs Churches, Homes and Schools. Reasonable charges—no extras.
54 Bank of Toronto, London, Canada

PATENTS AND LEGAL
FETHERSTONHAUGH & CO., PATENT SOLICITORS—The Old Established Firm, Head Office, Royal Bank Building, Toronto, and 5 Elgin St., Ottawa, and other principal cities.

Wanted Custom Tanning. Horse hides and cattle hides for robes and coats. Also all kinds of skins and furs. Send them to me and have them tanned soft and pliable. Address: B. F. BELL, Delhi, Ont.

O. A. C. 72 AND REG. BANNER OATS, and O. A. C. 21 Barley for sale. Out of 1st prize standing crop and grown from 1st prize seed. GEO. D. FLETCHER, R. R. 1, Erin, Ont.

Special English—Learn to write and speak good English, and to appreciate good literature. Helpful, enjoyable course for your spare moments. Write Canadian Correspondence College, Limited, Dept. E.E., Toronto, Canada.

O. A. C. No. 72 Oats, Alsike No. 1. Grown from prize-winning seed under rules of C. S. G. A. Oats are clean, plump, free of wild oats and noxious weeds. Govt. Inspector allowed 94½ score, and reports general conditions of farm first-class. Alsike almost Extra No. 1, won 3rd prize at Guelph. Samples and prices on request. Oscar Klapp, Zurich, Huron Co., Ont.

Guaranteed Genuine, Everlasting

Grimm Alfalfa

Produces plants with large branching roots which resist winter conditions. Leafy, outyielded other varieties, and is of better feeding value. Booklet, "How I Discovered the Grimm Alfalfa" and sample free. Will also send testimonials from patrons in your locality.

A. B. LYMAN, Grimm Alfalfa Introducer, Alfalfadale Farm, Excelsior, Minn.

Your Will Can-not Be Broken Many people have the erroneous idea that only a lawyer can make a legal, binding will. For 35c, we will send you Bax Legal Will Form, which you can fill out at home by following our instructions, making as legal and binding a will as any lawyer. We also send a specimen will filled out, so that you can make no mistakes. Don't delay. Do it now. Sold by druggists and stationers, 35c., or by mail (3 for \$1) to Bax Will Form Co., Room 191D, 257 College Street, Toronto.

FOR SALE

Imp. Clydesdale Stallion

four years old, a descendant of Baron's Pride on his sire's side and Hiawatha on his dam's; has the size and smooth; proved sure foal-getter. His colts were winners at Guelph Show. If you want a real draft horse at the right price, here he is.

W. M. FULFORD

R.R. No. 4 Fairmount, Grey County, Ont.

Goose Wheat—400 bushels Goose wheat, grown from seed winning the eight first prizes at Markham, Toronto, Ottawa and Guelph, out of 29 entries, field competition, 1914. 1st for field, 1st Guelph, 1st and 2nd Toronto, 2 thirds in open class Spring wheat Ottawa, 1915. \$1.75 per bus. f.o.b. Unionville. Bags included. R. S. FRISBY & SON, R.R. No. 1, Unionville, Ont.

Harab-Davies Fertilizers

Write for Booklet.
THE ONTARIO FERTILIZERS, LTD.
West Toronto

O.A.C. No. 72 Oats—Grown from Registered Seed (2nd generation Elite Stock Seed), no noxious weed seeds, at 85c. per bushel. Bags 25c. extra. Prices f.o.b. Peterburg, G.T.R. or Avy, C.P.R.

HENRY H. SCHLICHTER, New Dundee, Ont.

BEANS Pearson's Improved Tree. 40 lbs. for sale. O. A. C. stock. Splendid sample. J. J. Houghton, R. R. 1, St. Felix-de-Valois, Que.

Rennie's Seeds

Important Report on Recent Fire

ON Sunday evening, February 20th, fire broke out in our Adelaide Street Warehouse and caused great loss in bulk vegetable, flower and field root seeds, as well as filled seed packets and cartons. We were fortunate, however, in having stocks stored at our Long Branch Warehouse and at the Security Warehouse, Toronto, which shall prove a boon in this instance.

Clover and grass seeds, also farm seeds, being stored in the Lombard Street Warehouse, entirely escaped any damage.

The Dominion Seed Commissioner, Geo. H. Clark, Esq. has very kindly consented to pass on all seeds saved from the fire before they leave our establishment, as our reputation would not permit anything but absolutely undamaged stock to be shipped out, and we give our word to the farming community that they can rely upon receiving seeds only of the highest quality and guaranteed germination.

A great many orders booked in the summer by our travellers had already been filled and placed in the Lombard Street Warehouse, and these are being despatched as quickly as possible. All incoming orders and those already in our possession will be taken care of with all possible haste. Customers need not worry. While conditions might necessitate orders being sent in several shipments throughout the season, this will be done at our expense.

It is our intention, at the earliest possible moment, to operate in night and day shifts, in order to make up lost time and to continue supplying the Canadian public so that our loss will not cause any inconvenience to the country generally, and that all seeds may be on hand when required.

We, however, must ask you to be patient with us, and assure you, in return, that nothing will be left undone on our part to serve you with all possible promptness and attention, and your lenient consideration during this time will be greatly appreciated.

Our Catalogue for 1916 is Brighter and Better than ever. Write for your copy to-day.

Wm. Rennie Co., Limited, Toronto

Also at Montreal, Winnipeg and Vancouver

KEITH'S

THE FARMER'S SEEDS FIFTY YEARS SERVICE

1866 1916

Order now, and get the first choice of our stock.

We pay railway freight on all orders \$25 or over in Ontario and Quebec.

Our Golden Jubilee Catalogue is now ready. Write for one to-day. It is FREE.

<p>GOV'T. STANDARD</p> <p>No. 1 Red Clover Almost Extra No. 1 for purity.....\$17.00 No. 1 Red Clover.....16.15 No. 2 ".....15.25 No. 1 Alsike.....\$12.50 and 13.00 No. 2 ".....11.00 No. 1 Timothy (Almost Extra No. 1 for purity).....5.90 No. 1 Timothy.....5.65 No. 2 Timothy Slightly hulled, but Extra No. 1 for purity.....5.65 No. 2 Timothy.....5.25 Allow 30c. for each cotton bag required—Clover and Timothy.</p>	<p>SEED CORN. Bags Free.</p> <p>1914 and 1915 growth. Per bus. (70 lbs.) on cob.</p> <p>Wisconsin No. 7.....\$1.80 Golden Glow.....1.75 Bailey.....1.75 Leaming.....1.75 White Cap.....1.75 Longfellow.....1.90 N. Dakota.....1.90 Comptons.....1.90</p> <p>OATS</p> <p>O. A. C. No. 72 Oats.....\$.85 O. A. C. No. 3 Oats.....2.00</p> <p style="text-align: center;">Bags free.</p>
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We have small quantity of Grimm or Variegated Alfalfa. Write for prices

GEO. KEITH & SONS SEEDS

124 KING ST. E. TORONTO

Write for Adams' Guide to Economy in Buying Home Furnishings

Hundreds of photographic illustrations of the best selected values in Furniture, Rugs, Draperies, Electric Fixtures, Stoves, Sewing Machines, etc., are shown in this book, which is known as

Catalogue No. 7

This catalogue, which is sent free to any address, tells you just what each article will cost delivered, freight paid by us, to any station in Ontario.

THE ADAMS FURNITURE CO. LIMITED, TORONTO



Gossip.

Sale Dates Claimed.

March 22—Byron Bowland, R. R., Carleton Place, Ont.; Holsteins.

March 29—Western Ontario Consignment Sale, London, Harry Smith, Hay, Ont., Manager.

April 19—James Benning, Williams-town, Ont.; Ayrshires.

The new head of the "Grape Grange" Herd of Aberdeen-Angus pure-breds at Clarksburg, Ontario, is Middlebrook Abbott 2nd, winner of first prize as senior calf at both Toronto and Ottawa in 1915. He succeeds Pradamere, an imported bull which left good stock. See the advertisement regarding this herd.

A letter from G. A. Jackson, Downsview, Ontario, contains the following information: "We have recently sold our Shorthorn bull St. Clare, to S. W. Jackson, of Oxford Centre, to head his herd of prize winning dairy Shorthorns, and placed at the head of our own herd, Butterfly King 19th, son of imported Butterfly King, the greatest sire of dairy Shorthorns in Canada."

The popular Western Ontario Consignment Sale is to be held at the Fraser House Stables, King Street, London, on Wednesday, March 29. There will be offered 35 young bulls which are good individuals, and some of them from record of performance cows. There are also 30 high-class heifers that will please the most exacting. The older ones being well on in calf. They are mainly of first-class Scotch breeding, but bred along dual-purpose lines. Many are from heavy milking dams. It is unnecessary to describe the offering here. A card addressed to Harry Smith, Hay, Ontario, will bring you a catalogue describing every animal in the sale. Write now and be prepared, for the sale will soon be here.

The Experiment Station, Vineland, Ont., writes as follows: "We have a quantity of home-grown onion and beet seed for distribution in small quantities. Any person may have either one or both kinds as desired by sending his name and address to the Experiment Station at Vineland Station. Each person is asked to report on the success obtained from this seed, in comparison with other seeds used. This seed was produced on the Station farm last season from selected stock, and is of excellent quality. Anyone desiring to select plants from this seed for further seed production would have good stock to select from."

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.

Vendor and Purchaser.

1. A owns two farms, one with buildings and one without. He draws all the crop to the one with the buildings on. He sells the one with the buildings on to B, and neither party mentions the straw in barns. Can A remove the straw that came from the other place if he moves it before B is to get possession, or can B hold the straw with the place?

2. A brings a wire gate from other place, leaving hinges and latch in posts at other place, and has it swung on where a board gate came off when he sold place to B, but the wire gate is too long for gateway. Can A take the gate back to other place again?

ONTARIO.

Ans.—1. A may so remove it.
2. Not without permission from B.

Our Home Treatment for GOITRE

Cures the trouble and drives it from the system. A lady using it writes, "My neck measured 16 1/4 inches a month ago, now it is only 15 inches. This reduction from less than one package of

Goitre Sure Cure

What it has done for others it will do for you. Write now for particulars and new booklet "F." It describes our method of destroying Moles, Warts, Superfluous Hair by our scientific method of Electrolysis.

Hiscott Institute Limited
61 College St., Toronto

Established 1892

CREAM

Where are you shipping now? And what are you getting for your cream?

We want more individual shippers and more men to gather cream for us.

Write for our proposition.

Silverwoods Limited
LONDON, ONTARIO

The Perfect Piano for the Home.

WILLIAMS

The choice of the World's Great Artists

THE WILLIAMS PIANO CO. LIMITED
Oshawa, Ontario.

CHURCH BELLS

CHIMES AND PEALS

MEMORIAL BELLS A SPECIALTY

FULLY WARRANTED

McSHANE BELL FOUNDRY CO.

BALTIMORE, Md., U. S. A.

Chicago Office: Room 64, 154 W. Randolph St.

Established 1866



HIGHEST PRICES PAID FOR

FURS - HIDES - WOOL

PRICE LIST SPORTSMEN'S CATALOG AND TRAPPERS' GUIDE FREE FOR THE ASKING

JOHN HALLAM, LIMITED
NO. 3 HALLAM BUILDING - TORONTO

RAW FURS

Highest cash price paid for raw furs. Oldest in trade. Write for price list and tags—FREE.

C. H. ROGERS, WALKERTON, ONT.

O. A. C. 72 Oats

1000 bus. good clean oats, grown from prize-winning seed on clean land. Write for samples and price.

W. R. DOUGALL, Hensall, P.O., Ont.

Seed Barley

Hull-less black barley, a splendid yielder and no bull. great feed. \$1.00 per bushel here, bags extra. Only a limited quantity. Sample sent.

M. G. Ransford, Clinton, Ont.

Louden Barn Equipments

SAVE Time—Save Labor—Save Expense

Our new catalogue describes every kind of device for money-making and labor-saving on farms.

Louden Machinery Company

Dept. 1. Guelph, Ont.

FENCES AND GATES

Special March prices. Write:

DYER, THE FENCE MAN

47 East Wellington St. Toronto

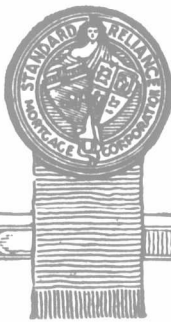
Tested by Time, Panic and War

Mortgage Debentures do not fluctuate in value. Neither time, panic nor war affect them. Stocks drop. Some disappear altogether. But through all the excitement and strife of war, Standard Reliance Debentures have stood the test for security of principal and permanency of interest. A \$100 Standard Reliance Mortgage Debenture is still worth \$100 and pays 5% interest in cash on the day it is due.

Canadian Government statistics show that never a dollar has been lost in Mortgage Corporation Debentures.

A \$1,000 Debenture at 5% for five years (if compounded) pays \$280 in interest, or 28% gain. It is one of the safest, if not the safest, investment obtainable.

Write for our book about Profits from Savings. It will surely interest you. Address Dept.: 9

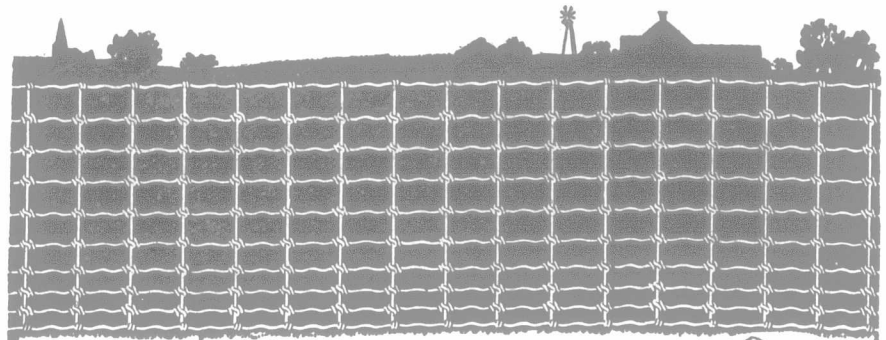


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MORTGAGE CORPORATION**
Head Office, 82-88 King St. E. Toronto

Branches and Agents in Ayr,
Brockville, Chatham, Elmira,
New Hamburg

SPRUCEDALE HOLSTEINS 3 bulls from a cow with official test of 26,796 lbs. butter 7 days and 59,003 lbs., 14 days. Last calf born Jan. 14, 1916, weighed 120 lbs. at birth, is nicely marked and every inch a show calf. Considering quality these bulls will be priced very low.

EZRA G. SCHWEITZER, R. R. No. 3, Stratford, Ont.



Well, Sir, that's some fence

Because of its simplicity and amazing strength, "Ideal" Fence excites the admiration of every practical mind. "Some fence" is right. Take a look at it—

Ideal Fence

Notice how the Ideal lock takes a "grape-vine" grip of the upright and cross wires in a strong, even, uniform pressure. There are no sharp angular turns to break the surface of the wire and weaken the grip of the lock. Yet it grips, as you see, the wires in *five* places—twice on the upright, twice on the horizontal and again where the two wires cross. Thus, while it positively prevents either wire from slipping, it allows just enough play so the fence can be erected on hilly ground without kinking the line wires. At the same time, it keeps the uprights perfectly straight. You wonder why Ideal Fences are so free of broken or bent uprights; well, that's the reason.

May we send you a copy of our catalogue which tells the whole story in a factful interesting way? A post card will bring it promptly.

The McGregor-Banwell Fence Co., Limited, Walkerville, Ontario

21

Questions and Answers. Miscellaneous.

Property Qualification for Voting.

1. A person owning property in a municipality and his assessment less than a hundred dollars, and he a non-resident, is he legally qualified to vote for members of council in that municipality?

2. If not, what amount of assessment would qualify him to vote? J. C. R.

Ans.—1. No.

2. Not less than \$100 if the municipality be a village or township; \$200 if it be a town having a population not exceeding 3,000, or \$300 if over that number; \$400 if a city.

Material for Silo—Silage for Hogs.

1. About how many years will the best wooden silo last?

2. Is it a fact that silage will keep better in a good wooden silo than in the ordinary concrete structure?

3. What kind of wood is the best for building a silo?

4. How many cows could get a regular and proper ration for about 6 months from a silo 12 by 30 feet?

5. Is silage good feed for hogs?

6. Do you consider it wise to build a wooden silo in preference to concrete when good gravel is hard to get, and costs over a dollar a yard delivered? C. E. B.

Ans.—1. It is not definitely known. Silos are still in use that were built a score or more years ago.

2. Both wooden and cement silos have their advocates. If well built it is claimed that silage will keep satisfactorily in either kind.

3. Hemlock, pine and spruce appear to be equally serviceable.

4. Feeding from 35 to 40 lbs. of silage per cow per day a silo of the dimensions mentioned should feed 18 or 20 cows for 6 months.

5. Hogs eat good silage quite readily, and appear to do well on it.

6. As wooden and concrete silos appear to give good satisfaction in keeping silage, the problem of which to build, would be solved by building the one that could be properly built for the least money.



Toronto Showrooms:
50 Adelaide Street West

MILTON Brick is considered the standard of excellence in the brick-making industry of Canada. This reputation has been gained through our continued practice of always maintaining the highest standard of quality in brick-making. As a result you'll find Milton Brick in the construction of a vast majority of homes throughout this country.

Prices will not be lower.
Catalogue free on request.

The Milton Pressed Brick Co., Limited
Dept. B, Milton, Ont.

MILTON BRICK

O. A. C. 72 OATS

I have some of my best oats yet, at very reasonable prices. Special offer to Farmers' Clubs or others ordering 100 bush, or over. Samples and circulars, giving full particulars, on application.

A. FORSTER, Markham, Ont.

CREAM

We pay express charges and furnish cans. Remit promptly. Take all you can make. Write us.

THE BERLIN CREAMERY CO.
Berlin, Canada.

Sarnia Creamery

Pays express, furnishes cans and remits weekly.
Pays Highest Price.

Write for particulars.
Sarnia Creamery Co., Ltd.
Sarnia, Ont.

Seed Corn

Prize-winning Wisconsin No. 7 and Longfellow, the best for the silo.
GEORGE R. WEST & SONS
Northwood, R. R. No. 3, Ontario.

STAMMERING

or stuttering overcome positively. Our natural methods permanently restore natural speech. Graduate pupils everywhere. Write for free advice and literature.

THE ARNOTT INSTITUTE
BERLIN, CANADA

O. A. C. No. 72, Seed Oats

Improved under the inspection and direction of the C. S. G. A. Government tested. Free from impurities. Germination test 99%. Grown from treated seed; 90c. per bus. f.o.b. Gormley. Bags included. Write for samples.

R. R. No. 2 R. F. KLINCK
Gormley, York Co., Ont.

O. A. C. No. 72 Oats

1200 bushels of good clean seed true to name grown from selected seed from first prize field a year ago, last year had only half enough to fill orders. Samples and price on application.

Edgar Broderick
R. R. No. 1, Exeter, Ont.

SEED GRAIN

O. A. C. 21 Barley and 72 Oats our specialty. Our supply is clean, pure and true to name. Price—Barley, 90c.; Oats, 80c. per bush. 16 oz. cotton bags, 25c.

JNO ELDER & SONS, Hensall, Ont.

Seeding to Alfalfa—Guinea Fowl.

About fifteen years ago my father seeded an acre of land to alfalfa. We cut two heavy crops in one season, but made the fatal mistake of pasturing it too closely, with the result that all but a few plants in the fence corners were killed out. Last summer I gathered all the seed I could get, which amounted to about 1 ounce.

1. Would it be advisable to sow this seed in drills, so we could hoe it, or sow it broadcast in a small plot?

2. Which would you advise using in refitting a stable, steel or wooden stanchions?

3. Will guinea fowl lay if kept shut in the poultry yard? F. G.

Ans.—1. Sowing alfalfa seed in drills so it can be cultivated, is believed to be preferable to sowing it broadcast, especially when the production of seed is the aim.

2. Steel stanchions permit of more light through the stable, and are believed to be more sanitary than wooden stanchions.

3. Guinea fowl do best when allowed free range. If any of our readers have had experience with confining the guinea fowl in the poultry yard, we will be pleased to publish their ideas in these columns.

Electricity for Cooking and Heating.

1. In regard to electric energy for cooking and heating purposes in the house, about how much power would be required to operate a cooking stove on a farm?

2. Would electric energy be suitable for heating purposes?

3. Would a farmer contracting for a two horse-power have sufficient current for the above purposes?

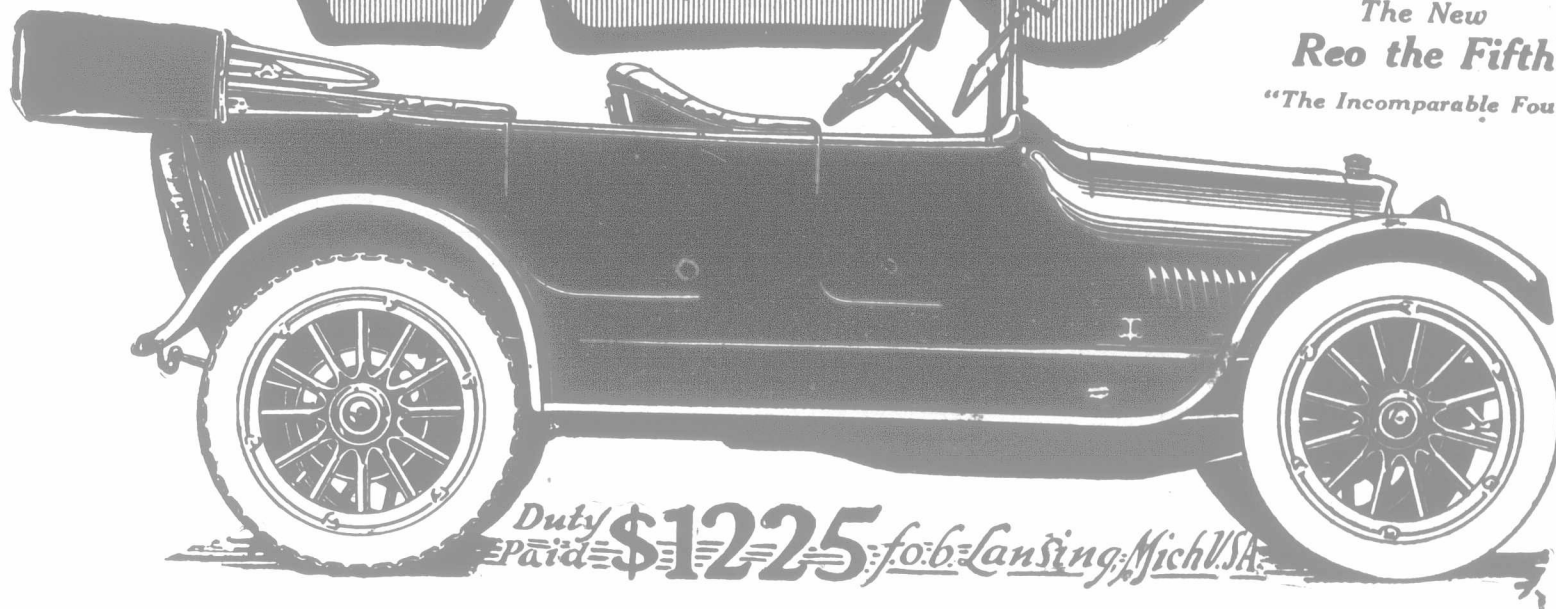
Ans.—1. It would depend on the size of stove and the extent to which it was used. The average size electric stove would require about 2½ kilowatts, or about 3 horse-power to operate it. When the stove was not in full use the current could be used for lighting purposes.

2. Heating a house by electric energy is possible, but not practical as yet. However, a small electric heater is used in many homes for the purpose of heating up a room, but to endeavor to heat the whole house would come rather expensive.

3. No.

REO

The New
Reo the Fifth
"The Incomparable Four"



Duty Paid **\$1225** f.o.b. Lansing, Mich. U.S.A.

On the Subject of—Commercial Integrity

WE REO FOLK BELIEVE—have always believed and from the first have based the Reo Policy on the belief—that ultimate supremacy in the automobile industry will redound to that concern that has the most scrupulously fulfilled its obligations to its customers.

IT MATTERS NOT whether those obligations are assumed in writing or merely implied in transactions as between man and man, the Reo Folk hold them as sacred.

IF THERE IS ANY REASON—aside from the inherent quality and value of Reo cars—for the splendid Reo success, it is to be found in the reputation Reo has for making good its guarantee.

OF COURSE YOU KNOW—all the world knows—that the Reo Motor Car Company is financially one of the strongest automobile companies in the world.

AND YOU KNOW that it is also one of the pioneers in the industry—so that financial strength is not due to lucky chance nor to a brief period of prosperity.

REO STANDING—financially and in the hearts of buyers—is the result of a policy firmly founded in the beginning and consistently carried out through a long period of years.

BUT ALL THAT would not matter if the heart of Reo were not sound.

IT WOULD NOT MATTER how much money there was back of the Reo guarantee if there were not also Reo Integrity and Reo Good Intent.

NOR WOULD IT MATTER how broad the experience, nor how great the skill of Reo engineers, if that skill were applied to designing for "selling" rather than for service.

THAT IS WHY, knowing the Reo Folk and their ideals, you'll feel more safe in selecting a Reo than any other car of similar size or price class.

SPEAKING OF SIZE—do you realize what a big, as well as beautiful car is that New Reo Six?

IT'S A FULL 7-PASSENGER CAR—126-inch wheelbase and on cantilever springs, giving the fullest passenger space and the utmost in luxurious qualities.

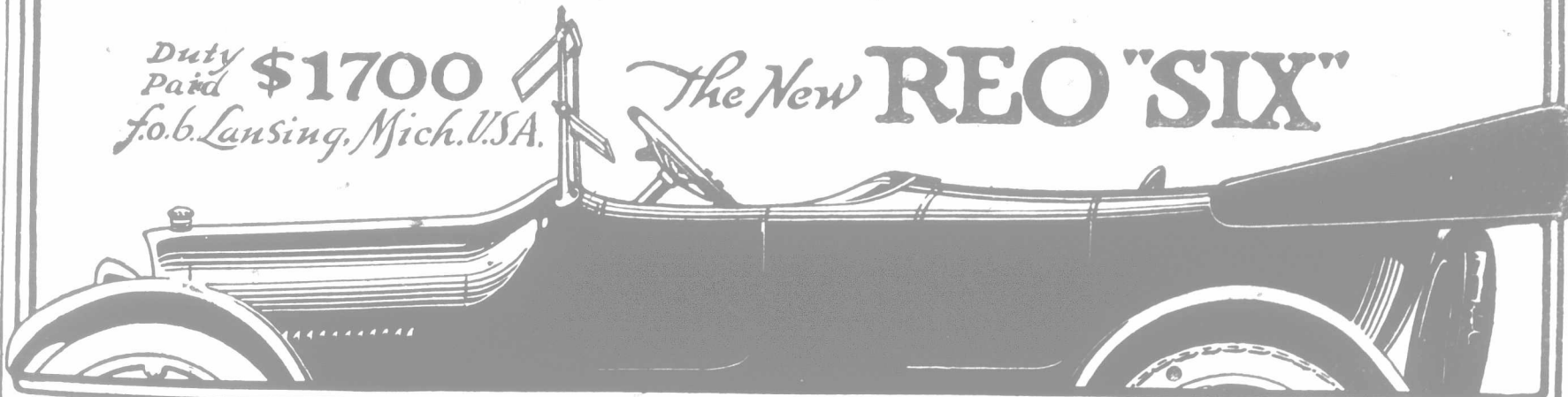
DEMAND IS TREMENDOUS—and output of this 7-passenger Six is limited. So if you'd have the most luxurious equipage and the sweetest running car the Reo Folk have ever turned out, your order should be in our hands at once. Today won't be a minute too soon.

REO MOTOR CAR COMPANY, LANSING, MICHIGAN, U. S. A.

(134-A)

Duty Paid **\$1700** f.o.b. Lansing, Mich. U.S.A.

The New **REO "SIX"**



The Farmer's "Right Hand"

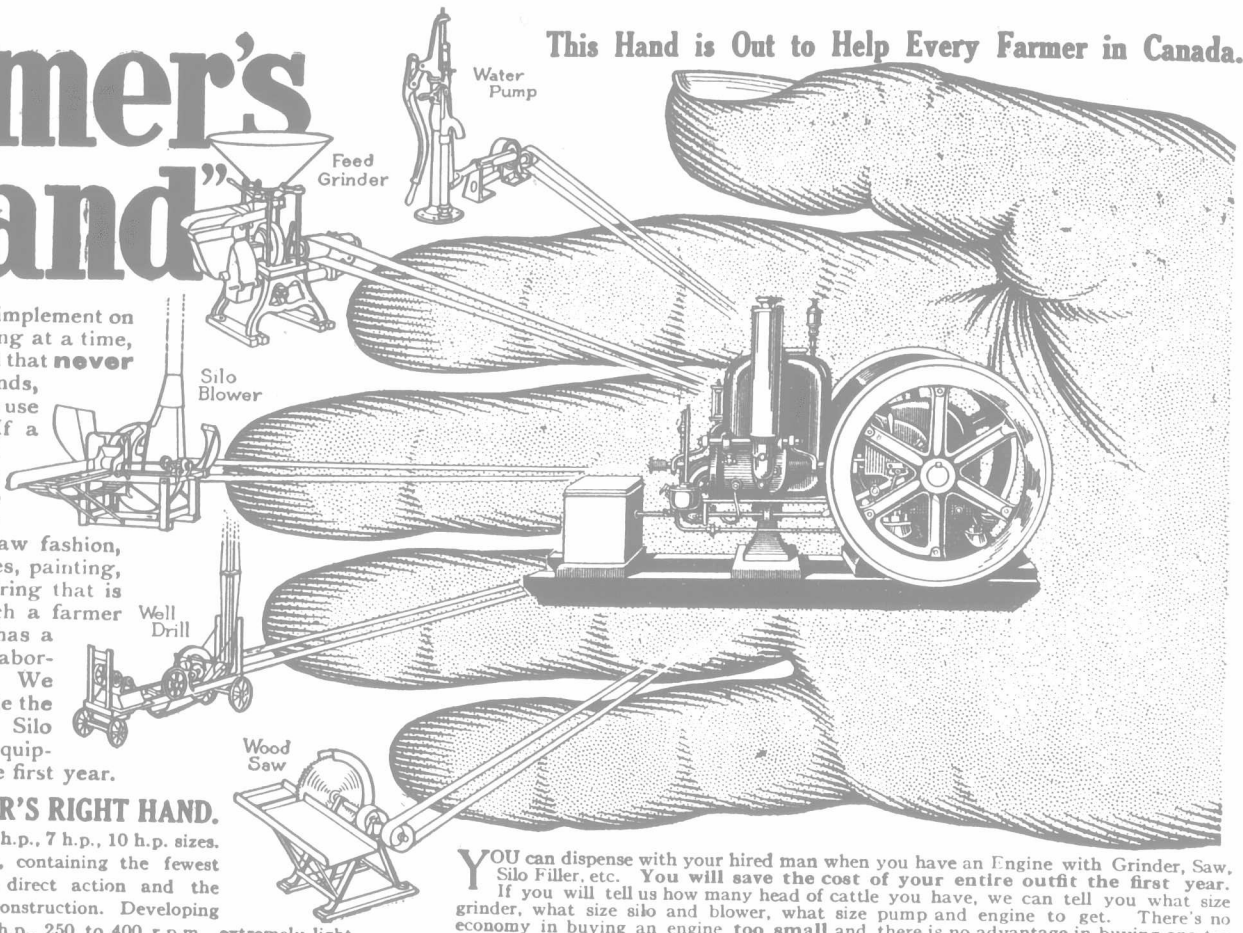
A farmer's Right Hand is the most valuable implement on the farm. But the hand can only do one thing at a time, and it gets tired. Think of having a right hand that never gets tired and is as powerful as 20 right hands, and when it is busy, leaves the owner free to use both his hands at other work. If a farmer has to Pump Water for house and for cattle, Grind Feed, turn the Cream Separator, turn the Churn or the Washing Machine, and if he has to Saw Wood according to the good old buck-saw fashion, what time does he have for fixing up fences, painting, shingling and the endless amount of repairing that is necessary on buildings and implements? Such a farmer is a drudge of the worst kind, unless he has a CHAPMAN Engine and the necessary labor-saving equipment to make life worth living. We not only sell the Chapman Engine but we handle the highest class Pumps of all kinds, Grinders, Silo Fillers, Well Drills and Saw Frames. Our equipment saves so much time it pays for itself the first year.

Chapman Engine

THE FARMER'S RIGHT HAND.
Made in 2 h.p., 5 h.p., 7 h.p., 10 h.p. sizes. Solid and simple, containing the fewest parts, the most direct action and the most substantial construction. Developing more than rated h.p., 250 to 400 r.p.m., extremely light on gasoline, with fly ball governor to regulate speed and fuel, cylinders kept at right temperature for perfect volatilization, straight line valve motion, non-leakable fuel tank, and sufficient weight to make it absolutely steady. The Chapman Engine is so good that others try to imitate it, but our best points are covered by patents, and they can only be found exclusively in the Chapman Engine. Write for full particulars of size, weight, speed, power, prices, etc.

CATALOG FREE—WRITE FOR IT.

This Hand is Out to Help Every Farmer in Canada.



YOU can dispense with your hired man when you have an Engine with Grinder, Saw, Silo Filler, etc. You will save the cost of your entire outfit the first year. If you will tell us how many head of cattle you have, we can tell you what size grinder, what size silo and blower, what size pump and engine to get. There's no economy in buying an engine too small and there is no advantage in buying one too big. Tell us all about your engine needs and let us advise you.

Ontario Wind Engine & Pump Co. Limited

93 ATLANTIC AVE., TORONTO

Branches: Montreal, Winnipeg, Regina, Calgary.

Questions and Answers. Miscellaneous.

Agricultural Books.

Please publish in "The Farmer's Advocate" a list of the best books to read on farming, and state where they can be procured. SUBSCRIBER.

Ans.—Below is a list of the best obtainable books on their respective subjects. Many of them have been published recently, while others have been in circulation for some time. The older books have been mentioned on account of their value and the exhaustive way in which they treat the subject about which they are written. These books are sold through this office for cash at the prices named, or they will be given as premiums to our present subscribers for sending in new subscriptions to "The Farmer's Advocate and Home Magazine."

Any book valued under \$1.00, for one new subscriber.

Any book valued from \$1.00 to \$1.50, two new subscribers.

Any book valued from \$1.50 to \$2.00, three new subscribers.

Any book valued from \$2.00 to \$2.50, four new subscribers.

Live Stock.

FEEDS AND FEEDING—Henry	Postpaid \$2.25
SCIENTIFIC FEEDING OF ANIMALS—Kellner	1.85
BEEF PRODUCTION—Mumford	1.50
TYPES AND BREEDS OF FARM ANIMALS—Plumb	2.40
HISTORY OF SHORTHORN CATTLE—Sinclair	5.50
HISTORY OF AB-ANGUS CATTLE—Sinclair	5.50
HISTORY OF HEREFORD CATTLE—Sinclair	5.50
LIVE STOCK JUDGING—Craig	2.10
HEAVY HORSES, (breeds and management) (Vinton Series)	1.05
LIGHT HORSES, (breeds and management) (Vinton Series)	1.05

Two Bushels to One Next Season—Sure



Every farmer can get two bushels this year where he got one last year. Poor crops show impoverished soil and there is only one remedy—FERTILIZER. "Best-by-Test" Fertilizers are quick restoratives to run-down soil, and guarantee of double-yield crops. Best-by-Test Fertilizers have 20 TIMES as much plant food as average manure.

"Best by Test" Fertilizers

make plants grow to full capacity of production. Let us send you our booklet explaining our Fertilizers, comprising

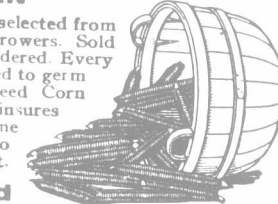
SEED CORN

Blood, Meat and Bone, Phosphates, Nitrates, Potash and Ammonia formulas. A brand for every soil and every crop. Write for prices direct or through your dealer.

Write for FREE Copy of our Book—"Facts About Fertilizers"

CANADIAN FERTILIZER CO., Limited
12 MARKET CHAMBERS

True to name and type, selected from best yields of expert corn growers. Sold on ear, unless otherwise ordered. Every bushel tested and guaranteed to germinate 80 per cent. Our Seed Corn planted with our Fertilizer insures a big yield. Farmers in same locality can club orders to make a carload shipment.



CHATHAM, ONT.

A CORRECTION

From the "Canadian Countryman," Feb. 12, 1916

"In our issue of December 18 a leading article was published, entitled "Fruit Growers Entering an Era of Prosperity," written by Dan. Johnson, Dominion Fruit Commissioner. In describing the orchard and operations of B. J. Case, of Sodus, New York, the statement was made that Mr. Case sprayed his orchard three times with a solution of lime sulphur.

In a recent communication regarding this matter, Mr. Johnson writes: 'The orchard of Mr. B. J. Case, of Sodus, N. Y., was sprayed with soluble sulphur, and not with ordinary lime sulphur.'

SEND FOR BULLETIN NO. 4 ON

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NIAGARA BRAND SPRAY CO., LIMITED
BURLINGTON ONTARIO

Everything (Soluble Sulphur, Lime Sulphur, Arsenate of Lead, Dust Sprays and Dusters, Hand Spraying and Power Pumps, Accessories.

POINTS OF THE HORSE—Capt. Hayes	10.00
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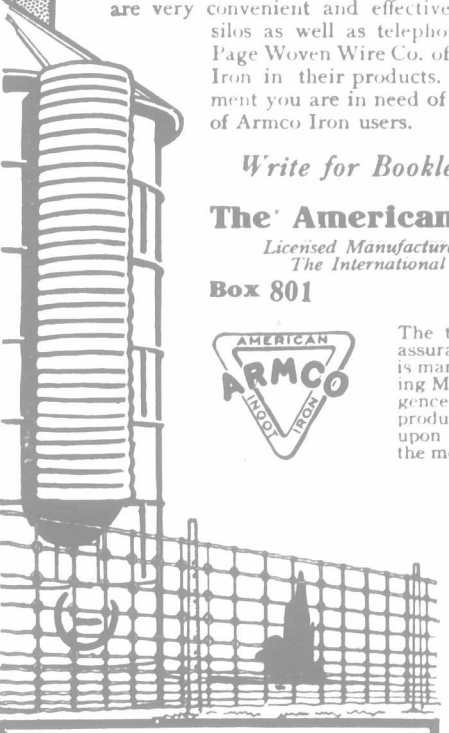
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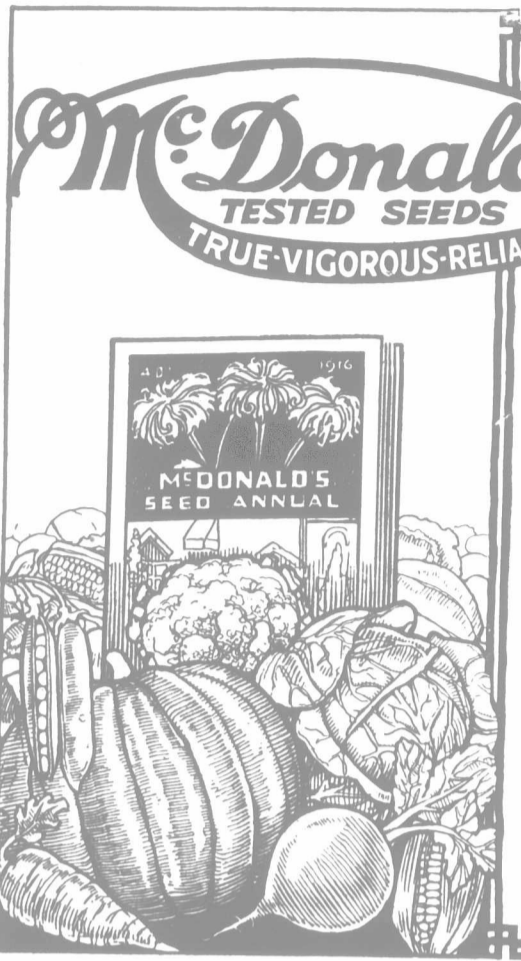
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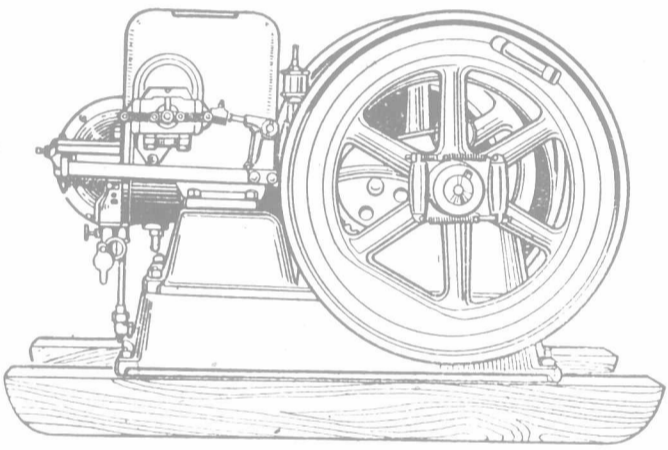
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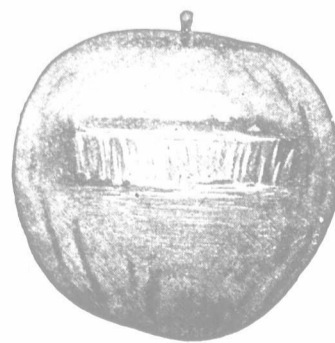
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Sowing Clover Seed on an Old Pasture.

I have a piece of land that was a meadow for the past two years, and I intend to use it for pasture this year. As the clover in it is pretty much gone, would I improve its condition for pasture by sowing clover seed on the crust this spring?
W. J. E.

Ans.—As far as securing results this year is concerned, we believe you would be practically throwing your clover seed away. If the seed is sown with a grain crop it will produce more feed by fall than if sown on the meadow.

Material for Wall.

1. How much cement and sand will it require to build a wall under a barn 48 feet by 36 feet, the wall to be 8 feet above ground. How deep should the trench be dug for foundation?

2. Which is better for fillers, hardheads or limestone? Both are easily got, but limestone is more plentiful.
H. S.

Ans.—1. It would be necessary to have the foundation below the frost line. Possibly a trench 2 feet below the surface would be sufficient. If the two feet of foundation below the surface is built 15 inches wide, and the remaining 8 feet 12 inches wide, it will require about 66 yards of gravel or sand. This would be reduced according to the amount of stone used. In using stone in a concrete wall care should be taken not to allow the stones to come within two inches of either face of the wall. About 55 barrels of cement will be required.

2. Either kind of stone would be satisfactory as a filler.

Absence of Oestrus—Feather Eating.

1. Have a cow that calved November last and is in good condition. She is well fed on silage, roots, chop and clover, but has never shown oestrus. Have given her saltpetre every other day for 10 days. What treatment would you advise?

2. Many of our hens, during the last few days, have been picked bare of feathers on hind end by other hens in the flock, and have large holes picked in the flesh. What is the cause of this, and how can it be remedied?
SUBSCRIBER.

Ans.—1. We can suggest very little but waiting patiently. It might be good practice to tie the cow in a stall adjoining the bull, or turn her and the bull loose in a box stall or paddock for a short time each day. Under these conditions nature usually asserts itself. Two drams of nux vomica three times daily has sometimes apparently had the desired effect, by stimulating the nervous system.

2. Feather eating is a form of cannibalism common among closely confined poultry, but is rarely seen among poultry on free range amid favorable surroundings. The ration may lack some essential substance as meat or green feed, and thus aid in starting the vice. Once started it spreads rapidly. Change of quarters and the removal of the worst offenders will sometimes stop the habit. The most reliable cure is right conditions about the poultry pens and yards, and supplying a variety of feeds.

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Questions and Answers. Miscellaneous.

Horse Stable—Crops for Pasture—Corn and Turnips.

1. Would it be all right to sow rye in spring for pasture?
2. Is there any certain kind you would recommend?
3. Is millet good for pasture? Which would be best for pasture, millet or rye?
4. How much rye should be sown to an acre for pasture?
5. How much millet should be sown to an acre?
6. Which do you advise sowing, mammoth or red clover, with fall wheat, oats or barley in the spring for pasture in the fall?
7. What kind of corn cultivator do you recommend?
8. How many inches apart should corn be sown?
9. What is the best time to sow turnips to get best results?
10. Is hemlock good for stable door jams and window sills?
11. How many single horse stalls could be put in a space of 42 feet, including a box stall? I was thinking of 6 single stalls and one box stall.
12. Could a concrete floor be put in hard enough so that horses which are sharp shod could not put holes in it? How strong would you make the concrete?
13. How long should plank be for horse stalls? Is 8 feet long enough?
14. How wide should a horse stable be, including mangers? I was thinking 18 or 20 feet. Which would you recommend?
15. Is this a good time of the year to set hens?
16. Which, in your experience, is the best breed of hens to lay in winter?
17. Is it proper for secretary of a Patriotic society to move the adoption of minutes before she takes her seat?
18. Is corn good feed for hens?
19. Is a stone wall for a horse stable better than a cement wall?
20. Is it possible to sow alfalfa or sweet clover and cut a crop this year?
21. Which kind would you recommend?

E. B.

Ans.—1, 2 and 4. Spring rye would give a fair amount of pasture, but is not equal to fall rye or oats for forage purposes. The Petkus, and O. A. C. No. 61 of the spring varieties have given good returns. About 2 bushels of seed should be sown per acre.

3 and 5. Millet may be used for pasture, but its chief use is for hay or soiling crop. Millet would have the advantage by being able to return a fair yield if sown quite late in the season. Under favorable conditions it could be pastured within six or eight weeks after the seed is sown. From 25 to 30 pounds of seed per acre would be required.

6. We advise sowing the red clover. 7. Many farmers who grow a large acreage of corn use a cultivator that will do two rows at once, and find it gives good satisfaction after they become used to operating it. Other farmers prefer a two-horse cultivator that cultivates but one row at a time. It would possibly be advisable for you to see the different kinds at work in a field before purchasing.

8. When corn is grown for seed purposes it is customary to plant it in hills 42 inches apart each way, or 36 inches one way and 42 inches the other. Many farmers growing corn for silage purposes claim that they secure a larger bulk of feed by sowing corn quite thickly in drills 36 inches apart. We would refer you to an article on growing corn for silage purposes in February 24 issue of this paper.

9. It is customary to sow turnips any time from June 1 to 20. It is claimed that by sowing after the middle of June a better quality turnip is produced than with the early sowing. The time would depend somewhat on local conditions and soil preparation.

10. It may be used, but it is believed that elm would be more satisfactory.

11. Forty-two feet would permit of six stalls, each 5 feet wide, and allowing 1 foot for stall partitions would leave a width of 11 feet for a box stall.



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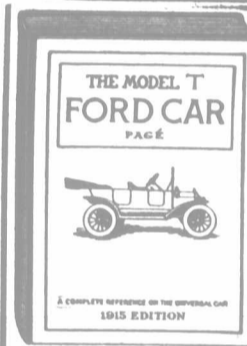
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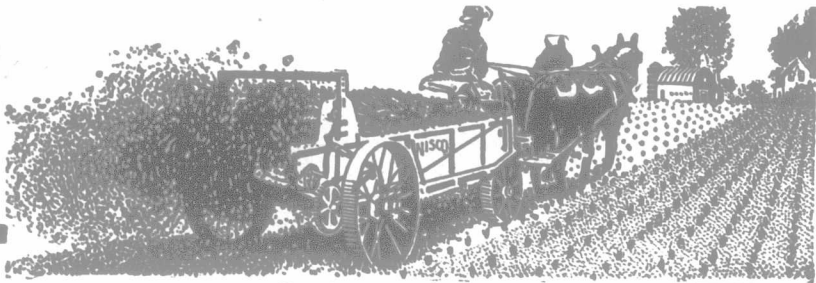
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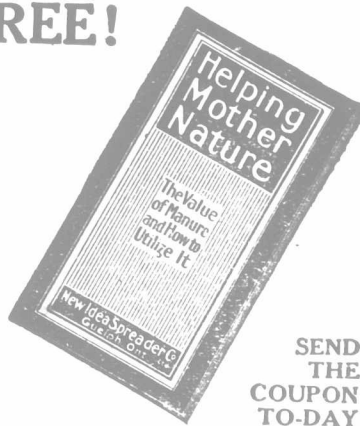
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12. A concrete floor in the proportions of one of cement to six or eight of good gravel would stand for a long time, but we doubt if it could be made proof against chipping by horses that are shod.

13. An 8-foot stall should be sufficient in length for the average horse, a nine-foot would be better.

14. We would prefer having the horse stable at least 23 feet wide. This would give a 9-foot stall, 3 feet for mangers, 6 feet for passageway behind the horses, and a 5-foot feed passage.

15. Many poultrymen endeavor to have chicks hatch about April 1, in order that pullets may be well developed by early fall. It is claimed that the early-hatched pullets are the first to start laying. Under ordinary conditions chicks will be easier to raise if hatched after warm weather has set in, probably from April 15 to May 10.

16. Practically every breed has enthusiasts who claim it is a producer of eggs during the winter. We believe more depends on the strain, and how they are managed and fed than on the breed. Any of the utility breeds are good if properly looked after.

17. The secretary was quite within her rights in moving the adoption of the minutes.

18. Corn is excellent feed for hens during cold weather. As the weather becomes warm, it would be better to reduce the corn ration and increase on other feeds.

19. We cannot see how it would be better. A frame wall would be preferable to either.

20. If the season is favorable alfalfa or sweet clover may be sown in the spring without a nurse crop, and it is possible to secure a fair cutting in the fall. Some farmers have cut two crops the first season, but the second cutting was so late that there was difficulty in drying it. Cutting too late in the season is not advisable.

21. It is possible that the sweet clover would produce the larger crop the first year.

Questions and Answers. Miscellaneous.

A Road Commissioner.

I am selected road commissioner in an unorganized township, and I am placed on a beat in which I do not hold land. Can I be held responsible for this office, it being outside of the beat where I hold land?

Ontario. M. C. D.

Ans.—Yes.

Sale of Timber—Liability for Wife's Debts.

1. A buys a piece of standing timber from B and gives him \$10. Can A hold B or will the transaction come under the heading of real estate, and have to be in writing to be bona fide?

2. A marries B, who is a widow. Can B's creditors come on A for debts contracted before their marriage?

Ontario. INQUIRER.

Ans.—1. Standing timber is legally regarded as part of the land on which it stands and as being, accordingly, "real estate." The contract concerning it should, therefore, have been in writing.

2. Only to the extent of any property he may have acquired or become entitled to from or through his wife, if the marriage took place subsequently to 1st July, 1884.

Warbles.

I am sending a box with three grubs or worms which I squeezed out of lumps on the back of one of my cattle. What causes them? Are they harmful? What remedy would you recommend?

E. T.

Ans.—The grubs are the larvae of the warble fly, and cause discomfort and probably interfere with the thrift of the animal affected. The fly lays its eggs on the body of the animal principally about the legs, and it is believed that the maggots are licked into the mouth, and from there work their way through the tissues to reach their final position beneath the skin on the back. No satisfactory remedy has been found other than squeezing the grubs out of the lumps when they become ripe, and destroying them. If this is systematically done it will tend to reduce the number of warble flies and thus lessen the trouble.

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Greater Success with Stock and Poultry

follows the use of these famous "Caldwell's" Standard Feeds. Clip this for future reference.

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- "Caldwell's" Poultry Laying Meal
- "Caldwell's" Poultry Scratch Feed
- "Caldwell's" Chick Feed
- "Caldwell's" Growing Mash
- "Caldwell's" Developing Feed

We also sell Beef Scrap, Grit, Oyster Shell, Clam Shell, Charcoal, etc., etc.

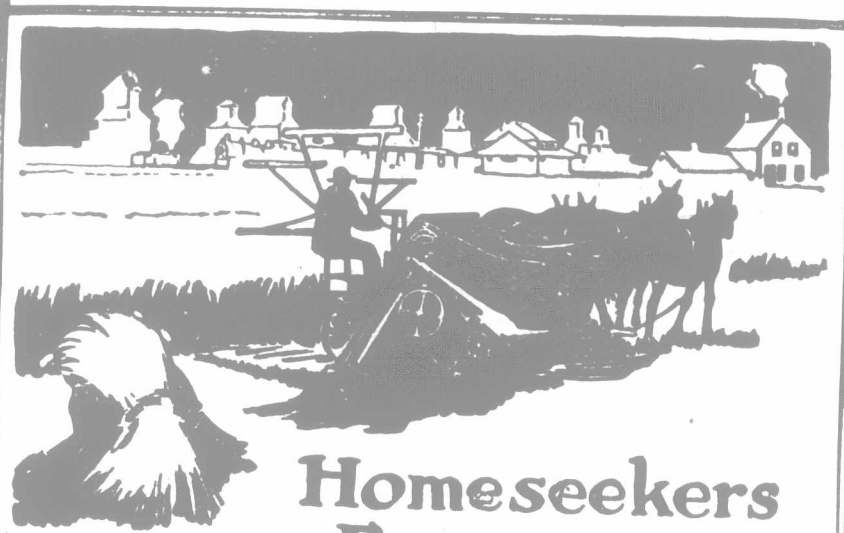
Space will not permit a detailed description of all these lines, but we publish a booklet on each, giving full directions, and will send copy free on request. Write us to-day.

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Somewhere out on the prairies where last year Canada's Greatest Wheat Crop was produced there is a home waiting for you. The

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AMHERSTBURG, ONTARIO

G. R. COTTRELLE, President

A. MCKENNEY, B.S.A., Superintendent

Questions and Answers. Miscellaneous.

Where to Secure Cockerels.

What are the prices and where may I purchase Rhode Island Red roosters? Wm. H. MAC. G.

Ans.—In recent issues of "The Farmer's Advocate" poultrymen have been advertising, cockerels of the breed mentioned, in the poultry and eggs columns.

Western Oats for Ontario.

Could I reasonably hope for favorable results from sowing oats grown in Southern Saskatchewan and sown in Elgin County, Ontario? A. J. K.

Ans.—Western oats are frequently used for seed in different parts of Ontario with good results. We see no reason why they should not give satisfactory returns in Elgin County. It would be advisable to secure a variety of oat that has proven to be suitable for your soil. Be sure they are clean.

Fertilizers for Forcing Growth.

I have a field of wheat that looked very poor last fall, which I intend sowing with about 1 bushel of barley to the acre this spring. As I desire to apply fertilizer, what ingredients will be necessary to make up a quick-acting fertilizer, and how much of each is required per acre? E. R.

Ans.—For a quick-acting fertilizer nitrate of soda is recommended. Owing to the fact that it is in a very available form, and is, therefore, rapid in action, care must be taken in its application so as to avoid leaching. As a rule it should not be applied before the grain is sown. From 100 to 125 pounds per acre should give results. Adding about 250 pounds of acid phosphate or 400 pounds of basic slag per acre would, no doubt, improve the fertility of the soil, but they are considerably slower in their action than nitrate of soda, and for that reason should be sown on your wheat early, if the best results would be obtained this season.

Spraying for San Jose Scale.

1. What is the proper proportions of Gillett's lye to use for spraying apple trees in winter time while the buds are dormant?

2. Will this solution kill San Jose scale?

3. What is the proper strength to use lime sulphur in winter to kill San Jose scale?

4. Will summer spraying kill San Jose scale? R. W. S.

Ans.—1. Spraying with Gillett's lye is not practicable.

2. Formally it was used for this purpose.

3. It is believed that the most desirable strength for the solution is 1.035 specific gravity. By the use of a hydrometer the strength may be determined. Supposing the commercial lime sulphur tested 1.300 it would be necessary to dilute one gallon of the lime sulphur with 8½ gallons of water to bring the solution to the desired strength.

4. We would not advise using a summer spray. There is danger of injuring the tree if the solution is put on strong enough to destroy the scale. Thorough spraying with lime sulphur on the dormant wood has proven to be effective in destroying scale.

Sweet Clover.

A recent publication of the Ontario Department of Agriculture in bulletin form demands attention. This is a Bulletin on Sweet Clover, of which the author is H. L. Fulmer, Lecturer in Chemistry at the Ontario Agricultural College. This Bulletin is especially timely at this season. Much has been said and written recently regarding the merits and demerits of sweet clover, and some of the information which has been distributed has been based upon experimental work which may now be considered rather ancient. Mr. Fulmer's information regarding the growth, culture, and agricultural importance of the crop has been gathered from practical farmers. The analyses of sweet clover published in the Bulletin have been made in the chemical laboratory at Guelph. "This publication," quoting

What Standardization Means to Motor Car Buyers

IT means VALUE. Just to the extent that a car is standardized does the buyer's dollar approach the maximum of purchasing power.

Standardization means definite, proved quality, known manufacturing costs and reduced selling costs.

Of the million autos that will be sold in 1916, 75% will be standardized cars selling for less than \$1000.00 each. This remarkable American achievement is the direct result of standardization.

Finally the upholstery has been standardized by the almost universal adoption of



MOTOR QUALITY

40% of all 1915 cars sold were upholstered in this proved, guaranteed material and in 1916 the total will be at least 60%.

Fabrikoid is the only standardized automobile upholstery. It wears better than coated splits (commonly sold as "genuine leather") and has the artistic appearance and luxurious comfort of the best leather.

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The supply is exhausted, and 1916 will be an unusually good year for you to get a big share of the profits that will be made on high-grade maple products.

The Champion Evaporator

makes the highest grade syrup and sugar faster, easier and at less cost than is possible by any other method. Sold on easy terms.

Write to-day for full information.

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Our Alsike, Timothy, Red Clover, etc., will compare favorably with anything on the Canadian market. Send for price list.

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Strawberries, seed potatoes, etc.—50 berries, including Fall-bearing, St. Regis, Ever-bearing and other raspberries. Blackberries, currants, gooseberries, grapes, asparagus. Cobbles and Green Mountain potatoes. Catalogue from H. L. McCONNELL & SON, Port Burwell, Ont.

200 STALLIONS FOR SALE OR EXCHANGE 200

in Ontario and Manitoba, inscribed with our Stallion Exchange Bureau and ranging in price from \$250.00 to \$1,000.00—All breeds, Canadian and Imported. Full list containing description, age and price sent FREE on request.

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	Per Bus.
No. 1 Red Clover.....	\$16.25
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No. 1 Alsike.....	13.00
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No. 1 Alfalfa.....	16.00
(Northern grown)	
No. 2. Timothy.....	5.50
(This seed grade No. 1 Purity)	
No. 3 Timothy.....	5.00
White Blossom Sweet Clover..	12.50

Terms cash with order. Bags extra at 25c. each. On all orders east of Manitoba of \$25 or over we pay the freight.

We guarantee seeds to satisfy or ship back at our expense. Ask for samples if necessary.

TODD & COOK
Seed Merchants
Stouffville Ontario

from the Bulletin, "is not for the purpose of urging the adoption of this plant as a crop, but simply has for its object the summing up of the estimation in which it is held at the present time, and the presentation of a short description of its nature, distribution, habits and management, in so far as they are known at this date." While the subject matter is discussed in an unprejudiced and unbiased manner the reader cannot help but gather from the tone of the Bulletin that the author has become impressed with the value of sweet clover as a crop. Of particular interest to those wishing to know the relative merits of sweet clover, alfalfa, and red clover, from the viewpoint of feed constituents, the following short table will be valuable. These are extracts from a larger table published in the Bulletin.

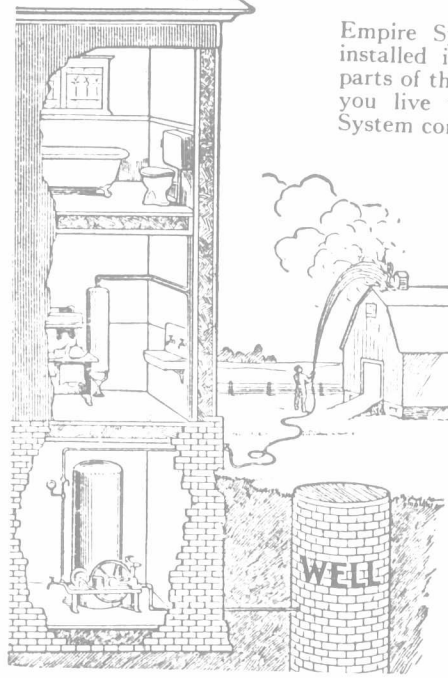
Kind of crops	STAGE OF GROWTH WHEN CUT.		CONSTITUENTS AT CUTTING TIME.	
	First sign of bloom	One-third in bloom	Fibre	Carbo-hydrates
Sweet clover.....	8.92	7.24	28.45	43.81
	8.33	8.33	32.06	41.67
Alfalfa.....	8.92	7.24	28.45	43.81
	8.33	8.33	32.06	41.67
Red clover.....	8.92	7.24	28.45	43.81
	8.33	8.33	32.06	41.67

It will be seen from this table that sweet clover is a splendid source of protein, the most expensive of animal nutrients, and for which legumes are so highly prized. Another table, however, in the same bulletin, which reduces the different feed constituents to a common standard, known as "fuel value" shows sweet clover to be superior to all others at the time of the first cutting. Sweet clover as a crop and for other purposes is treated in detail. Expressions of opinion have also been obtained from farmers throughout the various provinces, and from Field Husbandry Departments connected with various institutions throughout Canada. Where the plant has been tried thoroughly, the majority of the correspondents are favorable to it. Where it has not been tried anyone expressing an opinion usually discredits its value, or condemns it on general principles. In conclusion the author says: "It is beyond the experimental stage with some farmers already, and these who have now grown it on their farms for several years are convinced, and are enthusiastic for its future. Soon there will be more wide-spread knowledge concerning the agricultural value of this plant."

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All the comforts and conveniences of a modern bathroom! Plenty of running hot and cold water in the kitchen! Water in the barn and outbuildings! Running water always ready for every farm need—this is all made easy possible for YOU through the

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Empire Systems have been successfully installed in many country houses in all parts of the Dominion. No matter where you live we can send you an Empire System complete, ready to set up.

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or on pasture just because he has galls and sore shoulders. No need of it. Restore him to prime condition—completely cure him of galls and sore shoulders (this we guarantee) without taking him from his work. Simply let him wear, in place of his regular collar,

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Cures the lameness from Bone-Spavins, Side-Bones, Ringbones, Curbs, Splints, etc., and absorbs the bursae, does not kill the hair, absorbs Capped Hocks, Bog-spavins, thick pastern joints, cures lameness in tendons, most powerful absorbent.

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This splendid Scotland by of the finest eight years proved him not of the quality, with been driven in Southern other drafter cent son of Favorite mar Holsteins tak

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ALLOWA

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Our herd is h grand champi don 1915. Beauty 4th, =5735 =; gra He is assisted champion bul these bulls for JAMES BOW

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Choice y Kenneth C. Co. Wellingt

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also females. Write: James Sharp Cheltrah

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bred, from 4 t for quick sale M. G. RANS

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THE BEST LINIMENT OR PAIN KILLER FOR THE HUMAN BODY

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For the Human Body... Perfectly Safe and Reliable Remedy for Sore Throat, Chest Cold, Backache, Neuralgia, Sprains, Strains, Lumbago, Diphtheria, Sore Lungs, Rheumatism and all Stiff Joints.

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Great Conditioner & Worm Destroyer... Bitter Lick is a compressed salt brick, medicated with roots, herbs, etc., in such proportion as will keep horses in excellent condition.

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This splendid Clydesdale stallion, imported from Scotland by Hon. Robert Beith, is offered for sale; of the finest brown color, beautiful white markings.

A. C. HARDY, Brockville, Ontario... Two Black Percheron stallions, 2 years old, weight, 1,600 or better; height, 16 or 16 1/2; extra quality, for sale at farmers' prices.

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Special this month: Southdown Prize Rams

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Our herd is headed by Beautys Erwin -5736- grand champion bull at Edmonton 1914 and London 1915. He is out of our champion cow Beauty 4th, -1852-, and sired by Erwin C -5735-; grand champion bull at Chicago 1913.

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Choice young bulls of serviceable ages, females all ages for sale. Kenneth C. Quarrle, R. R. No. 5, Belwood, Co. Wellington, Ontario.

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ANGUS BULLS 4 young Aberdeen bred, from 4 to 10 months old. Reasonable price for quick sale—also heifers. M. G. RANSFORD, Clinton, Ontario

Beaver Hill Aberdeen-Angus—Bulls fit for service. Females all ages. Cows with calves at foot. Prices reasonable. ALEX. McKINNEY, R.R. No. 1, Erin, Ontario Cheltenham, G. T. R. Erin, C. P. R.

The Glengore Angus Some choice bulls, from 7 to 15 months, for sale. For particulars write: GEO. DAVIS & SONS, R.R. No. 1, Erin, Ont.

Questions and Answers. Miscellaneous.

Carrots for Feed—Drenching a Pig—Cow Fails to Show Oestrus.

1. We have a pig 6 months old weighing about 100 lbs. that is stiffened in the joints and has a lump on his nose. I think the ring in his nose caused the lump. This lump resembles a wart, but is growing fast and is as large as a turkey egg.

2. We have a young sow due to farrow soon. She would not own her pigs last time. Is she likely to be cross again? Is there anything I could do this time to make her own them?

3. How would I drench a hog so as not to choke him.

4. Are carrots good feed for horses and cattle? Will they cause the animals to go blind? Are they good for brood mares?

5. I have a valuable cow which never came in season last summer, as I am anxious to raise calves, is there anything that can be done if any of my other cows go that way? My whole herd was late, and I won't have any cows milking before April.

FARMER'S SON.

Ans.—Evidently the lump is a sort of cartilaginous growth, the cause of which is hard to determine. Probably it is caused by the ring in some way injuring the nose.

2. A sow that refuses to own her pigs is usually very sick and in a fevered condition, often caused by injudicious feeding before farrowing or abnormal conditions at farrowing time.

3. A hog is a hard animal to drench. Try using an old shoe with the toe removed. The toe of the shoe is put in the hog's mouth and the liquid comprising the drench is poured in the top of the shoe.

4. Carrots are good feed for both cattle and horses, and we have never heard of them causing animals to go blind. Carrots are not harmful to brood mares.

5. We doubt if there is any medical remedy for this trouble. Feed heavily on invigorating concentrates. For some reason or other the cow may not show plainly when she is in oestrus, and we would advise tying her in a stall adjoining the bull or allow her to run in a pen or paddock with a bull for a short time each day.

Climatic conditions and the excessive moisture in 1915 convinced farmers of the great necessity of proper drainage. On low land it was almost an impossibility to harvest the crop.

1915 Graham Bros. Champion Stud 1916

At the great Guelph and Ottawa Winter shows we showed in the Clydesdale classes, the grand champion, senior champion, junior champion, reserve grand champion, reserve senior champion, reserve junior champion.

We offer a great lot of big young stallions and mares imported and Canadian bred of the above breeds, the very best to be found in Canada and at very reasonable prices.

Graham Bros. Claremont, Ont.

8 Imported Stallions 8 PERCHERONS 3 Imported Mares 3

Every horse offered a prize-winner. Stallions all guaranteed producers, and mares in foal. Also three good imported Clyde. stallions. Prices moderate. Terms to suit HODGKINSON & TISDALE Beaverton, Ont.

Imported Registered Stallions and Mares

In Percherons we have our very best to offer: Blacks and Grays, 3 to 5 years old. Belgians and good foal getters. Mares from 2 to 5 years old, Percheron, Clydesdale and standard-bred, these are over 3 years old, all safe in foal.

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Quality IMP. CLYDESDALES IMP. Breeding Strengthened by the best IMP. CLYDESDALES IMP. Unsurpassed November importation I can now supply Clyde. stallions with the big size required, the flashiest kind of quality and the most popular breeding. Also Clyde. mares and one right choice French Coach stallion. JAMES TORRANCE, Markham, Ont.

Up to a Ton in Weight CLYDESDALES Imp. Character & quality WM. COLOUHOUN. If you are looking for a ton stallion on faultless underpinning, bred to produce the big, high-priced horses, come and see what I have, there are none better and none priced easier. MITCHELL, ONT

King Segis Pontiac Paul 15940

We have for sale a few sons of the above bull, ready for service, and whose dams are large heavy producing cows. Here is an opportunity to get the blood of KING SEGIS and KING OF THE PONTIACS at reasonable prices. Correspondence solicited.

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Have several young bulls and heifers for sale. Satisfaction guaranteed. L. O. CLIFFORD, Oshawa, Ont.

The Maples Herefords Having sold all our older bulls we are now offering an excellent bunch from 8 months up. We would also sell our two-year-old show and breeding bull, Superior Lad. He is sure and a great sire. Correspondence solicited. Phone 16. W. H. & J. S. HUNTER Orangeville, Ontario

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The products of this herd have been in very strong demand. There's a reason. Can always supply a good young bull at a price which will make him well worth the money. Not many females for sale but can show a few which should interest you.

W. A. DRYDEN, Maple Shade Farm, Brooklin, Ont. Brooklin, G. T. R. C. N. R., Myrtle, C. P. R.

Walnut-Grove Shorthorns Sired by the great sire Trout Creek Wonder and out of Imp. cows and their daughters of pure Scotch breeding and others Scotch topped. For sale are several extra nice young bulls and a few heifers. Let us know your wants. DUNCAN BROWN & SONS, R. M. D. Sheddon, Ont., P. M. & M. C. R.

Spring Valley Shorthorns

Herd headed by the two great breeding bulls, Newton Ringleader (imp.) 73783, and Nonpareil Ramsden 83422. Can supply a few of either sex. KYLE BROS, Drumbo, Ont. Phone and telegraph via Ayr

Shorthorns 10 Bulls Jno. Elder & Sons, Hensall, Ont. 4 good ones 18 months of age, 3 twelve and 3 seven. 6 roans and 4 reds all registered and got by the good kind of stock, and will be sold cheap to make room. 30 breeding females to select from.

Rosedale Stock Farm

For Sale—One 3 yr. old Shire stallion, one 3 yr. old Hackney stallion, both winners of 1915. Also two Shorthorn bulls 10 and 11 months old. G. T. R., & C. P. R., & Electric J. M. Gardhouse, Weston, Ontario Lines. Long Distance Telephone.

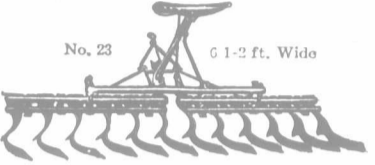
DUAL-PURPOSE SHORTHORNS

For Sale—One 2 yr. old, and two yearling bulls, closely related to "Royal Princess," the 1st prize cow at Guelph, which gave 51 lbs. per day, testing 4.6% fat. S. W. JACKSON, WOODSTOCK, ONT. Burgessville Phone

Robert Miller Still Pays the Freight—And he is offering in Shorthorns some of the best young bulls and heifers that can be produced. Young bulls fit for service, some younger still; heifers fit for service and younger, and some in calf. They are of the best Scotch families, and some of them from great milking families. They are in good condition and made right, just what you want to make a proper foundation for a good herd, and suitable to improve any herd in the land. They will be priced so that you can afford to buy, if you will tell me what you want. Our business has been established 79 years and still it grows. There is a reason. ROBERT MILLER, Stouffville, Ontario



Successful Orchardling is the result of successful tillage. Cultivate your trees as you would your corn—use an **"Acme" Orchard Harrow**. It gets in close under the branches. Cuts, slices, turns the soil twice, levels and compacts—all at one operation. Many sizes—extension and regular. Kills small weeds, cultivates deep, mulches thoroughly. Send for new free booklet—*now*.



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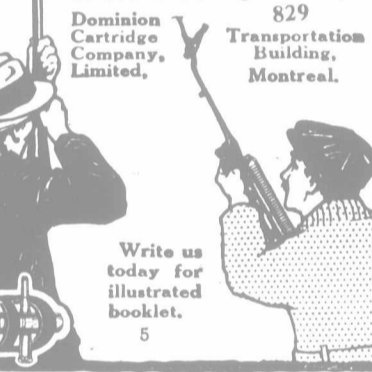
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A Dominion Hand Trap

enables you to enjoy the all-year-round sport of trap-shooting. Don't let your shotgun get rusty or your aim go bad between seasons. Get a Dominion Hand Trap and keep your eye and trigger finger in form.

With a hand trap you have your own gun club wherever and whenever you want it, for fun and to settle a shooting argument.

Try this fascinating sport. A Dominion Hand Trap costs only \$4.55, is light, convenient and throws the target as well as the larger set traps.



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5

Good Luck

- COTTON SEED MEAL
- CALF MEAL
- OIL CAKE MEAL
- FLAXSEED GLUTEN MEAL
- POULTRY FEEDS
- SEED POTATOES
- SEED GRAINS

Write for prices.

CRAMPSEY & KELLY
Dovercourt Rd., Toronto, Ont.

SHORTHORNS

Five high-class bulls, from 10 to 15 months, two sires by Real Sultan, others just as good. Am pricing them low, as it is getting late in the season. A few heifers and young cows to offer, some milking families. Freight paid.

Stewart M. Graham, Lindsay, Ont.

Burnfoot Stock Farm, Caledonia, Ont.
Breeder of heavy milking dual-purpose Shorthorns. We offer now a handsome roan bull, calved Aug. 13, 1915, out of Jean's Lassie, the champion 2-year-old in the R.O.P., and sire as good. S.A. Moore, Prop., Caledonia, Ont.

Two Shorthorn bulls, also females; would consider a Clyde bull for same. C. N. BLANSHARD, Freeman, R.R. 2, Hamilton (Kadial thourly), Burlington, Ont., G.T.R.

Holstein Bulls 2 well bred Holstein bulls for sale, one 1 mths., the other 1 yr. old. Priced right for quick sale. Adam Knox, Bright, R.R. 4, Ont.

KANT-KLOG SPRAYER
9 sizes of sprays from one nozzle. Starts or stops instantly—saves solution and work. Send for catalog. Agents wanted. Rochester Spray Pump Co., 196 Broadway, Rochester, N. Y.



Questions and Answers.
Miscellaneous.

Constipation.

Our collie dog is troubled with constipation and appears in great distress at times. I have given him castor oil and salts, which relieves him for a time, but the trouble recurs.

MRS. O. L. B.

Ans.—The predisposition to constipation is due to a general weakness of the digestive glands. Give him a purgative of 1 dram jalap and 3 grains calomel. Then get some syrup of buckthorn and give him a tablespoonful once daily. He will take this in his food as it has a pleasant taste. This is a gentle laxative, hence a little daily should prevent constipation. If you see that the dose advised is not sufficient, increase it. Also, get a tonic of 1 dram tincture of nux vomica, 2 drams each of tincture of iron and tincture of gentian and water to make 8 oz. of this, give him a dessert spoonful three times daily.

Buying Land Plaster—Feeding Oil Cake.

1. Where can I buy gypsum or land plaster?
2. How much oil cake is required to be equal in feeding value to one ton of oat chop, both to be fed with the same kind of roughage? F. H. O.

Ans.—1. Land plaster can be obtained from the Alabastine Co., Ltd., Caledonia, Ont.

2. It would not be possible to state the relative value of oats and oil cake when fed separately. Oats are a fairly-well-balanced feed, but oil cake is high in protein and comparatively low in carbohydrates. Oats contain about 20 per cent. more carbohydrates than oil cake, but oil cake contains about 20 per cent. more protein than oats; also more fat. When fed on roughage a couple of pounds of oil cake a day along with oats would be considerably more valuable in the ration than would the 2 lbs. of oats replaced by it. However, it cannot be stated definitely just what quantity of oil cake would equal a ton of oat chop when they are not being fed together.

Gossip.

The majority of Ayrshire breeders are acquainted with the class of stock bred by Alex Hume & Co., Campbellford, Ont. They have been successfully combining show-ring type and production, and they have been successful in the ring at the large shows. Their entries were a close fourth and fifth at the Guelph Dairy Test, and at Ottawa were first and third in the mature class, and second in the three-year-old class. Hume & Co. state that their herd was never in better fit, either in type or at filling the pail with milk, ranging from 4.2 to 5.8 per cent. butter-fat. These breeders have asked for a change of ad. Refer to it in this issue.

Byron Bowland, Carleton Place, Ontario, has chosen Wednesday, March 22, as the day for his dispersion sale. Thirty head of Holstein cattle, including 27 females and 3 males will be sold at his home, Elmwood Farm, four miles west of Carleton Place on the Perth gravel road. Three of the cattle to be sold are pure-breds, and include the herd header, Eleanor's Hengerveld Korndyke No. 18011, also a yearling son of his, Minto De Kol Hengerveld No. 26053, and his dam Rosabelle De Kol Minto, No. 26472. There are 21 grade cows, from two to seven years of age, and each cow is due to freshen in April. There are also five yearling heifers, and one grade yearling bull. See the advertisement, and write Mr. Bowland at R. R. No. 1, Carleton Place, Ontario.

McCormick

McCormick Tillage Tools

One Disking Does the Work

CAN you go over a field once with your disk harrow, cutting the full width of the harrow each time, and do a satisfactory job? Is your disked land level, and free from ridges?

It is if you are using a McCormick disk harrow, and that's one of the principal reasons for buying a high-grade, well-designed disk, with bowed set-lever bars, easily adjustable snubbing blocks, and a frame strong enough to hold the gangs level in all kinds of soil. Once over with a McCormick disk, lapping six or eight inches, generally does a first-class job. If your conditions are such that you must double disk, use a McCormick in-throw tandem attachment and do the whole job at once. The time you save in one season is worth enough to pay for the attachment.

The same high-grade quality and design runs through the whole McCormick line of tillage tools—the peg and spring-tooth harrows, cultivators, scufflers, and land rollers. Properly used, they raise seed bed preparation to a science.

Buy your tillage tools this spring from the McCormick local agent, who will show you how to take full advantage of all their good features. Write the nearest branch house for catalogues.

International Harvester Company of Canada, Ltd.
BRANCH HOUSES
At Brandon, Calgary, Edmonton, Estevan, Hamilton, Lethbridge, London, Montreal, N. Battleford, Ottawa, Quebec, Regina, Saskatoon, St. John, Winnipeg, Yorkton

THE AULD HERD

Two good young bulls for sale, one fourteen and one seventeen months old, also a couple younger. Intending purchasers met at station on request.

A. F. & G. Auld, R. R. 2, Guelph, Ont.

Pleasant Valley Farm Shorthorns—For sale, 9 bulls of serviceable age. We can interest you in a real good bull at a right price, for herd headers or use on grade herds. Some sired by (Imp.) Loyal Scott; also females. Write us before buying. **GEO. AMOS & SONS, Moffat, Ont., Stn. C.P.R., 11 miles east of Guelph.**

Shorthorns and Shropshires—T. L. MERCER, Markdale, Ontario—With 125 head to select from, we can supply young cows in calf, heifers from calves up, and young bulls from 9 to 18 months of age, richly bred and well fleshed. In Shropshires we have a large number of ram and ewe lambs by a Toronto 1st-prize ram; high-class lot.

Shorthorns and Clydesdales—Two bulls, serviceable age, both good ones, and are offering females of all ages. Have some choice heifers bred to Clansman =87809=; also two mares in foal, 3 and 4 years old, and one 2-year-old filly. All from imp. stock. **A. B. & T. W. DOUGLAS, Strathroy, Ont., L.-D. Phone.**

Meadow Lawn Shorthorns We are offering a select lot of Scotch bulls and heifers, from 10 to 18 months old, from the Claret Wimples, Marth, Roan Lady families. Sired by Proud Monarch, No. 78792, by Blood Royal (imp.) You are invited to inspect this offering. Bell telephone. G.T.R. and C.P.R. **F. W. EWING, R. R. No. 1, Elora, Ontario**

Shorthorns Pure Scotch and Scotch topped—Booth. Also five (5) young bulls from ten to twenty months old, of the low down, thick kind, good colors—reds and roans. Prices reasonable. **G. E. Morden & Son, Oakville, Ontario**

Shorthorns Have still left one bull (15 months) by Sittyton Victor (Imp); two spring bull calves by Newton Sort =93019=; a few young cows; and a few heifers among which is a junior yearling show proposition. Come and see them. **Wm. D. Dyer, R. R. No. 3, Oshawa, Ontario. 2 1/2 miles from Brooklin, G.T.R. 4 miles from Myrtle, C. P. R.**

Willowbank Stock Farm Shorthorn Herd Established 1855. This large and old established herd has at the head the two great bulls: Imported Roan Chief =60865= a Butterfly and the prize-winning bull, Browndale =80112= a Mina. An extra good lot of young stock to offer families of both milking strain and beef. **James Douglas, Caledonia, Ont.**

10 Shorthorn Bulls and 40 females. Shropshires and Cotswold ewes for sale at prices within the reach of all. **JOHN MILLER, Ashburn, Ont. Myrtle Sta., C.P.R. & G.T.R.**

Spruce Glen Shorthorns When in want of Shorthorns visit our herd. We have 70 head to select from. Minas, Fames, Miss Ramsdens, Florences, Emilys, etc. Many of them one and two-year-old heifers. Also several young bulls of breeding age—level, thick, mellow fellows, and bred just right. **JAMES McPHERSON & SONS, DUNDALK, ONT.**

Shorthorns PRESENT OFFERING Master Butterfly, red roan, calved, June 1915 sired by Nonpareil Lord =87184=. Dam, Blythsome Girl 5th, =66982=. **Bulls** Ramsden, red roan, calved, May 1915, sired by Nonpareil Lord =87184=, dam, Miss Ramsden 14th, by Lord Lavender =70558=. Fifteen choice yearling heifers. **A. J. HOWDEN, COLUMBUS, ONT. Myrtle, C. P. R. & G. T. R. Oshawa, C. N. R.**

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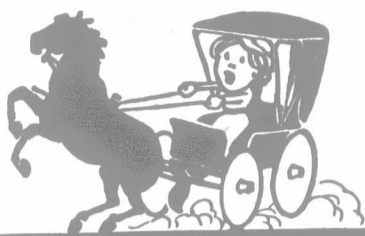
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For Sale
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WM. BLYTH
Ont. Grain

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40 years. C
cows that will
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also cows and
calves at foot.
ANDREW GR



Do You Consider Wear and Tear

On your harness when you figure your profits for the year? Ordinarily that's a big item but you can make it negligible by using

EUREKA HARNESS OIL

Keeps the leather soft and prevents cracking. Adds years to harness life.

Dealers Everywhere
The Imperial Oil Company Limited
BRANCHES IN ALL CITIES

\$15 95 UPWARD
ON TRIAL
Fully Guaranteed

American CREAM SEPARATOR

A SOLID PROPOSITION to send a new, well made, easy running, perfect skimming separator for \$15.95. Skims warm or cold milk; making heavy or light cream.

ABSOLUTELY ON APPROVAL
Bowl a sanitary marvel, easily cleaned. Different from picture which illustrates our large capacity machines. Shipments made promptly from Winnipeg, Man., Toronto, Ont., and St. John, N.B. Whether dairy is large or small, write for handsome free catalog. Address: AMERICAN SEPARATOR CO., Box 3200, Bainbridge, N. Y.

Bone Spavin

No matter how old the blemish, how lame the horse, or how many doctors have tried and failed, use Fleming's Spavin and Ringbone Paste. Use it under our guarantee—your money refunded if it doesn't make the horse go sound. Most cases cured by a single 45-minute application—occasionally two required. Cures Bone Spavin, Ringbone and Sidebone, new and old cases alike. Write for detailed information and a free copy of Fleming's Vest-Pocket Veterinary Adviser. Ninety-six pages, durably bound, indexed and illustrated. Covers over one hundred veterinary subjects. Read this book before you treat any kind of lameness in horses.

FLEMING BROS., Chemists
75 Church Street Toronto, Ont.

Choice stock to offer in SHORTHORNS POLAND CHINA and CHESTER WHITES. First prize Poland China herd at Toronto and London, 1915 Pairs not akin—bred from winners. Prices moderate. Geo. G. Gould, No. 4, Essex, Ontario.

Shorthorn Bulls and Heifers—Have eight bulls and ten heifers, from eight to twenty months, for sale. The best of breeding and prices moderate. Write me your wants before you buy. Oshawa, Bell phone, C. E. BAIN, Woodbine Stock Farm, Taunton, Ont.

Shorthorns—"Pail Fillers"—Our Shorthorns are bred and developed for big milk production. If you want a stock bull bred that way, we have several; also Clyde, stallion rising 3, won 2nd at Guelph the other day in a big class. P. Christie & Son, Manchester, Ont.

For Sale The imp. Shorthorn bull Bandsman, #73729. Also 2 young bulls, a Princess Royal and a Fair Maid.

WM. GRAINGER & SON, R.R. No. 1, Auburn, Ont. Blyth Phone 3810.

Shorthorns bulls, females, reds, roans, size, quality. Breeding milkers over 40 years. Cows milking 50 lbs. a day. Big, fleshy cows that will nurse calves right. Prices easy, write: Thomas Graham, R. R. 3, Port Perry, Ont.

Shorthorns and Swine—Have some choice young bulls for sale; also cows and heifers of show material, some with calves at foot. Also choice Yorkshire sows.

ANDREW GROFF, R.R. No. 1, ELORA, ONT.

Questions and Answers. Miscellaneous.

Cement and Gravel for Wall and Floors.

Kindly inform me how much gravel and cement it would require to put a wall 10 inches thick, and 7 feet high, under a building 26 x 45 feet, having in it 2 doors, 4 x 7 feet; 2 doors 3 x 7 feet; and 10 windows 3 x 4 feet. Also how much would it require to lay a floor 4 inches thick in the same building, and one in a building 20 x 36 feet? J. W. B.

Ans.—Such a wall would require 81 bags of cement and 24 yards of gravel, when mixed in the proportion of one part of cement to 8 parts of gravel. This wall, however, should be built on footings or a foundation, which should extend to, or below, the frost line. With footings 2 feet deep and 12 inches thick, and gravel and cement mixed in the proportion of 1 to 9, it would require 32 bags of cement and 10 yards of gravel. The floor in the same building 4 inches thick, with 3 1/2 inches of rough cement concrete, mixed in the proportion of 1 to 8, would require 39 bags of cement and 11 1/2 yards of gravel. Three-quarter inch of the 4-inch floor should be a finishing coat, made of one part cement and two parts of sharp sand. This would require 29 bags of cement and 2 yards of sand. The floor in the building, 20 x 36 feet, would require 24 bags of cement and 7 1/2 yards gravel for the concrete, having a thickness of 3 1/4 inches. The finishing coat of 3/4-inch thickness would require 18 bags cement and 1 1/2 yards sand. In case a floor 4 inches thick all mixed in the proportion of 1 to 8, were put in both buildings without a finishing coat, it would require 79 bags of cement and 23 1/2 yards gravel.

Eczema—Washy Colt—Obstruction in Teat.

If your correspondent A. A. L. will try mixing his green bone with shorts or middlings, and keep from flies, it will keep a long time even in hot weather. (Issue of Feb. 24.)

1. Yearling colt is very unthrifty and has been treated for worms, but now has a scaly kind of dandruff on neck, shoulders and rump, which causes an itchiness.

2. Colt coming three is fat, healthy and full of life, but is too loose in his bowels, being real bad at times, while at other times he is almost all right. Feed for both colts is hay and chopped oats.

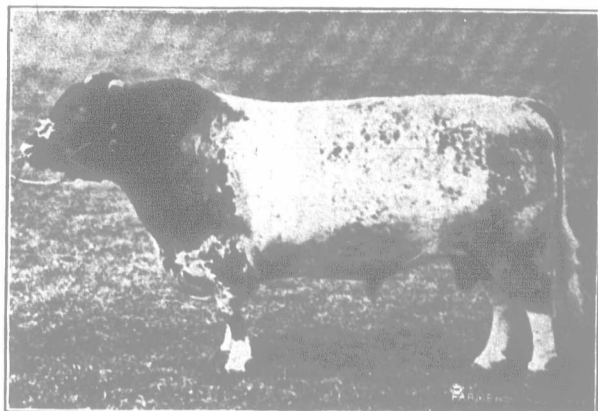
3. Young cow gives bloody milk in one quarter. She is freshening in May, so we have stopped milking her. The teat feels as if some foreign matter like little knotty cords, which move up and down under ones fingers, were present in it. She is a valuable cow. Would you kindly give advice on these questions? AGRICOLUS.

Ans.—1. The symptoms given are similar to those of eczema. It would be advisable to clip the colt especially if the hair is very long, then wash thoroughly with warm strong soap-suds applied with a scrubbing brush, and rub with cloths until dry. Then dress thoroughly every second day, until cured, with a warm, five-per-cent. solution of creolin in water. It would be advisable to administer a purgative of 8 drams of aloes and 2 drams of ginger. Follow up with 1 1/2 ounces Fowler's Solution of Arsenic twice daily for a week.

2. It is probable that the colt is what we call washy—one predisposed to semi-diarrhoea—and if so there is a possibility that you will always have trouble. It is possible the teeth require dressing, and you should have your veterinarian examine them. Purge the colt with 8 drams aloes and 2 drams ginger. After the bowels become normal again feed 1 dram each of gentian, ginger and sulphate of iron night and morning. Hay of good quality and ground oats are suitable feeds.

3. Possibly there is a fibrous growth in the milk duct, and the bloody milk is due to rupturing of some of the small blood vessels. It is possible that a veterinarian might cut or remove a portion of the fibrous growth with an instrument especially designed for the purpose, but the operation is often followed by serious complications. If the trouble is present when she freshens again it would be advisable to allow her to go dry in the affected quarter.

Great Shorthorn Sale



Wednesday, March 29th, 1916

At Fraser House Stables, London, Ont.

THIRTY-FIVE YOUNG BULLS include the best individuals that have been at public sale in Ontario in years, some from Record of Performance cows.

THIRTY HIGH-CLASS HEIFERS that will please the most exacting, the older ones well along in calf. Mainly of first-class Scotch breeding and bred along dual-purpose lines. Many from heavy-milking dams.

The consignment consists of selections from the herds of J. T. Gibson, J. Watt & Son, Harry Smith, The Nicholsons, Herb. Lee, Wm. Waldie and others.

Freights to any point in Ontario to Ontario purchasers will be refunded by the Ontario Government. We are making a special low rate to the Western Provinces.

Write for catalogues, and plan to attend the sale.

T. E. ROBSON, Auctioneer.

HARRY SMITH - Hay, Ontario
Manager of the Sale

Dairy Shorthorn Bulls

From 12 to 14 months old, from good dams and by our stock bull, College Duke -85912- . Address—

Weldwood Farm

Farmer's Advocate London, Ontario

Twenty Imported Bulls

These imported bulls, along with 10 home-bred bulls, may now be seen at our farms. There are some choice ones among them. We also imported four cows and a heifer, all of which are forward in calf. An invitation is extended to anyone interested in this class of stock to visit us at any time. Correspondence will receive our most careful attention.

Burlington Jct., G. T. R.
Burlington Phone or Telegraph.

J. A. & H. M. PETTIT,
Freeman, Ont

The Salem Shorthorns

are headed by "Gainford Marquis" (Imp.). Records prove that he is the greatest Shorthorn show and breeding bull in existence. Special offering: Eight bulls from eight to fifteen months.

J. A. WATT, Elora, Ont., G.T.R. & C.P.R.

Escana Farm Shorthorns

FOR SALE: Two imported bulls, proven valuable sires; 12 bulls, 10 to 20 months old, all by imp. sires and from high-class dams; also for sale, 20 heifers and young cows, several with calves at foot, all of very choicest breeding, and especially suitable for foundation purposes. Mail orders a specialty. Satisfaction guaranteed.

MITCHELL BROS.

Burlington P.O., Ontario
Jos. McCrudden, Manager. Farm 1/2 mile from Burlington Jct.

GLENGOW SHORTHORNS AND COTSWOLDS

Pure Scotch in breeding, we have an exceptionally choice lot of bulls for this season's trade, ranging in age from 8 to 15 months, big mellow fellows and bred in the purple. Also ram and ewe lambs of first quality.

Wm. Smith & Son, Columbus, Ont. Myrtle, C.P.R., Brooklin, G.T.R., Oshawa, C.N.R.

"Maple Hall Farm" Shorthorns

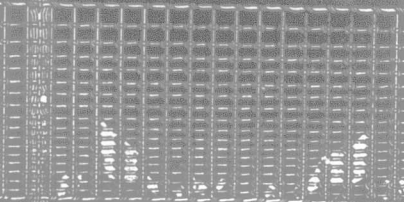
Three choice young bulls, eight to twelve months old; also younger ones and some young cows with calves at foot. Two-year-old heifers and younger ones.

D. BIRRELL & SON, Claremont, Ontario
Stations: Greenburn, C. N. R., Claremont, C. P. R., Pickering, G. T. R.

OAK LODGE STOCK FARM

Shorthorn Bull, 20 months old, bred from dam of milking strain. Two bulls, twelve months old. Will be sold at a price that will please customers.
J. E. BRETHOUR & NEPHEWS BURFORD, ONT.

They Can't Get Through



Peerless Poultry Fence is closely woven. It's a real protection to not only large fowls, but chicks as well. They can't get through. Neither can harm get through to them. For

Peerless Poultry Fencing

is not mere poultry netting—it's real fencing. Every intersection of wires is securely locked together. They can't slip or get loose. It is made of Open Hearth steel wire with all impurities burned out and all the strength left in. Well galvanized. Top and bottom wires are extra heavy. No top or bottom boards needed. Requires less posts than ordinary poultry fencing.

Send for catalog giving details. It also describes our farm fencing, gates and ornamental fence.

Agencies almost everywhere Dealers wanted in unassigned territory.

The Banwell-Hoxie Wire Fence Co., Ltd.
Winnipeg, Man.
Hamilton, Ont.

ORMSBY GRANGE STOCK FARM

ORMSTOWN, P. QUE.

For want of stable room the following registered Jerseys will be sold cheap:

- 2 First-class yearling heifers.
- 1 First-class yearling bull (extra) fit for immediate service.
- 2 First-class bull calves.

All sired by Royal Merger II, out of my best cows.

Also 2 mares, 4 years; 3 imported, registered Shetland ponies; 1 gelding, coming 2. Clydesdale mares and fillies of the very best breeding and conformation. Apply to—

D. McEACHRAN, Ormstown

Cotton Seed Meal

LINSEED MEAL AND FLAXSEED

H. Fraleigh, Box 1, Forest, Ont.

BULLS, BULLS. We have several young Holstein Bulls for sale, just ready for service. Sired by the Great Bull, King Segis Pontiac Duplicate, and our Junior Herd Bull, Pontiac Hengerveld Pietertje and from High Testing Dams. Prices low for the quality. Write and get them. Manchester, G.T.R. and Myrtle, C.P.R. stations. Bell Phone.

R. W. Walker & Sons, R. R. 4, Port Perry, Ont.

SHORTHORNS

Three bulls in the sale, London, March 29th, the only ones I have for sale except calves. Would price a few females. Inspection solicited.

J. T. GIBSON, DENFIELD, ONT.

Northlynd R. O. P. Shorthorns and Jerseys For Sale—our noted sire of big milkers, St. Clair #84578—a Clara bred son of Waverley. Several of his sons out of R.O.P. dams; also Shorthorns and Jersey females. Official records are our specialty. G. A. JACKSON, Downsview P.O., Ontario, Weston Station.

Apple Grove Farm Shorthorns—The dual purpose kind. Present offering: 3 bulls, 8 to 10 mos. old, got by Scottish Butterfly #95722—also one 20 mos. old and a few females. Priced right to make room. E. R. WOOD, Freeman, Ont. Burlington Station.

Fletcher's Shorthorns—Our herd of pure Scotch Shorthorns are mostly direct from imp. stock. Three very choice bulls for sale, also females. GEO. D. FLETCHER, R.R. 1, Erin, Ont. L.-D. Phone. Erin Sta. C.P.R.

Some Needed at Home.

EDITOR "THE FARMER'S ADVOCATE":

I have been reading with a great deal of interest the articles in your paper re "Rural Recruiting." I, for one cannot favor conscription in the rural communities. In almost all our towns khaki-clad men of all ages may be seen. These men drill but a few hours each day. Many of these soldiers remain in Canada for eight or twelve months before crossing to Europe. What military training is to be derived from marching around the streets without gun or target practice? Most of the high school cadets know more about the drill than the average soldier in our Canadian towns after six months' training, and yet he has to march around as long as they. There are at the present time at least thousands of soldiers in Canadian towns and cities. If men are needed as badly as some say, why not drill these men to the utmost and dispatch them post haste to the firing line, thus keeping fewer men in Canada, and giving those who have enlisted, a chance to fight for their country after a most efficient drilling in the shortest possible time?

Some of your correspondents wish to send every able-bodied man to the front and leave Canada to get along as best she can. This would put more men in the field to feed and equip, and leave fewer men at home to do it. What would be the use of sending a large army to Europe? Modern warfare has made open fighting suicidal, and has forced armies to conceal themselves in deep dugouts which are practically under ground forts from which a battalion, with plenty of ammunition could, in a short time, annihilate an army advancing toward them.

Peter McArthur talks about "The drafts of young men to support the drain of war," but I might also add the drafts of Canada's resources. We read with shame the disgraceful way in which some grafters have received profits on war contracts. Is it any wonder the cost of training and equipping a soldier is so great. Lloyd George said at the beginning of the fight, the silver bullet and not the lead one would win this war. If the resources are not developed and business is not as usual, then the silver bullet loses its force. As many men are needed on the Canadian farms now as before the war if we are to produce more. There are men in the cities and towns out of employment, or who are in occupations which could be dispensed with, or whose numbers may be diminished, or whose places could be taken by women. Let these men join the army and leave farmers at home where they can do the most good. Those who are left at home can give liberally to the various funds, and support the families of those who go, and also help nurse the wounded back to health. At the same time they are feeding the men and filling the national treasury.

The British fleet is making an effective blockade of German and Austrian commerce. In this way no raw material or supplies are allowed to enter, and no provisions or manufactures allowed to be exported. In this way their trade is ruined, and they soon will have no money to carry on the war. Let us keep "Business as usual" lest we lose our trade and commercial supremacy. Women cannot do the work of men. Few farmer's wives indeed can do what Mrs. Remington has done, and less than 50 per cent. can do anything beyond housework and chores. When the foe is at our gates is the time to drop our tools and shoulder arms; but so long as he is being held back, let the farmers remain where they can do more good than drilling in Canadian towns. One able-bodied man at least is needed on every hundred acres of fertile and cultivated land. Yours for success and greater production in farm and town.

A FARMER'S SON AND EX-CADET.
Perth Co., Ont.



Cream Fed Pigs

Are you feeding cream to the pigs? You undoubtedly are.

In the morning you feel fresh and strong; you turn your separator at full speed. At night, you're tired and don't turn quite so fast. You also stop a moment to refill the supply can; the speed slackens and some cream escapes into the skim milk.

Your separator may skim clean at full speed, but, no matter how good the machine, it will lose cream, and a lot of it, when the speed slackens. Many dairymen are losing a hundred dollars or more every year through imperfect skimming. They are feeding cream to the pigs. A marvelous but simple invention now enables you to stop this loss—stop it absolutely. The saving is clear "velvet"—more profit without added expense. You get *all* the cream with

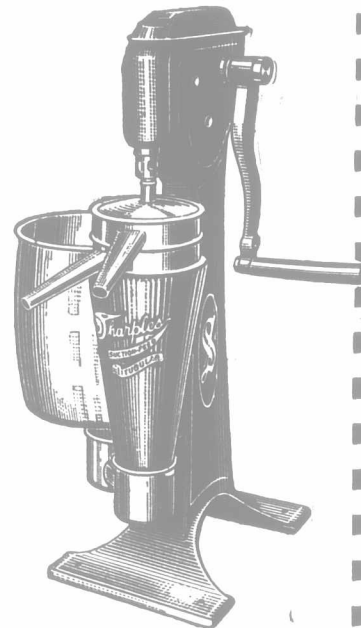
THE NEW SHARPLES SUCTION-FEED

Separator. Whether you turn faster or slower than the regulation speed, the bowl of the Suction-Feed *drinks in just the right quantity of milk* to insure the closest possible skimming. Does away with speed indicator, which is not a protection against cream loss.

The New Sharples Suction-Feed has many other important advantages. Turn fast or slow, you secure smooth cream of an even thickness. No more streaked butter from mixing different grades of cream—no more dissatisfied customers.

The capacity increases when you turn faster than the normal speed, so you can get through quicker when in a hurry. The large, seamless supply can is only knee-high. The entire machine is made simpler and better than ever.

Send for our new book, "Velvet for Dairymen," which fully explains how you can save the cream now going to the pigs. Also ask for our liberal *free trial* offer. Do it today, before you forget. Address Department 78.



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When you buy fertilizer remember you are buying what is *in* the goods and not merely a weight of two thousand pounds.

When a smelter buys gold ore he buys not merely two thousand pounds but he insists on knowing how much gold is in the ore, and you should know the amount of active nitrogen, which is the gold of the fertilizer.

For further information write

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The latest addition to the widely and favorably known PURINA family. \$1.00, 50c. and 25c. Checkerboard Bags.

Valuable Feeding Chart free on application.

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Two bulls over a year old, three more fit for service. Two grandsons of "Rag Apple Korndyke 8th" (May) and several sons of "King Segis Pontiac Duplicate," one of the best.

R. M. Holtby, R.R. 4, Port Perry Ont.

Holsteins, Yorkshires and Cotswolds

Minster Farm makes a special offering of bulls any age (particularly serviceable age) from R.O.P. dams with records up to 15,016 lbs. milk 1 yr. for 2 yr. olds. Also swine of both sexes. For full particulars write.

R. HONEY & SONS, Dartford, Ont.

Walnut Grove Holsteins

Herd headed by May Echo Champion, full brother of May Echo Sylvia, who made 36 lbs. butter in seven days. Females for sale from one year old upwards. Prices right for quick sale.

C. R. JAMES, Langstaff P.O. Ontario
Phone Thornhill

United States Will Let in Canadian Potatoes.

The United States Secretary of Agriculture has authorized the granting of permits to import potatoes from Canada, subject to the new regulations, which became effective January 1, and the Canadian Government has officially accepted the conditions and issued an order that potatoes offered for export to the United States must be free from injurious diseases and insect pests. With this understanding Canadian potatoes will be exempted from the requirement of inspection and certification before shipment, which still applies to European potatoes. The potatoes from Canada will, however, be inspected on arrival in the United States, and entry will be refused to any shipment of potatoes badly infested with disease, even though the disease is one which may already occur in the United States, such as common scab, dry rot, powdery scab, Fusarium wilt, and black leg. A negligible percentage of these common diseases will not bar admission, as it is recognized that the shipment of potatoes absolutely free from some of them is not commercially practicable. Under this arrangement those desiring to import potatoes from Canada must apply to the Federal Horticultural Board, at Washington, for a permit, stating in the application the name and address of the exporter, the locality where grown, the port of departure (or port of consular invoice), the proposed port of entry, and the name and address of the importer in the United States to whom the permit should be sent. Potatoes will be inspected by the U. S. Department of Agriculture on arrival, and should it prove that Canadian shippers are not complying with the regulation of the Dominion Government, that "Potatoes offered for export to the United States must be free from injurious diseases and insect pests," the permit of the offending shipper may be revoked.

In view of the order issued by the Canadian Government, and since we reserve the right to refuse entry to any shipment of potatoes badly infested with disease, it is regarded as only fair that American potatoes offered for export to Canada, the entry of which is unrestricted except from the State of California, should be equally free from disease, and American shippers are urged to see to it, therefore, that only clean potatoes are offered for export.

Questions and Answers.

Miscellaneous.

Value of Milk.

Which is the more profitable, to sell milk of average percentage butter-fat at the stable for 3 1/2 cents a quart, or to make butter and feed skim-milk to hogs when butter is worth 25 cents per lb., and hogs \$8.50 per 100 pounds live weight. Milk tests an average percentage of butter-fat? D. H.

Ans.—Selling milk at 3 1/2 cents a quart is figured out to be more profitable than making butter, unless a very high value is put on skim-milk and buttermilk for feeding hogs and calves. The value of the extra work entailed in handling cream and making butter would have to be deducted from the price of the butter. Figuring on the basis of 1,000 lbs. of milk it would equal about 471.7 quarts, which, at 3 1/2 cents a quart makes the value of the milk \$16.45. If the same weight of milk tested 3.5 per cent. fat, it would contain 35 lbs. of butter-fat, which would make about 41 lbs. of butter when the over-run is considered. At 25 cents per pound the butter would be worth \$10.25. Valuing skim-milk and buttermilk at 20 cents per 100 lbs. would make a total of \$12.15 per 1,000 lbs. of milk, when manufacturing butter and feeding the by-products, as compared with \$16.45 if the milk is sold at the price mentioned. This is a difference of over \$3.00 without putting any value on the extra work. Skim-milk is a very valuable feed for young pigs, and possibly for pigs up to three months of age skim-milk should be given a higher value than we have figured. Feeding skim milk and buttermilk to the stock on the farm tends to prevent loss of fertility which might result from selling whole milk.

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plants and cultivates in half the time

It takes drudgery out of garden work, and gets bigger, better crops besides. Fully guaranteed.

This No. 4 Planet Jr Combined Hill and Drill Seeder, Wheel-Hoe, Cultivator and Plow pays for itself in a single season and lasts a lifetime. Sows all garden seeds (in drills or hills), plows, opens furrows and covers them, hoes and cultivates easily and thoroughly all through the season. 30 other seeders and wheel hoes—various prices.

New 72-page Catalog (184 illustrations) free! Describes over 70 tools, including 12 entirely new ones, and improvements to our Seeders, Wheel-Hoes, Harrows, Orchard- and Beet-Cultivators. Write postal for name of our nearest Agency.

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Whether you cultivate the smallest door-yard "patch" or the largest market garden you can't afford to work without a Planet Jr.

Dispersion Sale of My Entire Herd

30 Head Holstein Cattle

27 Females and 3 Males, on

Wednesday, March 22nd, 1916

At ELMWOOD FARM, four miles west of CARLETON PLACE on Perth Gravel Road.

This offering includes three pure-breds, the herd header, Eleanor's Hengerveld Korndyke, No. 18011; also a yearling son of his, Minto De Kol Hengerveld, No. 28053, his dam, Rosabelle De Kol Minto, No. 20472. Twenty-one grade cows from two to seven years old, each cow is due to freshen in April. Five yearling heifers, one grade yearling bull, sired by the herd header and from choice cows. This is one of the best dairy herds in Eastern Ontario. Every animal offered will positively be sold, as circumstances prevent the proprietor from continuing dairying for the present.

TERMS—Eight months' credit, no interest. Liberal discount for cash. Sale commences at 1 o'clock. Accommodations provided for those from a distance.

Auctioneer—**CHAS. HOLLINGER, Ferguson Falls, Ont.**
H. C. BOWLAND, Clerk, Almonte, Ont.

Byron Bowland, Prop., Carleton Place, R. R. No. 1 Ont.

LYNDEN FARM HOLSTEINS

Offers choice bulls with 20,000 lb. breeding, including Pontiac Korndyke Plus, 2 years old, out of Plus Pontiac Artis, 20,900 lbs. milk, 985 lbs. butter, champion 3-year-old of Canada in R.O.P. test, and sired by Inka Sylvia Beets Posch, the sire of May Echo Sylvia, champion milk cow of the world for 120 days, and the only bull in Canada with two 33-lb. daughters. Also the champion yearling bull at Guelph, by the same sire, and another yearling with four 20,000 dams in his pedigree. Also a few richly-bred young females.

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Herd headed by Lakeview Dutchland Heng. 2nd. 1st Prize 2-year-old C. N. E. 1915. His sire full sister world's champ, as junior 3-year-old with 22,645 lbs. milk in yearly record. Junior herd sire Pietertje Ormsby Beauty. His dam's breeding produced Duchess Heng. Korndyke 1129.4 lbs. butter, world's record at 3 years. His sire has 3 generations of over 30-lb. cows at his back. Write for extended pedigrees and prices of bulls for sale.

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Holstein Cattle

The only herd in America that has two sires in service whose dams average 119 lbs. milk a day and over 35 lbs. butter a week. Cows that will give 100 lbs. milk a day are what we are trying to breed. At present we have more of them than any other herd in Canada. We can supply foundation stock of this breeding. Visitors always welcome. Long-Distance Phone.

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Bronte, Ont. BREEDERS OF HIGH TESTING HOLSTEIN-FRIESIAN CATTLE, OFFER FOR SALE A FOUNDATION HERD, consisting of one male and 3 females all bred in the purple and backed by officially tested dams. Terms to suit purchasers

T. A. DAWSON, Manager

Clover Bar Holsteins

My special offering just now are some choice young bulls out of official record dams and sired by Count Mercedes Ormsby, whose dam has 3-30 lb. sister, and a 24 lb. 4-year-old and a 21.06 lb. 3-year-old daughters, and his sire was the great Sir Admiral Ormsby. Also a few females.

PETER SMITH, R. R. No. 3, Stratford, Ont.

Stratford or Sebringville Stations

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Present Offering is 10 young bulls, from 6 to 14 months of age, the records of whose dams sire dam and her full sister, range from 28 to 32 lbs. They are sons of King Lyons Hengerveld Segis.

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For Sale—Holstein Bulls, varying in age from 1 to 11 months, from Record of Performance or Record of Merit dams and the grand bulls Sir Korndyke Wayne Dekol, grandson of Pontiac Korndyke, or Lakeview Dutchland Le Strange, a grandson of Count Hengerveld Fayne Dekol. Prices right. APPLY TO SUPERINTENDENT.

Evergreen Stock Farm—REGISTERED HOLSTEINS

Present offering; Several bull and heifer calves, also a few yearling heifers bred and ready to breed. Write for prices and descriptions. Bell phone.

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Quality and Production

are combined in the dams of the young bulls for sale; dams average from 25 to 31 lbs. butter in 7 days. Also females of all ages for sale.

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M. H. HALEY

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—Think this over, we have 175 head of Holsteins, 50 cows milking, 25 heifers due to calve in the fall, and 80 heifers from calves up to 2 years, as well as a dozen yearling bulls, and anything you may select is for sale. Breeding and individuality the very best.

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Offers a handsome bull 14 months old, 1/2 white, from Duchess Aargie Wayne Mechthilde, at 1 yr. 11 mths. 2 dys. 16,878 lbs. butter in 7 dys., and 16,700 lbs. milk in 1 yr. in R.O.P. Another from a 20,000-lb. cow, also other bulls of like breeding all sired by Canary Hartog whose 3 nearest dams average 30 lbs. butter in 7 dys. and 108 lbs. milk in one day. Write for prices or come and see them.

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Questions and Answers. Miscellaneous.

Cement for Walls, Floors, and Hollow Blocks, and Cement Mixer.

1. How much cement and gravel would it require to lay a foundation for a house, the walls to be 30 feet wide, 34 feet long, 4 feet high, and 14 inches thick?
2. How much cement and gravel would it require for a wall 37 feet long, 7 feet high and 7 inches thick?
3. How much cement and gravel would be required for a floor 30 x 34 feet?
4. How much cement and gravel would be required to make 2,000 cement hollow blocks 8 x 8 x 16 inches?
5. Kindly explain how to make a cement mixer that can be run with a 2½ horse-power gas engine?

J. B.

Ans.—1. Approximately 75 bags of cement and 22 yards of gravel.
 2. Approximately 19 bags of cement and 5½ yards of gravel.
 3. For 3¼ inches of rough concrete, it would require 35 bags of cement and 10¼ yards of gravel. A finishing coat ¾ inch thick mixed in the proportion of one part cement to 2 parts sharp sand would require 25 bags cement and 1¾ yards of sand. If the entire thickness for a 4-inch floor were laid of concrete mixed in the proportion of 1 to 8 it would require 43 bags of cement and 12¼ yards of gravel. It is always well, however, to finish a floor off with a coat of very strong concrete, such as one part of cement to two of sand.
 4. Approximately 110 bags of cement and 20 yard of gravel. These calculations are based on 50 per cent. hollow space and the concrete mixed in the proportion of one to five.
 5. Following is a description of a home-made cement mixer which might be put to good use. We have never seen it at work, but its efficiency would depend largely upon how accurately it was constructed.

Two pieces of 4 by 6 form the sills. Upon these two uprights about 3 feet high are fastened. A 1½-inch pipe passes through holes bored in the top of the uprights. Upon this pipe the mixing box is turned, and through the pipe the water is added to the mixture at the desired time. The water is poured in at the top of the upright pipe and flows down and out through holes which are drilled in the lower side of it. The other end of the pipe is closed by a wooden plug. The ends of the box are made of pieces of 2 by 8 bolted together. A hole bored in the centre of each end forms the bearings. The sides of the box are made of 1-inch lumber and are simply nailed to the ends with 12d. nails. One-half of the box is made so that it can be detached and lifted off when the mixer is to be filled or emptied. The detachable half is secured to the other half by means of strong hooks so placed that by slipping this half about an inch to one side all of the hooks are loosened at once. After it is in position the removable portion is held in place by means of a barn-door latch. The driving gear is simple but very effective. It consists of the rim taken from the wheel of an old "rubber-tire" buggy. With the tire removed, the grooved rim makes a very satisfactory wheel upon which to run a three-fourths-inch rope belt. The belt is driven by a small sheave pulley which is fastened to the countershaft. A belt tightener is used upon the rope, and by using a very loose belt tightener is made to act as a friction clutch. This particular mixer can be driven by a 2-horse gasoline engine, which is belted to the counter-shaft. The engine runs continuously and the mixer is started and stopped by means of the belt tightener. The operator first fills the mixer about half-full of sand, gravel, and cement in the correct proportions. He next lowers the lid, which until this time has remained supported upon the hook. The lid is now pushed into place and the latch fastened. The supporting hook is next removed from the staple in the lid and hooked into a staple in the lid support. The machine is now ready to start, the clutch is thrown in, and the box revolves upon the pipe. When three or four turns have been made, water

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Clear your land the Kirstin Way—the simple, practical, economical way. You don't need a stump pulling crew. One man alone handles and operates the Kirstin with ease. Why buy a big, costly, cumbersome outfit that requires several men and a team or two, when you can clear your land at far lower cost with a Kirstin? Prove our claims for the Kirstin by a

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At many land clearing contests the Kirstin has proved its superiority. After a competitive demonstration, the University of Minnesota bought a Kirstin for their own use. Facts speak louder than words. The U.S. Gov't. has purchased a number of Kirstins after hard and thorough try-outs. Why? Because the Kirstin is lower in first cost and lower in cost of operation. It can be used anywhere—hills, swamps, rough ground, thick timber—many places where no other puller could be used. The Kirstin is lighter in weight, stronger, has more power, greater speed than other stump pullers, yet is covered by a stronger guarantee.

Write Today for the Big, New Kirstin Catalog which explains all about the Improved Double Leverage Kirstin One-Man Stump Puller, tells best way to clear land, describes Kirstin Service, Time Payments, etc. Get this book before you buy a stump puller. Write today—now. Agents wanted.

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A few thoroughbred, pedigreed bull and heifer young calves, imported in dam from a specially-selected imported herd of pure-bred Ayrshires. Write for full particulars and prices to:

J. and C. C. Ballantyne

R.R. No. 1, "Evie" Stock Farm
CHESTERVILLE, ONT.

Read what "The Scottish Farmer," Scotland, had to say regarding Messrs. Ballantyne's importation of Ayrshire Cattle:

A select shipment of Ayrshire cattle—14 two-year-old heifers and one bull calf—has just been despatched by Mr. Hugh B. W. Crawford, of Chapmanton, to the order of Messrs. J. & C. C. Ballantyne, Montreal, Canada.

Mr. Crawford drew from his own herds for eleven of the number, while the remainder came from the celebrated herds of Balmangan and Lessnessock. These were all selected with the profitable commercial idea in view, and were as far removed as possible from the tight vessel, short-teated type. Mr. Crawford's own heifers were all by sires which had given proof of their breeding qualities. In these were represented sires used at Chapmanton and bred at Garelaugh, Hillhouse (McKinlay) Holthouse, Whitehill, Hillhouse (Howie's) Kirkland, Lessnessock and Netherton, and in every case these sires had dams with the very best records. The bull calf is out of a fine Envy Me dam, while his sire is Netherton Neptune, by Brae Rising Star. It will thus be seen Messrs. J. & C. C. Ballantyne have a sire showing some inbreeding of the most fashionable blood. The bull Netherton Neptune, used for the last two years at Chapmanton, has for a dam the fine old cow in Mr. Clement's herd, Glasscock Nelly. She was bought by Mr. Clement, after winning twice in succession the 1,200-gallon class at Fenwick. It is also worthy of note that some of the Chapmanton heifers included in the lot were got by Chapmanton Eldorado, bred at Garelaugh, whose dam in Mr. Roberts' hand in America, is this year, so far, beating the famous world's champion, Brown Kate, in her records, while some heifers by Chapmanton Eldorado are this year making between 900 and 1,000 gallons in Mr. Crawford's herd in thirty-six weeks.

The heifers from Balmangan have for sire the Finlaystone Baron Scott, a bull bred in the celebrated Netherhall herd from a high record dam, while of those from Lessnessock one was bred at Sunny-side, and the other was bred by Mr. Montgomerie on the intelligent commercial lines displayed in the management of his famous herd.

GLADDEN HILL AYRSHIRES

Champion Record of Performance cow, for sale. Also a few females.

LAURIE BROS., Agincourt, Ont

Stonehouse Ayrshires

Hector Gordon, Howick, Que.

Glenhurst Ayrshires For 50 years I have been breeding the great Glen 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.

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Orders solicited for Yorkshire, Feb. pigs. Write for prices to-day.

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Combined Drill and Wheel H...

100 per cent Potato Planter

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Jerseys,

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Stop that weary waste of Time and Money which goes with Hand-Milking!

You can milk more cows in a fraction of the time—you can increase the average yield—improve the purity of the milk—and do without extra hired help—by using the

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Interesting literature will be sent you on request.

Write Dept. C

32

Empire Cream Separator Co. of Canada, Limited

MONTREAL, TORONTO, WINNIPEG.



is poured into the upright pipe until the desired amount has been added. By this time the concrete is thoroughly mixed. The clutch is loosened, the box stops revolving, the hoisting hook is hooked in the staple of the lid, the latch is loosened, and the lid raised to the top of the lid support by means of a counterweight and rope. Now, by slightly setting the clutch, the contents of the mixer are dumped into a box beneath. The operator of the machine may now refill the mixer, while the other workmen take care of the mixed material. In this way a large amount of material may be run through the machine and perfect mixing is guaranteed. Many other systems of driving might be used in place of the rope belt. The main gear of an old self-binder makes an excellent gear for a mixer. An old mower gear may also be put to good use in this connection. It is not necessary to have the mixer driven by an engine or horse power. A crank may be attached and the machine turned by hand. Many prefer turning such a machine rather than mix the concrete with a shovel.

Questions and Answers. Miscellaneous.

Three horse Evener—Dipping Oats For Smut.

1. Kindly describe a three-horse evener for a pole on a manure spreader that will give no side draft.

2. How long could one keep oats before sowing after dipping for smut, and what should one use? P. T.

Ans.—1. The evener described in the issue of March 9 can be made fairly satisfactory. We should like to hear from some readers who have an evener that is entirely satisfactory on the tongue or pole.

2. See the article in "Farm" this issue. Sow the oats as soon as dry enough. They should not be left very long before sowing. If it is necessary to leave them over night spread out in a thin layer not more than a couple of inches thick and stir them with a rake or similar tool the last thing at night and again early in the morning. The moisture in them as well as the fumes from the formalin will result in injury to the seed.

Knuckling—Chronic Cough.

1. I have two ewes that have a very bad cough. The first one took it last fall, and the other one this winter. Last summer one of the lambs had the same kind of a cough, but it got all right without any treatment. Their appetite is good, but they are getting very thin. Is this disease contagious? What treatment would you advise? What is good for the snuffles?

2. What would you advise using on a driving mare that has been treated for knuckling on the hind fetlock joints. She is about all right now, but at times she still knuckles. As she is only four years old, will she grow out of this? R. J. M.

Ans.—1. From the symptoms given we are not prepared to definitely diagnose the case, but there is a possibility that your sheep are troubled with tuberculosis, the cough and failing condition would indicate this. Tuberculosis is believed to be contagious, and the disease does not readily respond to treatment. Treatment for snuffles is to keep the sheep dry, warm and clean, and give the following: Quarter pound each of nitrate of potash, sulphur and ground gentian root. Mix thoroughly and give a teaspoonful, twice daily, on the tongue or in the feed.

2. A long rest and repeated blistering should effect a cure. Try blistering with 1½ drams each biniodide of mercury and cantharides, mixed with 2 ounces of vaseline. Clip hair off all around the joints; tie so that she cannot bite the parts; give two applications of the blister rubbing it well in; on the third day wash off and apply sweet oil. Repeat the blistering once every four weeks until cured. It is hard to treat these cases without giving rest. It would be better for the mare to run in a box stall or on pasture. If the mare must be worked, try bathing with cold water frequently, and apply bandages when in the stable.

What are the good points of the Eastlake Shingle?

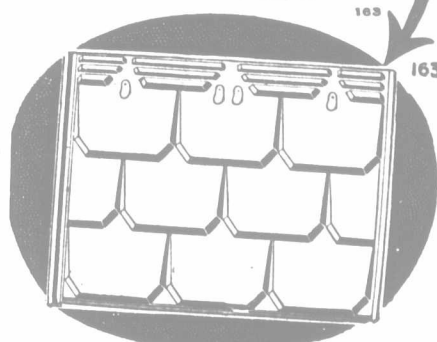
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Potato machinery, spraying machinery, garden tools, etc., are built to give you just what you need to do things right. Almost any combination you can think of in each line. Eighty years of factory and farm experience behind their manufacture.

Ask your dealer to show them, but write us for separate booklets fully describing lines in which you are interested. Let us make good our claims. The Bateman-Wilkinson Co., Ltd. 416 Symington Ave. Toronto, Ontario

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B. H. BULL & SON,

We are busy. Sales were never more abundant. Our cows on yearly test never did better. We have some bulls for sale from Record of Performance cows. These bulls are fit for any show-ring. BRAMPTON, ONTARIO

H. ARKELL W. J. ARKELL F. S. ARKELL

Summer Hill Stock Farm

Largest and oldest importers and breeders of

OXFORDS

in Canada. Look up our show record, it will give you an idea of the kind of Oxfords we have for sale.

PETER ARKELL & SONS, Proprietors, Teeswater, Ont.

Customers, beware of imitations of this advertisement

OXFORD DOWN SHEEP Summer Hill Farm

We breed and import reg. Oxfords. Rams and ewes in any quantity for sale—all recorded. Positively no grades registered as pure-breds; also no grades handled except by order.

PETER ARKELL & CO., Prop., Box 454, Teeswater, Ont

Shropshires and Cotswolds For Sale—Yearling rams and yearling ewes, a few all recorded. Positively no grades registered as pure-breds; also no grades handled except by order. Imported 3 shear ewes, an extra good lot of ram lambs from imported ewes. Prices very reasonable.

JOHN MILLER, Claremont, Ont. Claremont, C.P.R., 3 miles Pickering, G.T.R., 7 miles Greenburn, C.N.R., 4 miles

Market the Milk RAISE YOUR CALVES WITH BLATCHFORD'S CALF MEAL

Blatchford's Calf Meal The Recognized Milk Equal You get 100 gallons of rich milk feed from 100 pounds of Blatchford's Calf Meal, and it costs you only one-fourth as much. It will make your calf grow fast and well. Blatchford's Calf Meal is composed of the elements the young calf needs in the most trying period of its life: it is thoroughly steam cooked—prevents bowel troubles and other ills due to improper milk substitutes. Blatchford's Calf Meal insures quick, sturdy growth of young pigs at weaning time, without setback or falling off. Write us for our Free Book on "How to Raise Calves Cheaply and Safely Without Milk." Steele, Briggs Seed Co., Toronto, Ont. L. C. Beard, Hagersloven, Md. writes: "I can say Blatchford's Calf Meal will pay more than 100 per cent on calves to raise."

Ploughs—Wilkinson

TRADE MARK REGISTERED U.S.S. Soft Centre Steel Moldboards, highly tempered and guaranteed to clean in any soil. Steel beams, steel ladsides and high carbon steel couler. Clevises can be used either stiff or swing. Each plough is fitted especially with its own pair of handles—rock elm, long and heavy and thoroughly braced. The long body makes it a very steady running plough. Shares of all widths—specials for stony or clay land. The plough shown turns a beautiful furrow, with minimum draft and narrow furrow at finish. Ask for catalogue. The Bateman-Wilkinson Co. Limited 411 Symington Ave. Toronto Canada

No. 3 Sod or General Purpose Plough 15 styles to choose from

Tower Farm Oxford Sheep. Champion flock of Canada. Choice shearing rams and ewes, also ram and ewe lambs bred from imported and prize-winning stock. See winning at Toronto and Ottawa. Erin or Hillsburgh Stations. Long-distance Phone. E. BARBOUR, R. R. 2, Hillsburgh, Ontario

For Sale—two Jersey bulls, grandson's Fairy Glen's Raleigh dam of one, Junior Champion, Toronto, 1915. Several Berkshire pigs from prize-winners at Toronto and Guelph. I TA NICHOLS, Woodstock, Ont.

LABELS Live stock Labels for cattle, sheep and hogs, manufactured by the Ketchum Manufacturing Co. Box 801, Ottawa, Ont. Write for samples and prices

Columbia Batteries



No. 6 COLUMBIA IGNITOR DRY CELL

Lantern Lights the Road—Columbias Light the Lantern

Your carriage lamps faithfully warn the approaching vehicle—if they're run on COLUMBIA Batteries. A quarter-century's experience is back of every COLUMBIA. They're full-powered, dependable. They cost no more, but last longer. They're chosen by the battery-wise for lanterns, phones, bells, engines, autos, tractors, blasting and every battery need.

Canadian National Carbon Co., Limited
99 Paton Rd., Toronto
Fahnestock spring-clip binding posts on no other battery

Ear Tags FOR STOCK



Tag your stock—best and cheapest means of identification for Hogs, Sheep and Cattle. Name, address and number stamped on tags. Catalog and samples free on request.

F. S. Burch & Co., 178 W. Huron St. Chicago

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our sales office nearest you for prices and terms on fertilizers adapted to your soil and crops

Send for Canada Booklet-Free

The American Agricultural Chemical Co.
New York, Boston, Buffalo, Detroit

SUNNYSIDE STOCK FARM Champion herd at Toronto and London Fairs; also Dorset Horn Sheep, young stock of both sexes for sale.

W. E. Wright & Son, Glanworth, Ontario

Pine Grove Yorkshires—Bred from prize winning stock of England and Canada. Have a choice lot of young pigs of both sexes, pairs not akin, to offer at reasonable prices. Guaranteed satisfaction.

Joseph Featherston & Son, Streetsville, Ont.

Townline Tamworths We can supply young Tamworths of both sexes and any desired age of superior quality. Also Leicester Ram and Ewe lambs, Pekin ducks, Langshan cockerels and pull-ets. Write us your wants.

T. Readman & Son, Streetsville, Ont. R.M.D.

Tamworths 20 young sows bred for May and June farrow and boars fit for service. Make selections early.

JOHN W. TODD
R. R. No. 1, Corinth, Ontario

Morrison Tamworths and Shorthorns, bred from the prize-winning herds of England. Choice Tamworths, both sexes, all ages, 150 head to choose from. Choice Shorthorns, 3 extra fine red roan bull calves, 8 months old, dandies, also cows and heifers of the deep-milking strain.

CHAS. CURRIE, Morrison, Ont.

Alderly Edge Yorkshires
Two boars and two sows, farrowed Sept., weight about 150 lbs. Price right.

J. R. KENNEDY Knowlton, Que.

Lakeview Yorkshires If you want a brood sow, or a stock boar of the greatest strain of the breed, (Cinderella) bred from prize winners for generations back, write me. Young sows bred and boars ready for service.

JOHN DUCK, Port Credit, Ont.

Tamworths A choice lot of bred sows, some due in February and others about 1st of April.

Herbert German, St. George, Ont.
Bell Phone

CLEARVIEW CHESTER WHITES
For many years my herd has won the highest honors at Toronto, London, Ottawa and Guelph. For sale are both sexes of any desired age, bred from winners and champions.

D. DeCoursey, R. R. No. 5, Mitchell, Ont.

Keep the Old Flag Flying.

EDITOR "THE FARMER'S ADVOCATE":

Will you allow me a little space in your columns to make a few remarks, and also incidentally to pat Mrs. Arthur Remington on the back? She is a brick, and if all the women in Canada were like her German militarism and everything pertaining to it would soon be at an end. I have been thinking along the same lines as she has, for long enough, and have also been wondering how everybody is so slow, and how self-satisfied so many are to let things slide. Oh yes, they'll say, it's a dreadful war, but we're sure to win out in the end, and they go about in their usual way well satisfied with themselves if they have donated a dollar or two, or knitted a pair of socks for the soldiers.

Not long ago I was in Collingwood, and the soldiers were out after recruits. A woman said to me, if I were a man they would not need to come after me twice, I would go the minute I was asked. Well, I said, if I were a man, I would not need to be asked at all, but I would have been there amongst the first. What kind of men have we, who need to be asked so often, and who are still hanging back at this late hour?

If Canada were invaded, a young man told me, we would all be there. We would all leave our work and go, and others say that they would go if it were necessary, and it is necessary, just as much so as if the Germans were hammering at our gates, and it would be a great deal better for us to have the fighting done over in Europe than on our own Canadian soil, with the accompanying devastation that war brings.

As to the farmers staying at home to produce, it is only an excuse. I know the farmers are short handed and all that, I know all about it, because, like Mrs. Remington, I live on a farm and work both inside and out, but I know also, of two evils we have to choose the lesser, and which would be the lesser one, having a little less on our tables now or putting up with German masters, and having less than ever on them later? Canadian farmers have not suffered from this war, and I am almost ashamed to see the bounteous tables some of them set.

We hear considerable about "Business as Usual," but we have also heard the old adage: "The harder war the sooner peace," and I think it is, or ought to be, the business of every able-bodied man to go and enlist, as the most urgent and only business of the moment is to get the Germans beaten. I see by the papers that the Parliament buildings at Ottawa are to be rebuilt right away, and that it will take eight or nine months, and that the business of the country will be attended to meantime in temporary quarters. Now, if the members of parliament can do business in temporary quarters for eight or nine months, why cannot they do it in the same way for twice as long, or till the war is over, and thus relieve those workmen who would be there, either for fighting or for farm work? And the new entrance that is to be built for Toronto exhibition grounds and other such concerns could wait. Such business I think might well stand over till the war is wiped off the slate; then we would be free to improve and beautify our country all we liked, and at the same time provide work for many a man who needed it.

As to the producing part at present, the ploughing is nearly all done for this year's seeding, and what the women of Germany and France can do the women of Ontario can do also. I think I can safely say that I did as much last summer as Mrs. Remington did, and got fat on it, and I am willing to do as much again. Also, every woman who has the right view of things will do all that is in her power to help along, and will not hinder her men folk from doing their duty. Just give us a chance boys to let you see that we are able to keep the old pot boiling while you are away! Don't shelter behind the blood of some other person's son, but go and do your duty like men. Don't put up the excuse that you need to produce or do anything else. The most necessary job for able-bodied men at present is to fight.

MRS. WALTER BUCHANAN,
Grey Co., Ont.

Decide now to have this silo

—It will pay you

YOU cannot make a better paying investment. If you doubt this, ask any man who is using an Ideal Green Feed Silo.

Good silage reduces feeding cost 15 to 20 per cent. It increases milk flow 20 per cent. Beef cattle and sheep thrive on it better than on any other feed.

Having silage to feed is like having rich summer pastures all through the winter. If you had had an Ideal Green Feed Silo this winter you would have saved enough money to pay for the silo before spring.

Now is the time to plan for a silo for next winter. In selecting a silo, remember that it is GOOD silage that is most profitable to feed and that GOOD silage can only be produced in a GOOD silo.



MADE IN CANADA

A "cheap" silo and good silage do not go together

Something that is claimed to be "just as good" at a lower price is never as good. A "cheap" silo is bound to be an inferior silo and it cannot produce good silage. A "cheap" silo or a silo you erect from "cheap" material will prove the most costly you can buy.

The few dollars you might save on the first cost by buying such a silo will be lost many times over in the poor quality of the silage, the trouble and expense you will be put to in keeping the silo in repair and in its short life.

An "Ideal" costs nothing because it pays for itself

An Ideal Green Feed Silo will pay for itself in one year and will last from 15 to 20 years. It will preserve your silage perfectly. It is the most profitable to own because it returns the biggest profit on the money you invest in it.

Do not take a chance. Do not buy any silo until you get all the facts that prove that you get more for your money in the "Ideal" than in any other. It costs nothing to get this information and doing so will be the means of insuring silo satisfaction for you and will save you many dollars.

Write today for catalogue, prices and complete information.

DE LAVAL DAIRY SUPPLY CO., Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA.
Sole distributors in Canada of the famous De Laval Cream Separators and Alpha Gas Engines. Catalogues of any of our lines mailed upon request.

MONTREAL PETERBORO WINNIPEG VANCOUVER
50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

HOG MOTORS



are machines which compel the pigs to grind their own grain as they eat.

They waste less grain.
They compel the pigs to eat slowly.
They save the cost of grinding.
They save one-half the labor.
They feed pigs better than you can.
They pay for themselves in every batch of hogs.

Mr. Wm. Shott, of Listowel, purchased a Motor because of loss of pigs through crippling, and has since sold two lots of the Motor. He states the Motor has solved the hog trouble with him, and is leading him to pay more attention to this branch of farming.

Mr. Herb. Jackson, of Listowel, has had so good results with his first Motor he has purchased a second, and is feeding some forty hogs, and could feed 10 more on the two machines. He is always pleased to show them to persons desirous of learning how to successfully feed hogs.

The Canadian Hog Motor Co., Limited, Listowel, Ontario

YORKSHIRES

Our offering never better. Champion hog winner of 12 firsts, 5 championships, 2 years' showing, still at the head. Boars and sows all ages, same breed

WM. MANNING & SONS, WOODVILLE, ONT

DUROC JERSEY SWINE, JERSEY CATTLE

In Duroc Jersey we have either sex of any desired age, bred from winners and champions for generations back. In Jerseys we have young cows in calf, and young bulls, high in quality and high in producing blood.

MAC CAMPBELL & SONS, Northwood, 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. VANDERLIP, Breeder and Importer, R. R. 1, Bradford, Ontario
Langford Station on Brantford and Hamilton Radial

Newcastle Tamworths and Shorthorns

Boars ready for service March, April and May, others ready to breed; both sexes ready to wean. All descendants of Imp and Championship stock. Several extra choice young bull and heifer calves, recently dropped, grand milking strain; 2 bulls, 6 and seven months old, several extra choice young cows with calves at foot, also heifers all ages. Prices reasonable.

A. A. COLWILL, Newcastle, Ont

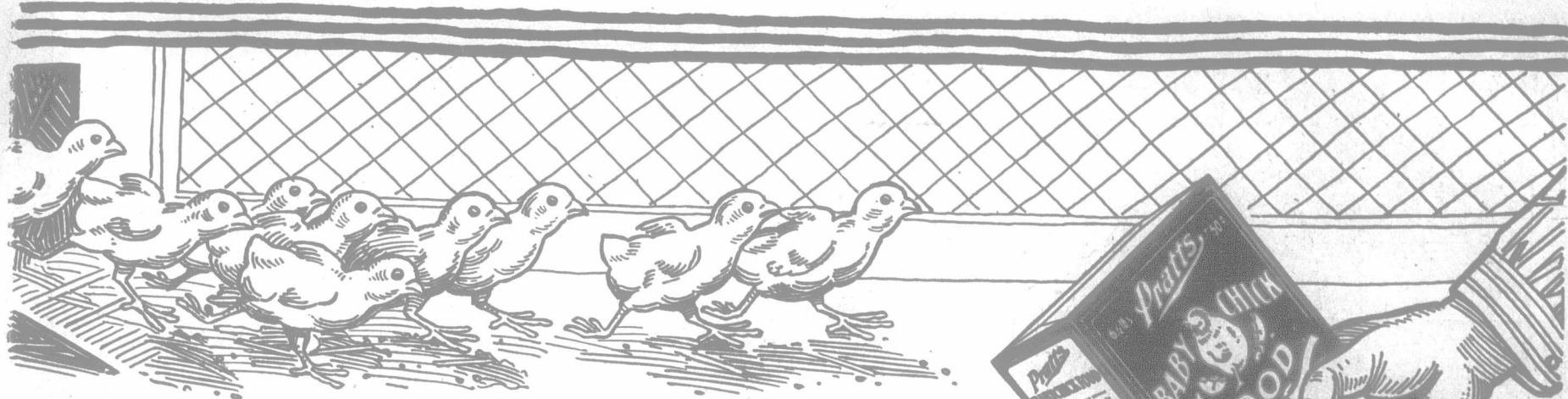
Cloverdale Large English Berkshires!

Sows bred, others ready to breed; boars ready for service; younger stock, both sexes, pairs not akin. All breeding stock imp. or from

C. J. Lang, Burketon, Ont. R.R. 3

Cherry Lane Berkshires and Tamworths In 1915 we made a clean sweep at all the western shows in Berkshire and Tamworths; we have for sale both breeds of any desired age, winners in the West. First and third prize Berkshire boars at Guelph; first and champion Tamworth boar at Guelph.

S. DOLSON & SON, Norval Station, Ont.



Makes 'em Grow and Hustle

It takes *three weeks* to hatch a chick, and *three weeks* more to set it on the right road. The safe, sure and satisfactory food for newly hatched birds is *Pratt's Baby Chick Food*. You can feed it for the first three weeks at a cost of only 1c. per chick for the entire period. *Pratt's Baby Chick Food* is a perfectly balanced ration for baby chicks, supplying just the required nourishment and relieving the delicate digestive organs from useless strain. Remember, *Pratt's* is not a scratch feed. No other Chick Food can be "just as good," because *Pratt's* is the *only* preparation of its kind in the world that is 75 per cent. mechanically predigested. Makes the little ones grow and hustle, feather evenly and develop quickly into fine, healthy birds with long, deep, shapely bodies and plenty of vitality to fight off disease.

At your dealer's in 14-lb. bags, \$1.00; 6½-lb. pkgs., 50c.; 3-lb. pkgs., 25c.

When Chicks Grow Up back up the good work by giving them

Pratt's POULTRY REGULATOR

the one best egg producer and tonic on the market to-day for grown and growing birds. Ensures early maturity. Prevents disease. Keeps the hens active and healthy. Makes them get full value from their feed. *Pratt's Poultry Regulator* acts as a gentle but direct aid to digestion, tones up the liver and turns the lazy bird into an active layer. It regulates the blood, bowels and digestive organs, keeps the fowls robust, produces bone and muscle, red combs and wattles, brilliant feathers and fertile eggs. At your Dealer's in 25c., 50c., and \$1.00 pkgs., also in larger money-saving sizes up to 25-lb. pails at \$2.50, and 100-lb. sacks at \$9.00.

MONEY BACK IF NOT SATISFIED.

Pratt's Powdered Lice Killer
quickly rids the fowls of lice and mites. It is a strong disinfectant, and, though non-poisonous, is certain death to all kinds of poultry lice. Drives out moths and bugs from closets, carpets and clothing; destroys fleas on dogs and cats, and frees plants and vines from insects. At your dealer's, in sifter top cans, 25c. and 50c.

Pratt's Liquid Disinfectant
is the strongest liquid disinfectant and exterminator on the market. Use it for spraying roosts, nests and dropping boards. 35c. qt., \$1.00 gal.

Pratt's Roup Remedy
in powder or tablet form, will cure even an advanced case of roup. May also be used as a

preventive for the protection of healthy birds in damp weather. Keep it on hand for use in an emergency. At your dealer's, 25c. and 50c. a box.

Pratt's White Diarrhoea Remedy
is a sure protection against this dread disease. Give it to your chicks from the time of hatching, and prevent the possibility of White Diarrhoea. Will not upset healthy chicks. Guaranteed to satisfy or money back. At your dealer's, 25c. and 50c. pkgs.

When in Trouble
remember there is a Pratt Remedy for every common ailment. Keep a supply on hand. When in doubt, write for free advice of our experts. Every Pratt Remedy is sold under a positive guarantee of absolute satisfaction or money back.

Poultry Wrinkles FREE.
Mail the Coupon below for a FREE copy of Pratt's "Poultry Wrinkles"—a 64 page book of real live ideas for use every day in the year. Don't put it off and forget. Tear off the coupon NOW, before you turn this page.

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We have issued a complete guide to Poultry-Raising, well worth \$1.00 of any man's money. This book contains 160 pages of clear instructions and 150 illustrations. It shows how to build modern poultry houses; how to feed for profit. It answers many of the puzzling questions that confront both the beginner and the experienced poultryman. We will send it, postpaid, to your address for only Ten Cents.

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WHAT TO DO AND HOW TO DO

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DOUBLE STRENGTH--- But Only a Moderate Increase in Cost.
FARM GATES--- Large, Unbreakable Frames.



THIS new Frost Gate has a pipe frame **ONE-THIRD LARGER** than the ordinary pipe framed gate. It is just the thing you've wanted for years for those places where a gate gets extremely rough usage. Cannot be equalled for lanes, barnyards, etc.

Every farmer knows the excellence of "FROST" Gates; how they have always been first with all the improvements. We were first to sell continuous steel tubing frames; electrically welded; then the Galvanized finished frames, and now all these improvements combined with a much larger and stronger frame. It is only natural that this really worth while improvement should come from the "FROST" factory, where all the others have originated.

**Get This Extra Strong Gate From The
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... years of experi-
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The satisfactory service given by Frost
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 greater extent in this new product. The fill-
 ing is close and carefully fastened to frame;
 each wire is well bound. The fastening on
 this large gate is a chain, making it safe and
 secure for every purpose.

This new Gate combines extra value,
 extra strength and extra service and you get
 it at a cost that is little above the cost of the
 smaller frame gate.

Order early as the supply this Spring will
 be limited.

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