

# THE FARMER'S ADVOCATE

AND HOME MAGAZINE

PERSEVERE  
SUCCEED  
FOUNDED

Dairy and Cold Storage Com-  
missi-  
Dept. of Agriculture

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

PRINTED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1916.  
LONDON, ONTARIO, MAY 13, 1920.

No. 1442

## Artistic Roofs for Beautiful Homes and Public Buildings

An added touch of beauty and a distinct "individuality" is given to the home roofed with Brantford Asphalt Slates.

The crushed slate surface of brownish red or dark green is not only beautiful to the eye; it is also fire-resistant.

Sparks from railroad engines or from chimneys, falling on

## Brantford Asphalt Slates

are harmless and die out immediately.

This roofing is used on railway stations, one of which is illustrated here.

What is safe for a railway station is doubly safe for a home, a school or a public building.

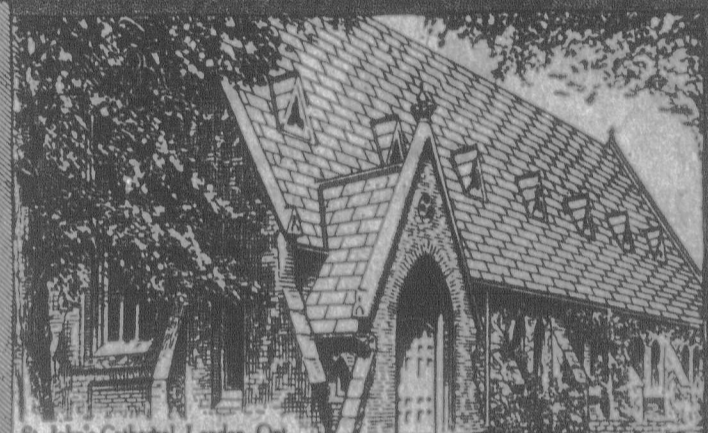
And Brantford Asphalt Slates are the durable, economical, satisfactory roof. They will not crack, curl, rot or blow off. Easily and quickly laid.

Two sizes: **STANDARD** Slates, 8 inches x 12 1/4 inches, Brantford Asphalt **SLAB** Slates, 32 inches x 12 inches, four standard slates joined together. This is the newest idea in roofing. It saves time, labor and nails in laying.

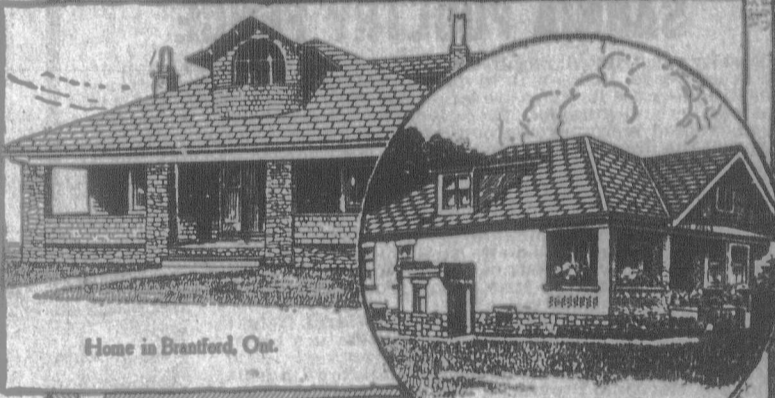
Write for our booklet "Permanent Roofing Satisfaction" and get complete information.

## Brantford Roofing Co., Limited

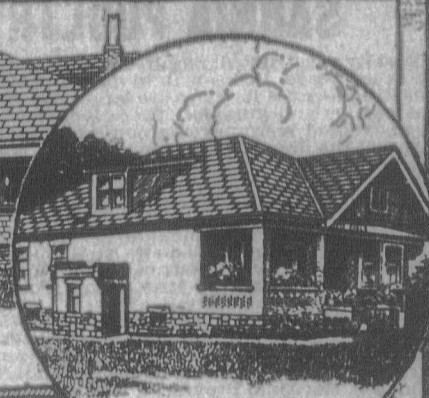
Head Office and Factory, Brantford, Canada.  
Branches at Toronto, Montreal, Halifax, Winnipeg.



St. John's Cathedral, London, Ont.



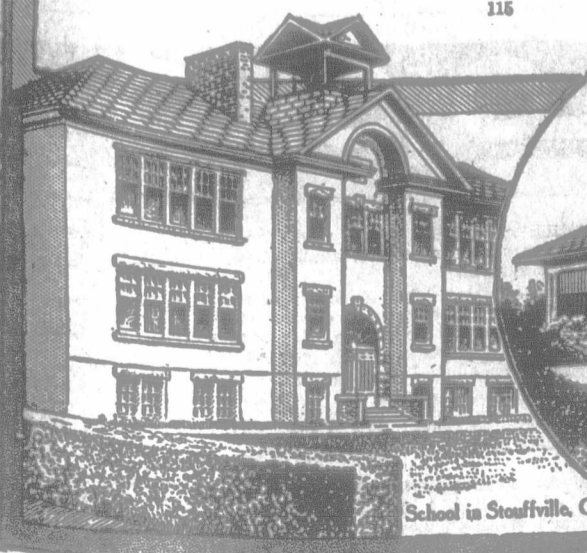
Home in Brantford, Ont.



Home in London, Ont.



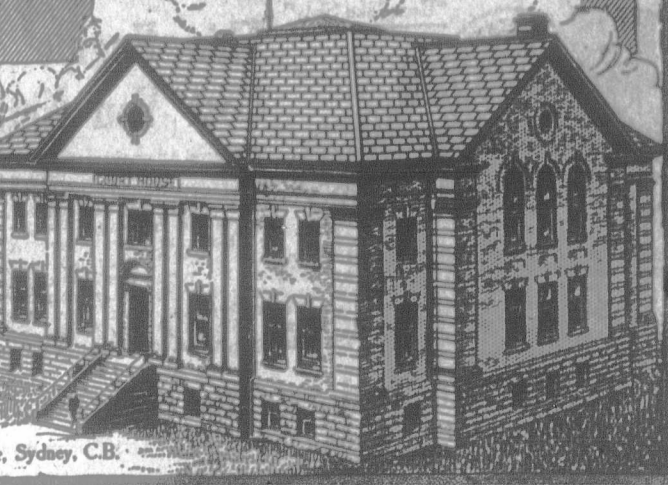
C.P.R. Station, North Bay, Ont.



School in Stouffville, Ont.

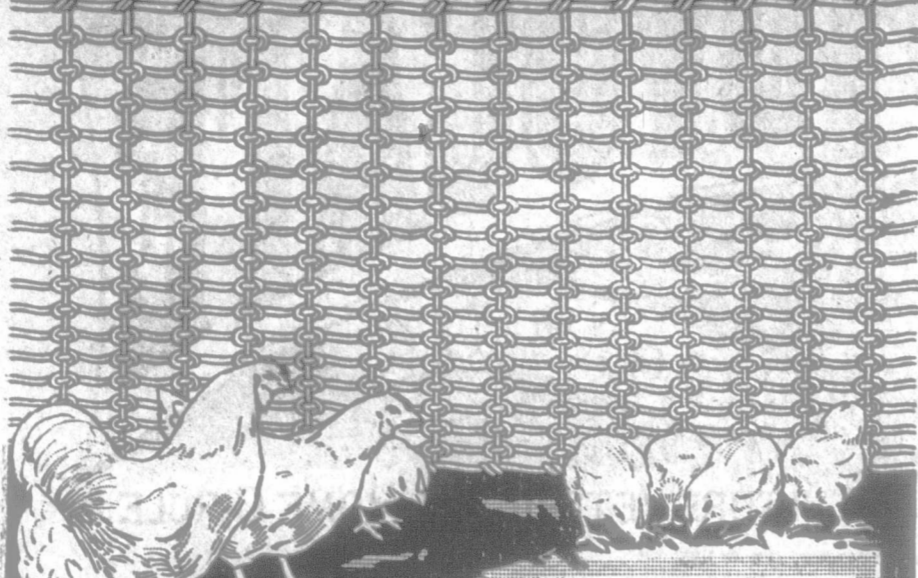


Home in Ottawa, Ont.



Court House, Sydney, C.B.

# SARNIA POULTRY FENCE



**Make More Money!**

**Buy a Real Poultry Fence**

There is a growing demand for a lighter weight fence suitable for poultry yards, orchards, gardens and other farm purposes. There is also a demand for a heavier weight poultry fence than the so-called poultry netting. You may have had some experience with the light weight netting, and, if so, you know that it is a waste of time and money to put it up, besides it always has a loose, shiftless appearance. The Sarnia Fence overcomes these objectionable features. The extra strength of our fence enables us to stretch it to any desired tension. Stay wires and lateral wires in this fence are fastened securely by the famous Sarnia Knot, providing ample rigidity in the body of the fence and making it adjustable and suitable for various purposes about the farm. The Sarnia Fence is close enough to turn small fowl, yet strong enough to turn a large bull, thus affording perfect protection to your yards and grounds.

## SARNIA POULTRY FENCE

is easily constructed, requires less posts. You don't need a top or bottom board to keep it in place. Lasts many times longer than netting because its wires are larger, stronger, and the fence itself is attractive and durable. There is no buckling of wires. It is easily constructed over uneven ground; no sagging or bagging as in the case of the flimsy netting, and when it is once properly constructed it is there to stay. It gives you real fence satisfaction. Poultry farmers all over Canada testify to its value. It is the "Farmer's Friend" kind. Poultry in Canada has gone a long way toward keeping the home table supplied while the boys were "over there." Build the poultry business for permanency as a business. Sarnia Fence will do its part. Will you do yours? In your new drive for business, don't forget that poultry is a business, and that Sarnia Poultry Fence is necessary to your success.

Sold and shipped direct from factory to farm, freight prepaid. Send for our descriptive literature about farm fencing, gates, lawn fencing and supplies. Prepaid freight prices are quoted in Old Ontario, New Ontario, Quebec, Maritime Provinces, four cents per rod extra. Our office at Winnipeg takes care of all Western Canada business. Shipments made F. O. B. Winnipeg. Order now. Have your fencing in hand early, and when you need it. Let's tell you what the Sarnia Poultry Fence will cost laid down at your railroad station in whatever quantity you may desire.

**SARNIA FENCE COMPANY, Limited**

Winnipeg, Manitoba

Sarnia, Ontario



"Goes Like Sixty"

**This Engine Will Cost You Nothing**

You need an engine—get a Gilson on our new easy payment plan, and it will pay for itself. You have the work for it to do this fall and winter, help is scarce and high-priced—save yourself a lot of worry, and enjoy that "Feeling of Security" which is such a definite part of the staunch, reliable Gilson Engines. Gilson Engines have long enjoyed an indisputable reputation for dependability, power, simplicity and economy. This year finds us with an even more attractive proposition for the discriminating buyer. Prices of everything you have been buying have been soaring, but by careful management we are able to furnish Gilson Engines at remarkably low prices. Write to-day for catalogue, price, and easy payment plan, stating what size you are interested in.

**Gilson Mfg. Co. Ltd., 259 York St., Guelph, Ont.**



**Cord or Fabric.**

**A** PPEARANCE is often deceptive—and no one can tell how much service a tire will give by looking at it.

In buying tires you must rely almost entirely on the integrity of the manufacturer who produces them.

You can depend absolutely on Partridge Tires because the factory is back of every tire they make.

# PARTRIDGE TIRES

*Game as Their Name*

**To Increase Farm Profits**

Save on repairs by keeping every building protected with

## RAMSAY'S PAINTS

"The right Paint to Paint right."

**A. RAMSAY & SON COMPANY**

Makers of Paint and Varnish since 1842

Toronto

MONTREAL

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# HYLO SILO

THE everlasting silo—yields 100% profit on the investment every season—sweet, fresh ensilage down to the last forkful.

Exclusive patented features of great value—specially selected, imported material of the highest quality, and careful workmanship, explain why the Hylo is the choice of the most progressive and prosperous farmers in each community. Some territories still open for live agents.

Write for free silo book today.

**GILSON MFG. CO., LTD. 849 York St. Guelph, Ont.**

**SAVES ITS COST IN SIX MONTHS**

# DELCO-LIGHT Costs You Nothing

*Brilliant, Safe Electric Light and Power for back-breaking jobs*

**T**HE time you spend on chores *costs you money*. It is time that, spent in the field, would mean bigger and better crops—*more money*. Delco-Light, the modern Electric light and power plant, cuts down the time spent on chores. It is like an extra hired man—helping you make your money.

Over 100,000 owners of Delco-Light plants have proved it—have satisfied themselves that Delco-Light is a wonderful aid to production.

They get their chores done quickly, whether before daylight or after dark. House, barn, out-buildings, yard, are all brilliantly lit by *safe electric lights*.

They run all small machines by *electric power*—milking machine, separator, churn, fanning mill. They provide running water—in the house and at the barn. Washing machine and iron are run by electricity.

So Delco-Light pays for itself! And think of the joy and cheerfulness of brilliant, safe electric light—everywhere when you want it—at the pressing of a button—without the smoke, smell and mussy work of caring for dangerous, dim oil-lamps.

Figure it out for yourself. Think what wonderful conveniences Delco-Light brings to your farm. Write for the Delco-Light booklets.

Delco-Light Company - Dayton

### These Typical Delco-Light Testimonials

*Tell you How it "Pays for Itself"*

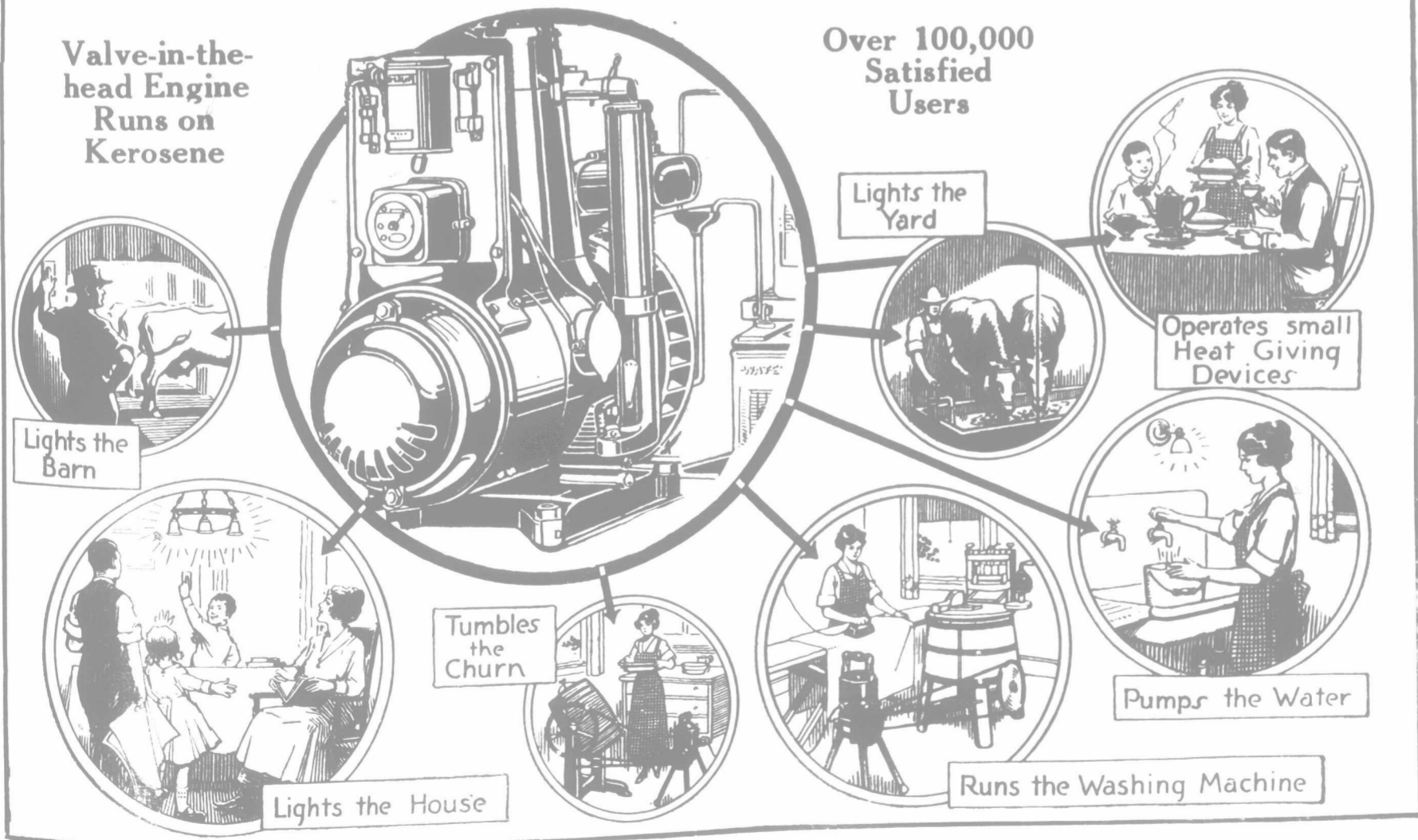
"DELCO-LIGHT has made it possible for us to do without one man, whose wages and keep amounted to \$50.00—he would cost us more now."

"DELCO-LIGHT saves us every day about one hour doing the chores around the farm—this would mean for my son and I about 730 hours a year at 30c. per hour, which is, figuring very low, about \$219.00 saved."

"I save about 2 hours a week on the washing, and 7 hours a week on separating. It saves one man about 4 hours to clip my team. On churning it saves my wife 3 hours a week. It saves about 30 minutes per hundred pounds on grinding our sausage."

"Where we formerly used 55 gallons of gasoline per week, at 25c. per gallon (\$13.75) to operate the milking machine and pump alone, we now use 35 gallons of kerosene per week at 14c. per gallon (\$4.90) which is a net saving of \$8.85 per week, or \$460.20 per year."

Electrical Systems, Limited, Toronto, Ont.



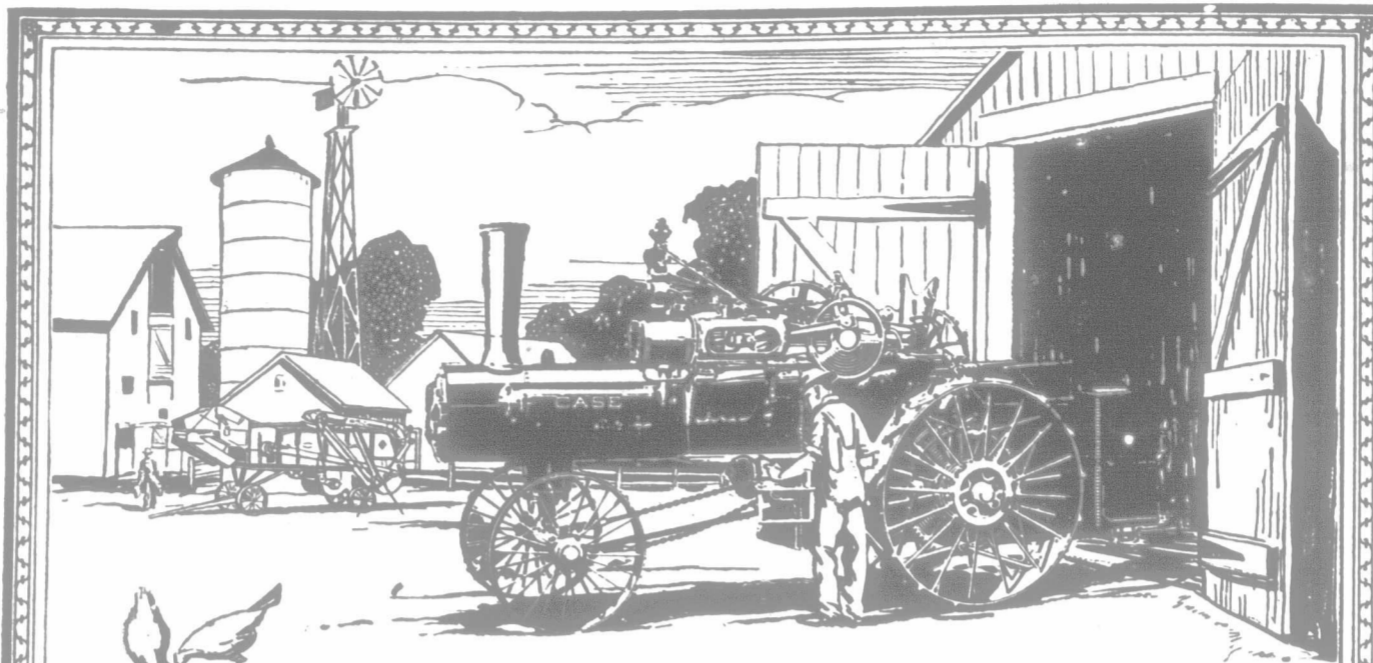
Cord or Fabric.

BEARANCE often decep- and no one can y much service will give by at it. ing tires you ly almost en- the integrity manufacturer duces them. depend abso- Partridge Tires because the fac- tory is back of every tire they make.

GE S Name

building Y'S COMPANY 1842 Vancouver,

HS



## "Tune-up" the Rig

ONLY a few weeks remain before threshing season will be here with a rush. Be sure you are ready. Get your Case "Steamer" out and go over it.

See that the boiler is thoroughly clean inside. Polish piston rod and valve stem. Look for lost motion at both ends of connecting rod, and adjust the brasses if necessary. Re-pack the pump and possibly the governor stem. Clean oil holes and grease cups so that lubricant will pass freely to all bearings. Be sure that leads to water-column are clear. We suggest that you have on hand a supply of water glasses, with proper gaskets. The safety valve is probably all right, but be sure it "pops" when it should. Scrape out exhaust nozzle, giving the steam a clear passage, directly up the stack. Replace worn clutch shoes; also repaint boiler and stack.



Look for the EAGLE Our Trade Mark.

Overhaul the separator belting and re-lace or re-place where needed. Wash out every bearing with kerosene and see that oil holes are open. Replace worn teeth in cylinder and concave, and look for harmful endplay in cylinder. 1/64 inch is right. Examine every box and bearing and take up or re-babbitt where needed. Tighten loose nuts and replace lost bolts.

Be sure you have the supplies and tools you will need. It is well to have some spare parts on hand to guard against possible delays. Check up your stock of parts with the list suggested in your "Case Thresher Manual," and order what you lack. If you have no copy of our "Thresher Manual," you should have one, and we will send one on request.

Remember that time is money to the thresherman, and right now is the time to save time.

J. I. CASE THRESHING MACHINE CO., Inc.

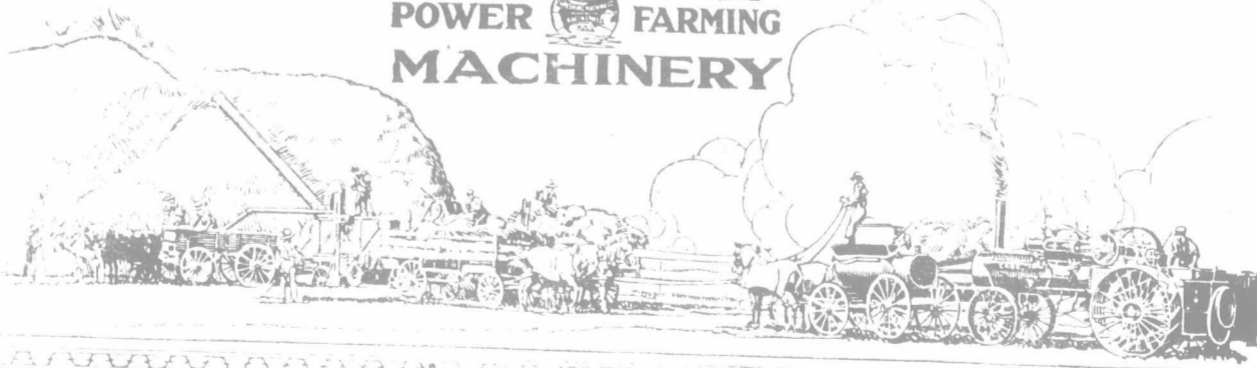
Dept. DP-5, 345-9 DUFFERIN ST., TORONTO, ONTARIO

Making Superior Farm Machinery Since 1842

To avoid confusion, the J. I. CASE THRESHING MACHINE COMPANY desires to have it known that it is not owned and never has been interested in or in any way connected or affiliated with the J. I. Case Plow Works, or the Wallis Tractor Company, or the J. I. Case Plow Works Co.

**CASE**  
POWER FARMING  
MACHINERY

NOTE: We want the public to know that our plows and harrows are NOT the Case plows and harrows made by the J. I. Case Plow Works Co.



## Getting Acquainted With the Birds.

EDITOR "THE FARMER'S ADVOCATE":

Just a word from an interested reader of "Nature's Diary," about the work of the downy woodpeckers and nuthatches on the farm during the winter.

A small stick about six feet long with a suet-filled box the size of a good big bone fastened on top of it, was placed solidly in a snow-bank about three feet from one of the windows, early in the winter, and was about the most popular free-lunch counter in the district, and gave a splendid chance to study the woodpeckers and nuthatches—also a good view of coloring and the birds' manner of clinging. Only one chickadee came that we noted, but more may have paid visits when no one was there to watch.

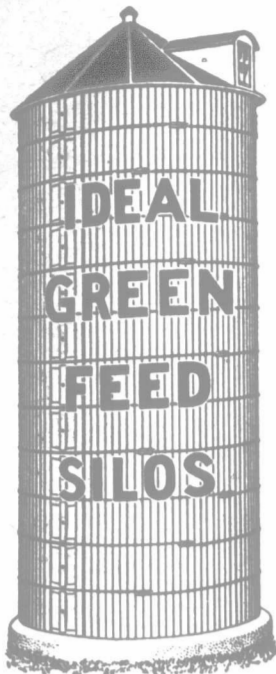
Like most people of our acquaintance, we hadn't known that the "downies" varied so widely in color and in individual specimens. But there were at least two pairs of the woodpeckers that were almost black all over, excepting for the wing-bars, which were a light ashy. The breasts were almost black, and the backs a very dark ashy. The red caps on the male was quite as vivid in hue as that worn by the downies of the clearly-defined black-and-white type shown in pictures. They are all amusingly careful eaters, clinging so closely to the box that the soft breast feathers catch and hold safely any suet-crums that drop, and often we saw the birds making sure of these bits. We learned to distinguish a number of them apart, from the fact that in some birds the white spots on the shoulder were almost a continuous bar, and in others were clearly defined rows of spots. That the box was seldom without a visitor, and often had two feeding at once, while a third clung to the post waiting a chance, showed that numbers had found it. Several times four nuthatches were there at the same time, and their peculiar upside-down way of working is very amusing. They seemed fond of flying away with a lump to some nearby tree, but the woodpeckers became so tame that we often opened a door not four feet away from them without disturbing the feasters, and several times I walked past the stick, within a foot of it without making the little fellow, then eating, fly away, though he "hid" on the other side and kept a bright eye on the intruder.

The nuthatches have been gone for some weeks, but the downies are still patronizing the box, though not in such numbers as formerly, and they are more busy in the orchard. An examination of some quinces and lilacs, where they spend a lot of time, showed the advantage of coaxing those birds all winter. Last summer we noted an unusual number of Cecropia larvae in the lilacs but after destroying a few we thought no more about them for, though destructive enough, they are seldom in large enough numbers anywhere to be a menace. However, this month, March, I have already found 21 Cecropia cocoons in a short row of lilacs and one in a cherry tree, which is rather surprising and suggests that it will be wise to watch for larvae this year. Fortunately the birds had found and emptied all but five that were under snow-level and completely covered with old leaves and twigs blown in and matted by fall winds and winter snows, so that the woodpeckers couldn't see them. This seems valuable work, since a hungry Cecropia worm can denude a lilac branch of its leaves in short order, and doubtless doesn't confine its attention to lilacs and other ornamental shrubs.

The result of our observations is that we are thoroughly convinced that no further winter will find us without a box or two near the windows, and a store of suet ready for the useful birds, for certainly no one has yet found a more easy way of combining profit and entertainment for the farmer and gardener who, of all people, should understand and value the birds.

A. C. B.

A well-known clergyman, called to other duties, says a writer in the Western Christian Advocate, preached his last sermon before the installation of his successor. The local weekly paper, in announcing the order of services, gave it as follows: "Sermon by the Reverend Blank; solo and quartet, 'Hushed at Length'."



### THE IDEAL GREEN FEED SILO is the dairy farmer's savings bank

The Ideal Green Feed Silo provides the ideal way of saving the summer's green, succulent feed for use during the winter months. It increases the productive capacity of the farm at least 10%, and often much more. It enables the cows to give 25% more milk than if they were fed on a dry feed ration.

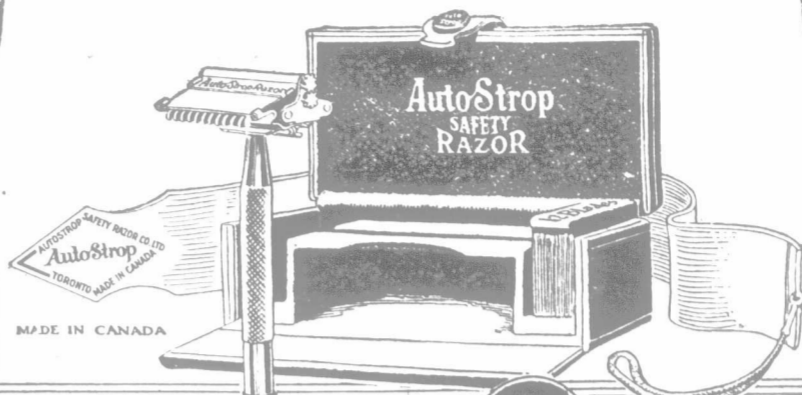
The silage ration is considerably cheaper than a dry ration with hay and other feed at the present high prices.

A farmer said recently: "Two years ago I borrowed money to build my Ideal Silo. If I had done it ten years ago, my past two years' experience tells me I would now have my farm all clear of debt."

The Ideal Green Feed Silo pays for itself in a short time. It makes better silage, is better built, made of better material, and will last much longer than inferior silos. Thousands of Canadian cow owners have proved this to their own satisfaction.

Write to nearest office for catalogue, which describes the Ideal Green Feed Silo and gives valuable information about silage

**THE DE LAVAL COMPANY, Ltd.**  
MONTREAL PETERBORO WINNIPEG EDMONTON VANCOUVER  
50,000 Branches and Local Agencies the World Over



Edge Before Stropping (Magnified)

Edge After Stropping (Magnified)

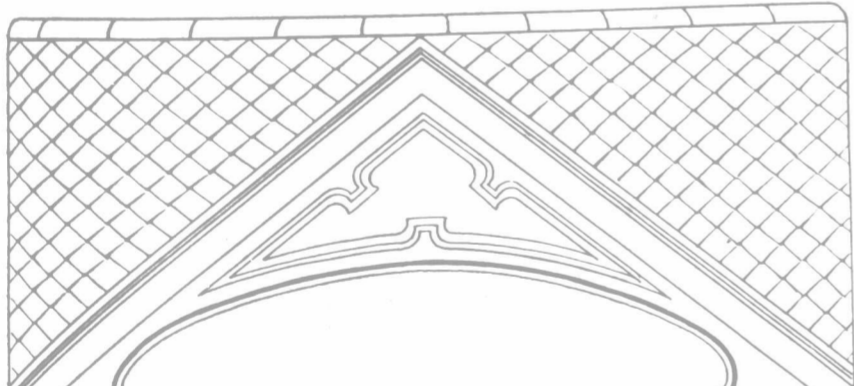
EXPERIENCE shows that only a sharp blade can give a perfect shave, also that a blade cannot remain sharp without stropping. Couple these facts with the further fact that the AutoStrop Razor is the only safety razor that sharpens itself, and you will be in no doubt as to which safety razor to use.

Any dealer will gladly demonstrate the AutoStrop Razor to you, guarantee satisfaction, or refund of purchase price.

Only \$5.00—complete with strop and twelve blades in an attractive assortment of cases to suit any purpose.

AutoStrop Safety Razor Co., Limited  
AutoStrop Building, Toronto, Canada

## AutoStrop Razor - sharpens itself



### Make Your Roof Permanent and Fireproof

With Asbestos Cement Tiles on your roofs you are absolutely safe from fire or falling sparks—you are also saved the expense of re-roofing, as our product is practically everlasting. Age only improves its weather- and fire-resisting qualities.

Light in weight, strong and tough—made in Canada of asbestos and cement under immense hydraulic pressure. Asbestos Tiles last as long as the building itself, and never require painting.

ASBESTOSLATE costs about the same as ordinary roofing material and yet has all these advantages. Send for booklet showing actual facts.

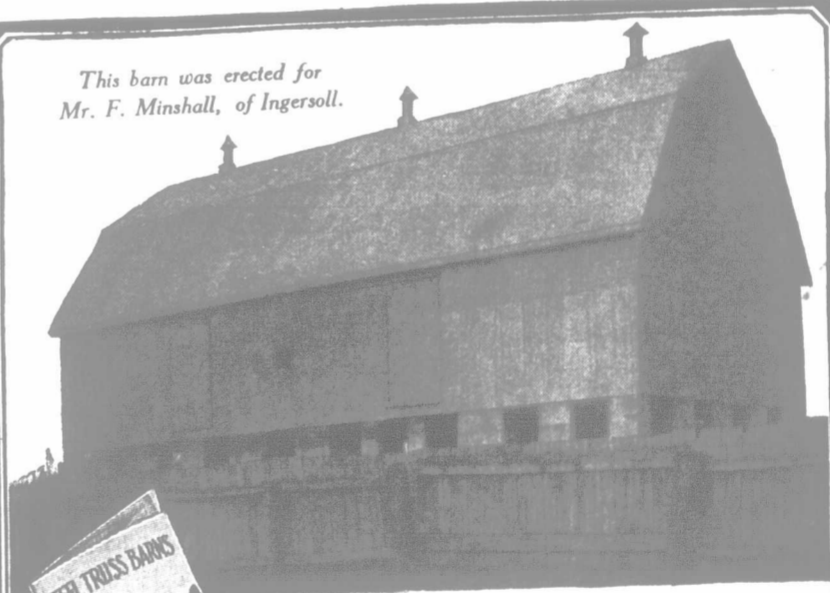
**Asbestos Manufacturing Company Limited**



Sales Office 716 Drummond Building, Montreal  
Factory Lachine, P.Q.  
Branches in all principal cities of the world.

"If it's made of Asbestos — we have it."

This barn was erected for Mr. F. Minshall, of Ingersoll.



### Experts have Solved the Barn Problem for You

WE'VE studied the barn question from every angle—we've found a way to make good barns and deliver them to Canadian farms at a price such as you otherwise would have to pay for a very ordinary building indeed. Barns that go up quickly, in the hands of a few experienced builders. Barns that are proof against lightning and fire. Barns so well built that their contents are fully protected from snow and rain and wind.

Our book shows the complete Preston line. State size of your farm so we may give you the benefit of our experience in designing all types of buildings for all kinds of farms.

Address our Head Office Preston, Ontario

**THE MS AND S CO LIMITED**  
METAL SHINGLE AND SIDING COMPANY  
ASSOCIATED WITH THE A. B. ORMSBY CO. LIMITED  
PRESTON - MONTREAL - TORONTO  
WINNIPEG - SASKATOON - GALGARY

*-the genuine*

**will help your motors**

They have proved it by their service on many thousands of farms in the last ten years.

Time has established the "Leak-Proof" principle of insuring power and compression. McQuay-Norris Leak-Proof Rings are the only piston rings of their kind. There is no such thing as a "Leak-Proof type" of piston ring. Their design is exclusively their own.

These tried and true rings will help tractors, automobiles, trucks and stationary engines develop more power, save fuel and decrease carbon.

They are made in every size and over-size to fit every make and model of any kind of gasoline engine. Your dealer has proper sizes and over-sizes or can get them promptly from his jobber's complete stock.

**To Control Excess Oil**  
A special ring for motors that pump oil. Use in top grooves of each piston. In the lower grooves use McQuay-Norris Leak-Proof Piston Rings for complete compression—power.

**Write for this Booklet** →  
"To Have and to Hold Power," which clearly explains piston rings and their connection with motor power and economy. Address Dept.

**W. H. BANFIELD & SONS, LIMITED**  
124 Adelaide St., West, Toronto

**Certified Seed Potatoes.**

(Experimental Farms Note).  
This term is applied to potatoes which have passed two inspections made by inspectors of the Division of Botany, Experimental Farms Branch, Department of Agriculture. These inspections are made (1) of the growing plants during the blossoming period, and (2) at the time the tubers are dug, or after they have been placed in storage.

While purity of variety is given due consideration in determining the claims of a crop to certification, the prime object of this work is the absence and, incidentally, the control of disease, particularly of constitutional diseases such as Leaf Roll and Mosaic, which have proven to be responsible for a serious reduction in yields in many parts of the country. As the only possibility of distinguishing the presence of these diseases lies in the inspection of the growing plants, it is obvious that in order to ascertain the presence of, or freedom from, Leaf Roll or Mosaic in any crop, inspection must of necessity commence in the growing season and preferably during the blossoming period as it is at this time a matter of small difficulty to distinguish any impurity of variety. Thus the twofold object is attained.

At the conclusion of the inspection of a field of potatoes, the inspector hands to the grower a record showing the exact condition of his crop. Should the field be found to measure up to the required standard, the grower is again visited, at or after harvest time and an inspection made of the tubers to ascertain to what extent, if any, diseases such as Common Scab, Rhizoctonia, etc., are present. Should this final inspection prove satisfactory, the potatoes are graded as either No. 1 or No. 2 Grade Seed Potatoes, and a sufficient number of tags to cover the number of bags or other containers necessary for the shipping of the amount of potatoes inspected, are issued by the inspector. These tags certify that the contents of the bags or other containers to which they are attached, have been grown by the person whose name appears on the tags; that they have been inspected by an officer of the Dominion Department of Agriculture and found to be sufficiently vigorous and free from serious diseases, other pests and foreign varieties to warrant them being classed as No. 1 (or No. 2) Grade Seed Potatoes.

On the other hand, if a field fails in the field inspection to measure up to the required standard owing to the presence of a larger percentage of diseases or impure varieties than is allowed, it is given no further consideration; the grower being advised to change his seed and to procure for this change, seed potatoes from some grower whose stock has satisfactorily passed both field and tuber inspection.

This work is being carried on at present chiefly in Northern Ontario, in parts of New Brunswick, Quebec, Nova Scotia and Prince Edward Island. It is proving of value to the grower in that it frequently reveals to him the loss which he is incurring by the use of diseased seed, and is also a means of putting him in touch with the grower from whom it would be advisable to obtain a supply of "Certified Seed Potatoes" as outlined above.

EDITOR "THE FARMER'S ADVOCATE":  
I hope others find "The Farmer's Advocate" as valuable as I have for the past fifteen years. I owe most of my success in farming to it. As so many of your subscribers say, it certainly is worth more than twice its price. The Christmas Number was the best I have ever seen.  
Halton Co., Ont. WM. J. TAYLOR.

Jazz.—Mr. Hopper (rising from table)—"Shall we dance this fox-trot, Miss Flopper?"  
Miss Flopper.—"That wasn't the orchestra starting up—one of the waiters just dropt a tray of dishes."—Life.

It was a New England parson who announced to his congregation one Sunday: "You'll be sorry to hear that the little church of Jonesville is once more tossed upon the waves, a sheep without a shepherd."—Exchange.

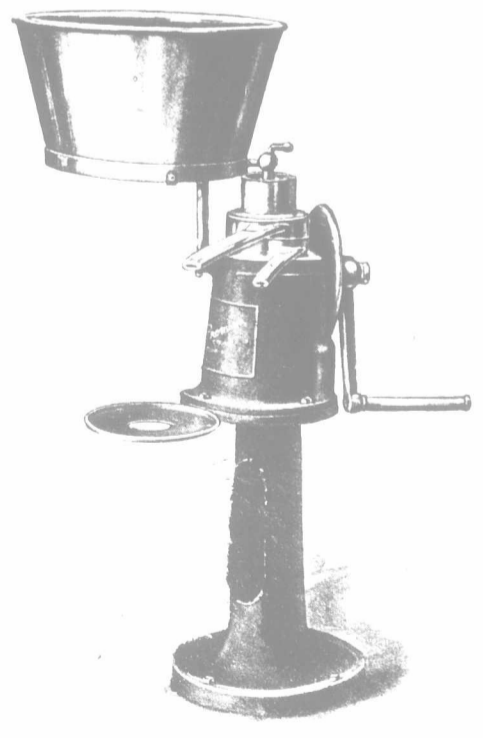
**LISTER PREMIER CREAM SEPARATOR**

YOU have always had the highest opinion of the thoroughness and reliability of machines made up to the high British standard, and rightly so.

The Lister Premier Cream Separator helped to build the world-wide reputation. One trial will convince you that for clean skimming, easy cleaning and easy running it has no equal. No working parts are exposed to dust. It is the simplest machine made—can be taken apart and reassembled in a few minutes.

Skin-milk delivery is up high enough to permit of large can being used. Discs are aluminum and never can rust. They go on in any order. This saves time and bother. All revolving parts run in oil ensuring continuous easy-running and cleanliness.

See our agent in your town, or write direct for full particulars.



Lister Engines and Grinders—Lister Silos and Silo Fillers—Avery Tractors

**R. A. Lister & Company (Canada) Limited**  
58-60 Stewart St., TORONTO

Even  
It will give  
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REMINGTON  
UMC

**Seed Potatoes.**

(Farms Note).  
 applied to potatoes which  
 inspections made by  
 the Division of Botany,  
 Farms Branch, Department  
 of Agriculture.  
 These inspections are  
 growing plants during the  
 bud, and (2) at the time  
 plug, or after they have  
 emerged.  
 of variety is given due  
 determining the claims  
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 control of disease,  
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 the blossoming period  
 time a matter of small  
 distinguish any impurity  
 s the twofold object is

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 sure up to the required  
 er is again visited, at  
 time and an inspection  
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 eases such as Common  
 ia, etc., are present.  
 inspection prove satis-  
 es are graded as either  
 de Seed Potatoes, and a  
 of tags to cover the  
 or other containers  
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 cted, are issued by the  
 tags certify that the  
 tags or other containers  
 e attached, have been  
 on whose name appears  
 they have been inspected  
 Dominion Department  
 found to be sufficiently  
 from serious diseases,  
 eign varieties to warrant  
 as No. 1 (or No. 2)

nd, if a field fails in the  
 o measure up to the  
 owing to the presence  
 entage of diseases or  
 than is allowed, it is  
 r consideration; the  
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 for this change, seed  
 e grower whose stock  
 passed both field and

ng carried on at present  
 n Ontario, in parts of  
 Quebec, Nova Scotia  
 Island. It is proving  
 ver in that it frequently  
 loss which he is incur-  
 f diseased seed, and is  
 putting him in touch  
 from whom it would  
 ain a supply of "Certi-  
 as outlined above.

ER'S ADVOCATE":  
 find "The Farmer's  
 able as I have for the  
 I owe most of my  
 to it. As so many  
 s say, it certainly is  
 twice its price. The  
 was the best I have

W. M. J. TAYLOR.

er (rising from table)  
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 one of the waiters  
 dishes."—Life.

England parson who  
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 e sorry to hear that  
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 "—Exchange.

**Every Branch of Farming needs C X L Stumping Powder**

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You, as a dairy farmer, know better than we can tell you that the bowl of the separator is the place where butter profits are made or lost. Right there you have the big fundamental reason why we spent over a million dollars in bringing the bowl of the EMPIRE BALTIC to its present state of perfection. Years of constant study and experiment on the part of the best centrifugal engineers of America stand back of the EMPIRE BALTIC—the Separator with the Million Dollar Bowl.

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will rid buildings and animals of vermin. It will apply cow wash in fly time, remove old wall paper or wash windows. It has been used as a fire extinguisher. Everything a good sprayer should be.

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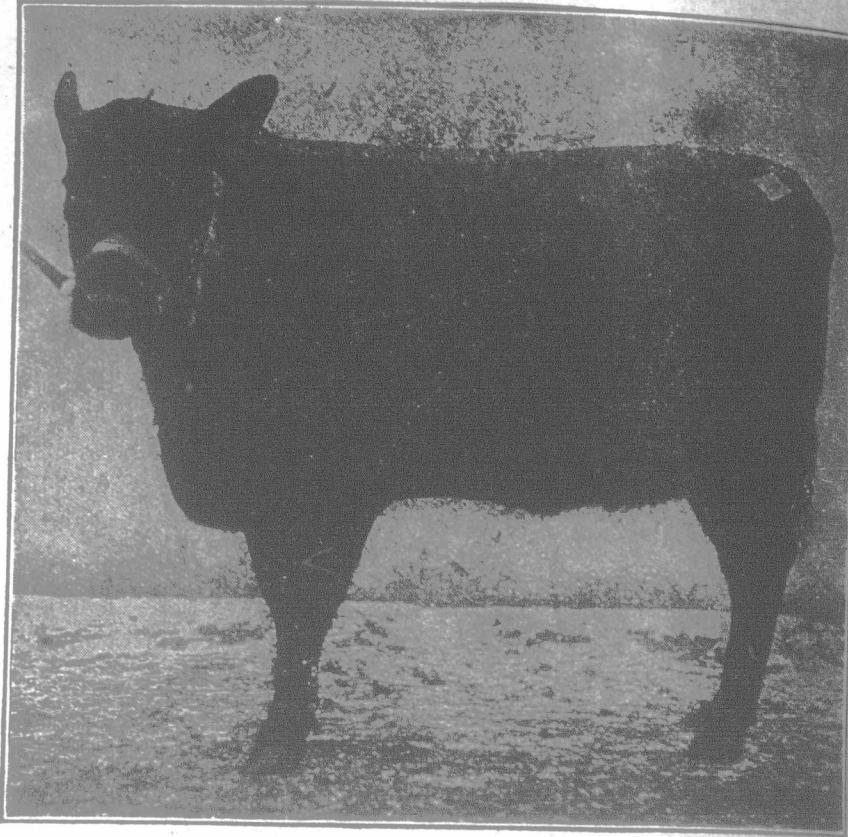
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**PURE-BRED STEER** under 1 year, entered in Lot No. 3, Toronto Fat Stock Show, Union Stock Yards, Toronto, Ont., Dec. 11-12, 1919, and awarded 1st Prize. Also entered for Royal Purple Calf Meal Special, and awarded 1st Prize. Fed and Exhibited by Mr. Oril Williamson, R. R. No. 1, Jarvis, Ont. Sold for 33c. a lb. by auction.



**ABERDEEN-ANGUS HEIFER** under 1 year. Entered for Royal Purple Calf Meal Special, Toronto Fat Stock Show, Union Stock Yards, Toronto, Ont., Dec. 11-12, 1919, and awarded 2nd Prize. Weight, 1,190 lbs. Sold for 29c. a lb. by auction. Fed and exhibited by Mr. Andrew Hicks & Sons, Centralia, Ont. Mr. Hicks is U.F.O., M.P.P., for South Horn.

Last year we gave a cash prize to the Toronto Fat Stock Show for the best calves raised on our Royal Purple Calf Meal. There were twenty-three entries. These two cuts show two of the prize winners. One of them sold for 83c. per pound which is the price of turkey and they showed a profit of over \$200.00 each to their owners. TEN of these calves weighed one thousand pounds or over each and not one of them over a year old.

This Royal Purple Calf Meal is put up in 25-lb., 50-lb., and 100-lb. bags and is sold everywhere throughout Canada by prominent merchants. Write us for descriptive advertising matter and we will tell you where you can get your supplies. Any person can mix up grain products and call it calf meal, but our business is making a high class product scientifically prepared as a substitute for milk, made up to a standard, not down to a price.

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# The Farmer's Advocate and Home Magazine

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1866

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LV.

LONDON, ONTARIO, MAY 13, 1920.

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## EDITORIAL.

Some towns and cities still persist in saving daylight while they already have twice-as much as they make good use of.

Some crop that can be utilized for summer feeding has become a necessity where a reasonable amount of live stock is maintained.

Probably the maximum amount of fodder at the minimum experience of labor can be produced from a corn crop. Corn should be emphasized more than it is.

Immigration is going on with renewed vigor. While we need more people we cannot afford to make Canada a little Europe. Only the best type of prospective citizens should be admitted.

A committee met in Ottawa last week to discuss ways and means of reducing disease in Canadian live stock. This is a matter in which producer and consumer alike should be interested. Tuberculosis is a terrible scourge that must be combatted and on the basis of health and human lives the effort is worth while.

There is a great deal of talk about the fact that farmers are not getting the cost of production. The fairness of these arguments altogether depends upon what farmers are under consideration. If some farmers were paid according to what it cost them to produce milk, they would have to get twice the highest price milk has ever sold for in Canada. Such a man does not deserve to be protected to the extent of his cost of production. The dairyman who regards milk production as a business proposition and tries to be as efficient as possible deserves a price that will encourage him to progress still further, but the sluggard deserves little sympathy.

The results of the farm management survey of 329 farms in the Counties of Dufferin, Peel and Wellington, for the year ending April 30, 1919, indicate that the average farm of 152 acres possessed 124 tillable acres, carried 90 acres in crop, involved a capital investment of \$13,000, of which about \$4,500 was unproductive in that it was invested in buildings and machinery, and returned a labor income of \$937. Each man cared for 47 acres of crop, and each horse did the work on 20 acres of crop. In view of the fact that farming now is recognized to be very much more profitable than in the days prior to the war, one is led to wonder what the labor incomes of these farms were in those days.

The special report of G. T. Clarkson to the Ontario Government regarding the Hydro Electric Power Commission says: "There is in my opinion every reason to justify the Government in according a full measure of support to the Commission in its efforts to develop and utilize the power resources of this Province." The report calls attention, however, to certain conditions which should be thoroughly recognized. It is pointed out that the present debt of Ontario is about \$100,000,000 and that although \$40,000,000 of this is represented by Hydro enterprises, a further \$65,000,000 is in contemplation for the future. In view of these large commitments and the present finance conditions, the report suggests that possibly it would be better if the Legislature had more direct control of the finances of the Commission. This would seem a good principle to follow if our politicians could keep from playing politics and spend a little more time looking after the interests of the people they represent. Almost any cabinet council or commission would make as much progress as would Howard Ferguson and Hartley Dewart in an argument.

### The Much Abused Potato.

Townpeople have been riding in their expensive limousines, of late, to indignation meetings where the lowly, though necessary, potato has been the subject of discussion. Potatoes have been cursed, discussed, abused, boycotted, and otherwise handled in a disrespectful manner. Even in the Legislature of Ontario some members representing urban ridings have, in an effort to stand in well with their constituents, thrown taunts at the farmer for accepting so much for a bag of potatoes. After all is said and done, potatoes at six dollars a bag are not so much more expensive than the other necessities of life that urban people are obliged to purchase, and there is a great deal more value in a bag of potatoes at six dollars than there is in many of the unnecessary commodities which urban people purchase and pay for without a whimper. It is simply a case where the law of supply and demand has operated to raise the price of potatoes, for on the other side of the line buyers have been willing and anxious to take all the potatoes the producers of this country can send them. In such a case the boycott is as futile as are the words used in condemning farmers for accepting the price the market offers.

It usually happens through a series of years that a scarcity of potatoes one season will encourage a heavy production the next, and the producers then are obliged to accept much less than they expected. The high price for potatoes this spring is no index to what they will be worth next fall or next winter, and farmers would be well advised not to attempt anything extraordinary in the way of large acreages of this crop. There are certain districts where potatoes are extensively grown, and there are individuals who specialize on this tuber. It is a business proposition with them and they will govern themselves accordingly, but there have been many instances in the past where farmers unaccustomed to producing potatoes have rushed in and have been sorry for it.

### Our Live Stock Needs Good Blood.

Canada's live stock would be greatly benefitted by the introduction of new and good blood. We would emphasize "good blood," because much that is "new", now coming to our shore, is brought as a commercial enterprise instead of in the spirit of improving our herds and flocks. The importing business is perfectly legitimate and useful to the country, and possibly the rank and file of breeders are not yet sufficiently advanced to make the importation of extra good blood a paying proposition. We must live down that lack of appreciation of good breeding, and nothing would help to a greater extent to increase our appraisal of high-class live stock than more of it. We need more stallions like Craigie Masterpiece, and more bulls like Millhills Comet, even if our Government—Provincial and Dominion—must take a hand in obtaining them.

The swine industry is greatly in need of new, strong and improved blood. There has been so much close breeding in Berkshires, Tamworths, Chester Whites, and even Yorkshires, in the swine breeding districts of Canada that it is getting more and more difficult to obtain really high-class breeding stock, especially boars. New blood, even if it is no better than the best we have, would do a great deal of good, for it would afford breeders an opportunity to make selections and matings more to their liking. However, there is an opportunity to improve upon the quantity and quality of bone in our pure-bred breeding hogs, and constitution, that vital link in the hog's anatomy, should be strengthened.

We have always brought in good sheep with which to replenish and improve our flocks. This should continue and the very best sheep that can be obtained in the Old Country are none too good to bring over.

Many good bulls and female cattle are being imported from Great Britain and the United States, but it is just

possible that a great stimulus could be given to cattle breeding in this country by the introduction of more outstanding bulls. The Governments—Provincial and Dominion—might well give this matter some consideration, and upon their best breeding herds introduce some really high-class sires, even if they are obliged to pay \$25,000 apiece. Two or three hundred thousand dollars expended on high-class breeding stock in Canada would be returned fivefold inside of ten years, and, if the Governments use discretion in the selection of this breeding stock and the matings made therewith, it would be the best investment made in a long time. Canada is approaching a stage in her development where she must compete on the open market with other cattle-producing countries, and we should look at it as a business enterprise and be prepared for a stiff contest.

Good blood is no more important in any class of live stock than in horses. One glance at a horse is sufficient to tell one what his breeding is. We need more big, strong, good-quality, draft horses, and to stock this country with the right kind of breeding mares and stallions there should be plenty of opportunity afforded to mate the really good mares we have with horses better than themselves.

We have good foundation stock in Canada, but to build a thriving, prosperous, live-stock industry on this foundation we must continue to bring in better and still better sires.

### Speed Fiends on Country Roads.

Canada like practically all other countries, has gone motor mad. Life has been speeded up, and in the great haste to keep up with the times the speed limit is too often exceeded, precautions are not taken, and fatalities result. Perhaps ninety per cent., or over, of automobile drivers are careful in operating a car and considerate of others, but there is a small percentage so reckless that the great majority of automobile drivers are endangered, while the pedestrian lives in constant fear. We have road laws and other regulations enacted for the purpose of safeguarding the public, but autoists must go even further than these laws compel and give some consideration to those travelling in nature's way, or in a horse-drawn vehicle. Many autoists conform with the regulations while officers lurk around the corner in towns and cities but when those same drivers see a country road ahead of them they open the throttle and away they go regardless of law or consequences. There is too much reckless, dare-devil driving over country roads. We have road laws and they should be enforced in country as well as city.

### When Will Prices Fall?

The markets of the world are in a strange condition at the present time. Prices have reached a level that they have never reached before. Wages are abnormally high, and there is a disposition on the part of most working people to keep one eye on the clock. People everywhere are complaining loudly about the high cost of living, but it is worth observing that extravagance and improvidence are marked characteristics of the majority of the people of this country at the present time. People are demanding luxuries of one kind or another. They seem to be able to find the money to buy them, and they are not concerned about the future. Our cities are over-crowded—filled, apparently, with carefree, extravagant and pleasure-loving people, who live from day to day, taking no thought of the morrow. The conditions which exist in our over-crowded cities to-day are a plausible explanation of the high cost of food, clothing and articles of luxury, for the producers of Canada are in the minority. One man's guess regarding the future trend of prices is pretty nearly as good as another's, but it seems evident that the diminishing army of producers of necessities and luxuries are not

The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE DOMINION.

Published weekly by THE WILLIAM WELD COMPANY (Limited).

JOHN WELD, Manager.

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

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ADDRESS—THE FARMER'S ADVOCATE, or THE WILLIAM WELD COMPANY (Limited), London, Canada.

able to increase their output very much under existing conditions. Unless the consumers of this country substitute thrift for extravagance...

It is significant, however, that manufacturers complain, almost universally, about their inability to obtain raw material. Labor is perhaps largely responsible for this and the time may come before many expect it that plants will be obliged to slow down or shut down...

Nature's Diary.

BY A. BROOKER KLUGH, M.A.

There are few flowers which are more conspicuous in our spring woods than the Trilliums. The Large White Trillium, Trillium grandiflorum, which is abundant throughout Ontario...

The Red Trillium, T. erectum, which is common in western Quebec and Ontario and in many places in the Maritime Provinces, has narrow maroon petals and broad rhombic leaves which taper abruptly to a point.

The Painted Trillium, T. undulatum, is a very

handsome species which is common in the Maritime Provinces and eastern Quebec, and is found in some localities in Ontario. In this species the petals are narrow and white with a crimson V. The dark scarlet fruit of this species ripens in September.

The Nodding Trillium, T. cernuum, is found from the Maritime Provinces to western Ontario, but is, as far as my experience goes, rather local in its distribution.

On the flowers of the Large White Trillium, Canada Violet, White-hearts and other white blossoms one often finds, when he examines the flowers closely, a little white spider. This is one of the Crab Spiders, Misumena vatia, a species which spins no web but which lives on flowers, preying on the insects which come to visit them.



Fig. 1.—White Trillium. Fig. 2.—Star Flower. Photo by Klugh.

cheliceræ (poison-claws). The larger specimens of this species even seize such powerful and well-defended insects as bumblebees, though as a rule I fancy they usually refrain from attacking such dangerous insects...

While this species is white, with two pale chocolate stripes on the sides, when it is on white flowers in the spring, it is interesting to find that it turns yellow when it moves to yellow flowers later in the season.

A delicate little flower which is common in our woods is the Star Flower, Trientalis americana. The long, horizontal creeping rootstock of this species sends up a thin stem which terminates in a circle of from five to nine thin, light green, shiny, sharp-pointed leaves...



Yellow Adder's Tongue. Referred to in last week's issue.

Many species of fleshy fungi, that is mushrooms or toadstools as they are often termed, grow in our woods, and while the great majority are to be found in late summer and early autumn there are several species which appear at this time of year.

A Visit From the Drover.

BY SANDY FRASER.

I had just finished up the morning chores around the barn, the ither day, when who should come along but John McDonald, the drover. There isn't money around these parts wad ken him by that name, for the McDonalds are that plentiful in Glengarry that aboot all ye have to do, as a rule, to find oot who ony man is, is to ask him his first name.

But this McDonald, the drover, that I was speakin' aboot, has three names, as ye might say. It's the custom wi' us to keep one name in the family frae one generation tae another, especially if the name is a guid one, and John was the name that had descended to my friend, the drover, frae his grandfather.

Weel, when Johnny-Johnny-John had shaken hands wi' me and tauld me what like weather we'd been havin' for the last week or so, he looked around and says he; 'It's a fine farm ye have here, Mr. Fraser.' Just for all the world like a machine-agent will be talkin' when he calls in to try an' sell ye a binder or a mowing-machine.

Johnny-Johnny-John kept lookin' around till he noticed a piece o' road I had gravelled, frae the barn oot tae the high-way. 'It's a guid job ye've done there,' says he.

'Sae we went intae the stable, but before Johnny took a look at the pigs, or anything, he had to see the milkin'-machine and the ither results o' my dealin' wi' the agents that have been callin' around for the past twenty year, or mair.

When Johnny had looked around a while langer and passed his opinion on the coos an' the calves I says to him; 'Come awa' west to the hoose an' have a bite o' dinner. Ye were oot early, na doot.'

After we sat in tae the table Johnny says; 'What ye said, Mr. Fraser, aboot comin' west tae the hoose reminds me o' the way the auld folks used to talk.

'Na,' replied Johnny, 'It's like what I heard my auld mither say once. We were gettin' a new meenister and I asked her if she kened whether he was Scotch or no.' 'Oh, I canna say,' says she, 'they all speak sae genteel noo that I canna tell wha' Scotch.'

'But I must be on my way,' continued Johnny, gettin' up frae the table. I suppose ye'll bring those pigs oot on Monday?' 'A'richt,' says I, 'I will gin I'm spared.'

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# THE HORSE.

## How to Handle the Bad Horse.

By Dr. G. H. Conn.

While it is a fact that most draft and work horses are very tractable and easily handled, yet there are times when due to some disease or injured condition affecting them that it becomes necessary to restrain them. In restraining the horse it is done for the purpose of ensuring safety to the attendant and to enable the attendant to perform the necessary duty, whatever it may be; in other cases animals must be restrained to prevent them injuring themselves. There are many special methods and appliances for restraining the horse, but for our purposes there are several methods that can be utilized on any farm or in any stable. No method of restraint should be used that is liable to injure the animal. Methods of restraint that produce pain should be employed as little as possible.

There are three methods of restraint in common use; the use of an implement producing pain, thus occupying the animal's attention during the period that the pain is caused; the use of mechanical means to render the animal immobile, and the use of anaesthetics which renders the animal unconscious. The first two only concern us, and various methods are in use. In far too many instances methods of restraint are used that are not really necessary. It should be the policy of the good horseman to use such means just as little as possible. There is a very noticeable difference in men's ability to handle animals during a variety of circumstances and under a wide range of conditions. The horse is a creature of memory and quite often a firm hold of the reins and a stern command from the attendant is all that is needed in a great many instances.

The Use of the Twitch—This is the most common and the most widely used method of restraining the horse. It is very successful, and the ease and rapidity with which it can be used no doubt accounts for its being universally adopted by horse men the world over.



Horses Should Be Watered Frequently During Warm Weather.

It is used too many times when it really isn't needed due to the reasons just mentioned. It consists of a small rope or a piece of latigo leather, tied so as to form a small loop, just large enough to fit over the horse's upper lip; to this there is a handle fitted for twisting this loop after it has been put into the proper position. This handle can be of any material just so it accomplishes the desired results. Usually it is a short piece of wood, say from 12 to 24 inches long, that has a small hole in one end just large enough for the rope to pass through. The rope is placed through this hole and then fastened to form the loop.

The loop should be placed around the wrist of the left hand, and the operator grasps the halter of the horse with the right hand, if he is working alone; but if he has an assistant he permits him to hold the animal; in such a case his right hand is placed across the animal's nose to steady the head. With the left hand grasp the upper lip; release the hold of the right hand and slip the loop over the left hand and over the lip. With the right hand grasp the handle of the twitch, tightening it up by twisting it. It is best to make twitches small for if they are made too large the operator is quite likely to injure the animal by using too much force.

The twitch can also be used upon the ear in cases where for any reason it is not desired to use it on the nose. In no case should the twitch be used unless it is necessary and then never apply enough force to injure the animal. If the twitch is to be used for any length of time it should be removed often or it may produce an injury to the parts, and it will prevent the animal getting restless.

The War and Pulley Bridle—These like the twitch are instruments of torture, and are much used in the control of mean or vicious horses. They should never be used unless it is absolutely necessary. There are several ways that these two bridles can be made, but the

principles are the same, and for that reason we shall give you these methods that are easiest and permit of the cheapest construction. For making either of these a piece of 3/4 inch rope about 25 or 30 feet long and a small pulley is needed. This rope should be strong and of good quality. To make a pulley bridle take the rope and fasten the pulley on one end and then pass the loose end through the pulley until a loop about the diameter equal to the length of the horse's head remains. Put the loop in the animal's mouth as you would a bridle bit and then over the top of the head. The pulley should rest on the side of the head below the ear or any other location down to slightly below the eye. The pulley should be on the piece of rope passing over the top of the head, for then, when traction is applied, the loop will tighten and remain in position. This is a very effectual method of holding a mean or vicious horse. It can be used very successfully for a horse that has the habit of breaking loose while being led.

The war bridle works on about the same principle. The simplest way is to loop the rope about the animal's neck and fasten by tying just as snug as possible without interfering with the movements of the neck. Then take the loose end of the rope and pass it through this loop around the neck until the loop resulting is about 12 to 15 inches in diameter; place this loop in the animal's mouth the same as a bit and draw taut. There are not many horses but what can be controlled by either of these devices. Neither of them should be used unless it is absolutely necessary.

Taking up the Fore Leg—This may be done in one of two ways. First, by taking a broad, strong strap and holding up either of the front feet, while it is looped once around the fore arm; the long end is then passed around the cannon in the region of the fetlock and passed through the buckle and drawn quite snug. Another method is by taking a long rope and passing over the horse's back and around the body (thus making about 1 1/2 turns about the body) and by fastening the loose end of the rope to the foot in the region of the pastern and then pulling it up against the body by traction on the end of the rope on the opposite side of the body; rope

applied upon the loose end of the rope and the foot is drawn upward and forward. To eliminate pressure upon the windpipe the long end should be passed between the fore legs before it is placed about the hind foot. This is a very useful way to handle horses that kick while being harnessed. Care should be taken that the heels are not chafed by the rope. The longer the rope the less liable this is to happen.

There are many other methods of restraint, but when it is not possible to control the animal with the methods outlined here, it is advisable to secure a competent and experienced man that has the necessary apparatus for handling such animals.

## LIVE STOCK.

A stunted calf seldom catches up with the well-fed ones.

Does the bull you purchased this spring come up to your ideal of a herd sire?

The first six months of a calf's life either makes or mars its future development.

Better a good steer than a poor bull. Use the knife on the plain or mediocre calves.

If there is danger of pasture being short, sow a few acres to oats for summer pasture.

The undocked ewe is not a sign of good shepherding. Dock all the lambs when ten days to two weeks of age.

Selling the best animals will never enable a breeder to bring his herd to the highest rank. One cannot sell the best and continue to breed the best stock in the country.

Heavy milkers are seldom developed by allowing the calves to run with the cows. The pail fed calves are usually better rustlers than the suckling calf even though they do not look so sleek.

Feeding too heavy grain is one cause of growing pigs crippling. Too much corn in the ration of the growing pig confined to the pen tends to cause trouble unless used by a careful experienced feeder.

The amount of flesh an animal carries makes a big difference in appearance. A plain individual when thin oftentimes looks attractive when in flesh. It doesn't pay to allow an animal to get very thin even when feed is high priced.

At time of writing there are a lot of cattle on grass, although there is but scant picking. This is good for neither stock or pasture. Better to wait a week longer and give the grass a chance than have short grass all summer through injudicious pasturing in early spring.

Cut an opening in the corner of the farrowing pen large enough for the pigs up to weaning time. The exercise the pigs obtain running through the stable or out into the yard will help develop health, bone and muscle. Have a trough outside the pen for milk. It is surprising how much they will drink.

Feeders with sloping mangers to the passage have frequently been annoyed by the stock pushing the feed out. G. C. Burt of Wellington County overcomes the difficulty by having a wire stretched tightly from one end of the manger to the other. This wire is about three inches from the wall of the manger and prevents the cattle pushing the hay and straw beyond reach.

American breeders are opening a market for their surplus breeding stock in the Argentine. Wm. Hartnett has seventy-eight head of choice Shorthorns purchased for export to the Argentine, that great meat producing country. Breeders in that far off land are very particular as to breed type, quality, finish and breeding, consequently it is some of the best individuals from the herds that have been picked for export. As the Old Land has been the breeding ground for Americans' choice breeding stock so America, including Canada, is fast developing stock of the calibre desired for her sires or breeding females.

### Irish Dairy Shorthorns.

EDITOR "THE FARMER'S ADVOCATE":

Notwithstanding the turmoil of murder, arson and general disorder, afflicting Ireland for months past it is reassuring to find farmers there still able to keep their heads level. They recognize that the production of milk must go on as the staple business of the country, and wish to see the average milk yield brought up toward 600 gallons per year instead of the present average of 400 gallons. Their efforts to promote the milking Shorthorns are stimulated by sales in England lately such as one where non-pedigreed dairy Shorthorns made an average of over £100 each for 50 head while pure-bred bulls from dams of that type always command fancy figures. Consequently at a recent congress of South of Ireland, Cow-Testing Associations held at Cork it was resolved to form a South of Ireland Dairy Shorthorn Breeder's Association with the following objects:

1. To promote the breeding of deep milking dual-purpose Shorthorn cattle in the South of Ireland.

2. To collect, verify, and publish information regarding the capabilities of this breed of cattle.

3. To confer with the Department of Agriculture, County Committees of Agriculture and Agricultural Societies in regard to matters relating to the breed and matters pertaining to cow-testing.

4. To encourage the general adoption of systematic milk-recording and the formation of Cow-testing Associations.

5. To do all such things as may be considered advisable by the Society to encourage the breeding of deep-milking dairy Shorthorn cattle in the South of Ireland, and to promote the interests of owners and breeders.

Middlesex Co.

W. T.

### Infectious Ophthalmia in Cattle.

Infectious ophthalmia (inflammation of the eye) in cattle is present in all seasons, appearing here and there in single herds, or a more severe form of the disease developing as an epizootic and attacking many animals in an area of greater or less extent. An attack of the disease does not render an animal immune for any considerable time, but it is seldom that an animal suffers the second time the same season. The disease is no doubt caused by a specific virus, but the exact nature of the virus has not been definitely determined. The outer membranes of the eye are the parts usually involved, but in severe cases the deeper-seated structures become diseased as a sequel.

**Symptoms.**—The symptoms are usually characteristic, hence a diagnosis is usually easy. In the early stages the eyelids become slightly swollen and partially closed; there is a copious flow of tears over the cheeks from the inner corner of the eye. In many cases both eyes are affected, but in some cases only one, while in other cases one eye may suffer from a mild attack and the other from a more acute attack. Age appears to have little or no influence upon the susceptibility of an animal to an attack, as young and old seem alike susceptible. While sheep apparently suffer from a similar or the same disease, horses, mules, asses, dogs and cats appear to be immune. Later the tears become mixed with mucous and pus, and adhere to the hair of the face. The appetite is usually more or less impaired, according to the severity of the attack. The hair over the body becomes somewhat dry and rough. Thirst is usually somewhat excessive, and the animal drinks frequently if allowed free access to water of moderate temperature. The temperature is more or less increased, in some cases reaching 103 to 105 degrees Fahrenheit, and the patient loses flesh and becomes gaunt, in proportion to the distress experienced.

In mild cases, especially when treatment be given in the early stages, the increase in temperature, and in fact all the symptoms are only moderate and recovery is rapid. In severe cases the animal evidently suffers acutely. All symptoms are well marked: the eye or eyes present a whitish appearance over a greater or less area of their surface. This is often spoken of as "a scum over the eye," but this whitish substance is not external, the color is due to a deposit of lymph between the layers of the cornea (the outer covering of the eyeball). External to this is the conjunctiva (the mucous coat). In severe cases it is not unusual for a bulging of the eyeball to be noticed, this bulging soon becomes more localized, usually near the centre of the eyeball, the parts become reddened in color, due to escape of blood from the capillaries, eventually it bursts and discharges a bloody pus, and often refuses to heal.

The duration of the disease depends upon the severity of the attack; whether one eye becomes diseased and later the other, or whether both become involved at the same time, or one escaped an attack; also whether treatment was given in the early stages. In mild attacks a complete recovery may take place in ten to twelve days; in severe cases it may be from one to three months before inflammation subsides, and there may or may not be complete recovery. An attack may terminate in complete recovery (called resolution); there may be partial or complete blindness, owing to opacity of the cornea or lens; and there may be escape of the humors of the eyeball and consequent collapse of the sac, or an ulcer that refuses to heal may remain on the eyeball.

**Treatment.**—Non-infected animals should be removed to healthy quarters. The infected should be kept in comfortable, partially-darkened quarters. It is good practice to give each a mild laxative of one to two pints raw linseed oil, and feed on feed of good quality and laxative nature. A lotion made of ten grains sulphate of zinc, twenty drops of fluid extract of belladonna and two ounces distilled water should be got. The affected eye or eyes should be well bathed with hot water three times daily, and after bathing a few drops of the lotion should be dropped into each out of a dropper. Whether or not the stable be partially darkened, the patients must be excluded from direct sunlight and drafts. If after inflammatory action ceases, there is partial or complete opacity of the cornea, indicated by the scum-like appearance over the eyeball, a few drops of a lotion made of five grains of the nitrate of silver to one ounce distilled water should be dropped into the eye twice daily. If an ulcer forms it should be carefully touched with a pencil of the nitrate of silver once daily for a few days. If the lens becomes opaque the sight of the eye will be totally lost. The diseased must not be again allowed with the non-infected animals until after recovery, that is, until all inflammatory action has subsided, although there may be some permanent defects as sequels. The quarters in which the diseased have been kept should be thoroughly disinfected before healthy stock is again introduced.

W. T.

### Dipping the Sheep.

With the average flock owner dipping is not a general practice, although it is to the advantage of every sheep owner that he dip his flock regularly twice a year, not only to destroy ticks and lice but to combat skin disease. If the sheep are infested with vermin, a first-class quality wool cannot be obtained, and the best of care and feed will not make up for the ravages of these pests. It is impossible to get gains where vermin is allowed to run riot. What we need is fewer ticks and more sheep. While every farm may not be adapted to the raising of sheep, yet more might be kept than are. The flocks should be given the attention which will enable them to make the maximum returns. Dipping is one practice which will help increase the revenue from the flock. Fortunately, our flocks are comparatively free from skin diseases, such as scab; therefore, dipping is chiefly necessary to destroy the tick, which is universally

known as a body pest of the woolled class of stock. The necessary investment for dipping the flock need not be large. Where only a few sheep are kept they may be dipped in a tub, but where the flock runs to twenty or more individuals it is advisable to build a regular dipping tank. The accompanying illustration will give an idea of the structure, and dimensions are from 8 to 9 feet long at the top from 3 to 4 feet long at the bottom, 2 feet 6 inches wide at the top, and one foot wide at the bottom. The depth may be from 3½ to 4 feet, and there should be a sloping gang-way leading to the bottom of the vat. Then it is advisable to have a draining board on which the sheep may stand for a few minutes to allow the material to drain from their wool and flow back into the tank. Metal dipping tanks may be secured, or a tank may be constructed of lumber or concrete. Where sheep are being purchased at intervals throughout the season, the dipping material may be left in the tank and the new-comer dipped before being placed with the main flock. Where the flock is large, a couple of yards may be built with the dipping vat between. A tight floor in the one yard, to which the sheep go after being dipped, may be so constructed as to drain the material back into the vat. On some of

selves to the lambs. For this reason, they, too, could be given a thorough drenching as they will not thrive if tormented by either ticks or lice. In some cases it is necessary to give the sheep another bath ten days later to insure the destruction of vermin hatched from eggs since the first dip.

The directions for using the commercial mixture should be followed to the letter, and care taken not to allow the material to get into the eyes and nostrils of the sheep. Warm water may be added at frequent intervals to keep the temperature right. Another method is to put hot stones or hot irons into the tank. The cost of dipping the sheep is so small, as compared with the benefit accruing, that no one should fail to dip the flock this spring. If you haven't got a regular dipping vat, then use a large tub or trough. If the ticks are destroyed in the spring, the sheep will not be bothered much during the summer, and the thriftiness and health of the flock will be greater than where the sheep are allowed to fight these pests without any assistance from the shepherd.

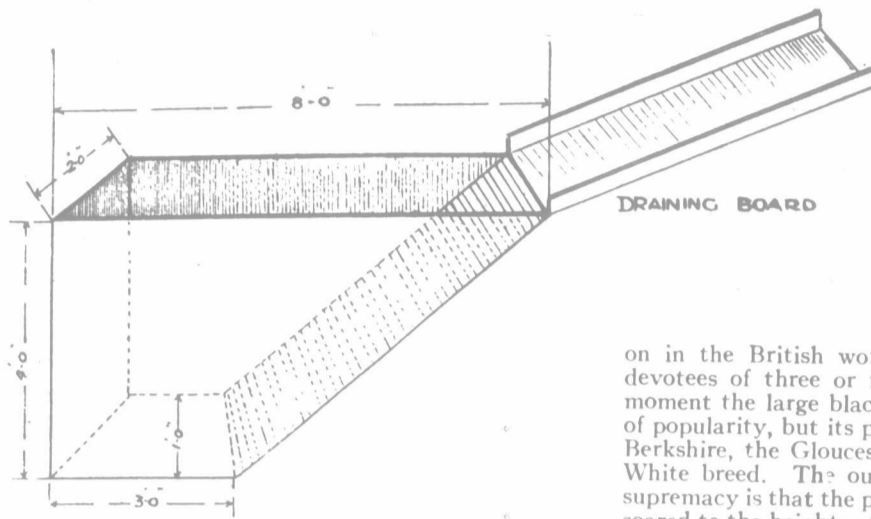
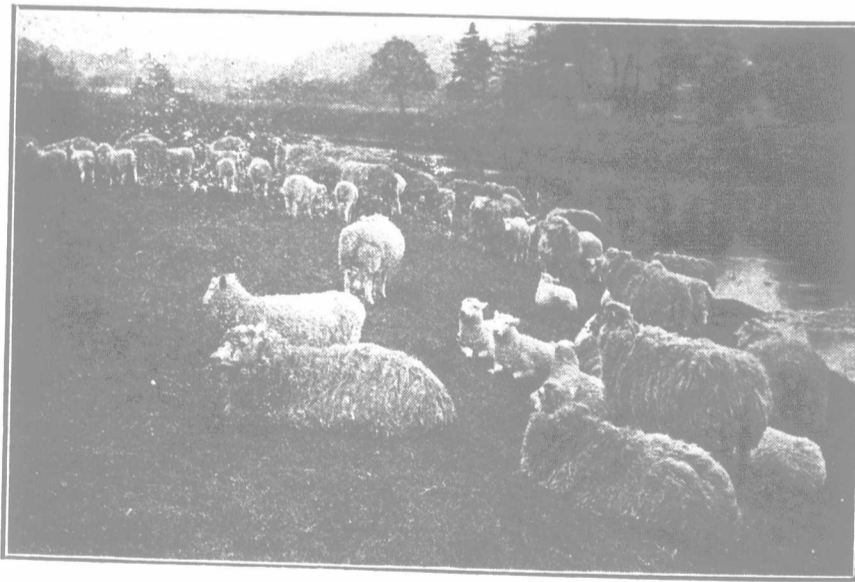


Diagram of Dipping Tank.

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A Profitable Farm Flock.

the ranches the dipping equipment is so extensive that several thousand sheep may be dipped in the course of a day.

There are several proprietary dips on the market that have proven satisfactory. Home-boiled lime and sulphur has been used, but this mixture has given place very largely to the commercial material, which may be purchased in tins on which is printed the full directions for using. The usual time for dipping is shortly after shearing, provided the weather is warm, and again in the fall before the flock goes into winter quarters. The water used for dipping should be warmed, and the sheep should remain in the dip approximately two minutes, the wool. Dipping should be delayed until after the ewes have lambed. It will be found that the ticks will very often leave the shorn ewes and attach them-

### Fashions in British Pigs.

How long it will last and where it will end, dependent knoweth not, but there is a remarkable battle going on in the British world of pig breeders between the devotees of three or four fashionable breeds. At the moment the large black pig is riding on the crest wave of popularity, but its position is being challenged by the Berkshire, the Gloucester Spotted pig, and the Middle White breed. The outcome of this struggle for breed supremacy is that the prices now being paid for pigs have soared to the heights of those given for Shorthorn cattle, even in the period known as "the golden age" of that breed—when breeders in Canada, U. S. A. and at home sought to buy their Booth and Bates cattle at figures which drew a derisive yet clever and oft quoted poem from Punch.

At the moment £600 and £700 are being paid for boars and gilts; herds are being sold at an average of over £100 per head; gilts in any number make £200; boars "just so" in matter of quality but of correct ancestry are retailed at £100, £90 and £80, where a few years ago they were difficult to dispose of for a five-pound note. A vendor who placed a number of young boars in a sale some years ago was asking for a moderate "average," if not a very ordinary sale return. To-day, he has not to fear that result, for with the establishment of so many new herds, the fresh breeders have to seek for boars of different family lines to enable them to conduct their breeding operations without the risk of too close inbreeding. At the time of writing 700 guineas is the outstanding price, paid on April 15th at Mr. Terah F. Hooley's sale at Dry Drayton, Cambridge, for the Large Black gilt, Drayton Best of All, farrowed on April 25, 1919, and the winner of first prize for the best single pig of its breed at the Smithfield Club Show last winter and also champion pig of the show against all breeds. She scaled 3 cwt. 2 grs. 15 lbs. at 7 months, and 6 days old. In gilt to Drayton Democrat her buyer, G. Holt Thomas, fixed her value at the extraordinary figure named. Other gilts in this sale realized 500, 460 and 400 guineas, and the fine average of £122 15s. was made on 82 head, or a full total of £10,066.

Berkshire pigs are meeting with a revival in trade in the Old Country. The British Berkshire Pig Society held a show and sale at Reading on April 14th, when 54 sows and gilts were disposed of at an average of £61 5s. apiece and 33 boars at an average of £56 17s. each. Thus the 87 head made a total of £5,211 3s. or an average of £53 18s. apiece. W. Howard Palmer gave 300 guineas for J. Nagle's boar Hammond's Hot'entot and 370 guineas for Lord Stalbridge's boar, Motcombe Scott, first and reserve champion at the show held in connection with the sale. In the sow department, Mrs. Beatrice Gervoise got 200 guineas for Herreard Primula 4th, first and champion of her sex.

Middle Whites (i.e. middle weight Yorkshires, as you call them) sold well at John Chivers' sale at Histon, Cambridge, on April 13th. Four gilts, all sisters, by by Histon Halo, averaged £93 apiece. Mrs. Hayes Sadler gave 110 guineas for a lengthy and level July, 1919 gilt, by Shrewsbury, the champion boar at the Royal show. All told some 62 Histon pigs averaged £50 6s. 9d., or a total of £3,132.

ALBION.

Supplementary estimates amounting to \$4,118,571 have been tabled in the Provincial Legislature. Of this amount \$176,000 goes to agriculture and \$50,000 to colonization and immigration.

The weather the all-important been one of little frost flock-masters been greatly re wet weather. soil throughout for sowing. F in the seed, but been a better s

At the begin bodings as to There was not and both hay and straw reac had the winter frost and snow enough. As the situation is di have been brou and even at th full bite for she is bitterly cold, been fairly har ening and the su a touch of frost than otherwise.

In the earl planting was s although the c usually carried and at this 'im ground. A ph a considerable p sold. There is The cost of pro coast is thin ar sea-weed or wi of ammonia a returns are, un extraordinary. with early pota and in every c these potatoes. This catch cro kindred fodder however comm down by mee method of she acreage suitab crops every ye after the spri This year the remarkably we striking contr is that by the realized full va promises to be having been in ensure a very disposed of th late potatoe— use—were ofte about this dat a matter of Government are likely to £12 15s. per which even y creased cost must leave a profit indee. sold their cro ber last got £ at that figur in 1919 was a profitable ente

FARMERS AND

A royal c recently been the whole qu incidence of Amongst othe relation of fa tax has natura review. Pric farmers were like other tucers on thei keeping was a rough and re was resorted representing was not asses to pay a rent tax at all, and are rented at farmer had h to his farm h arising out o basis, and in on the basis o the great ma

## THE FARM.

### Our Scottish Letter.

The weather at the present moment (April 13) is the all-important consideration. The past winter has been one of abnormal rainfall, with comparatively little frost or snow. It has been a good winter for flock-masters and graziers, but work on the land has been greatly retarded through the prolonged period of wet weather. Only within the past few days has the soil throughout Scotland generally been in condition for sowing. Farmers, therefore, are very busy getting in the seed, but even on the driest soils there has often been a better seed-bed.

At the beginning of winter there were many forebodings as to how stock would be carried through. There was nothing more than an average crop of roots, and both hay and straw were scarce. Prices for hay and straw reached a figure almost unprecedented and, had the winter been severe with prolonged spells of frost and snow, the situation might have been serious enough. As things have turned out on the balance, the situation is distinctly favorable. Stock of all kinds have been brought through at a minimum of expense, and even at this early date pastures are affording a full bite for sheep. At the time of writing, the weather is bitterly cold, and for the past two mornings there has been fairly hard frost. However, the days are lengthening and the sun has considerable strength, consequently a touch of frost under such conditions is helpful rather than otherwise.

#### THE POTATO PLANTING.

In the early potato areas on the Ayrshire coast planting was got through without serious difficulty, although the conditions were not ideal. This work is usually carried through in the second half of February, and at this time haulms are beginning to appear above ground. A phenomenal feature is the fact that already a considerable portion of this early potato crop has been sold. There is no more speculative crop than this. The cost of production is very high; the land along the coast is thin and poor, but when heavily manured with sea-weed or wrack as it is called, and heavy dressings of ammonia and potash where the wrack fails, the returns are, under normal conditions, considered to be extraordinary. This land is cropped year in, year out, with early potatoes, the variety most popular is Epicure, and in every case a catch crop is at once sowed after these potatoes are lifted in the beginning of June. This catch crop consists of rape, Italian rye-grass, and kindred fodder sown broadcast. These catch crops, however composed, are not cut down but are eaten down by sheep in the late autumn. This is an ideal method of maintaining the fertility of the soil, and the acreage suitable for this intensive farming yields two crops every year. Potatoes for winter use are planted after the spring seeding and are lifted in October. This year the crop of 1919 is reported to be keeping remarkably well in the pits, in this respect forming a striking contrast to the crop of 1918. The likelihood is that by the first of June, when the crop of 1919 should be almost wholly disposed of, potato growers will have realized full value for all they have to sell. The price promises to be abnormally remunerative; a maximum having been imposed by the Government which will ensure a very large profit to those who had not already disposed of their crop. In pre-war days growers of late potatoes—that is potatoes for winter and spring use—were often glad to take £2 per ton or thereby from about this date onwards. As a matter of fact, under Government control they are likely to get as high as £12 15s. per ton; a figure which even with the increased cost of production must leave a very handsome profit indeed. Farmers who sold their crop in November last got £9 per ton, and at that figure potato growing in 1919 was an exceptionally profitable enterprise.

#### FARMERS AND THE INCOME TAX.

A royal commission has recently been enquiring into the whole question of the incidence of Income Tax. Amongst other things, the relation of farmers to the tax has naturally come under review. Prior to the war farmers were not assessed like other traders or producers on their profits. It was recognized that farm book-keeping was a somewhat difficult proposition, and the rough and ready method of assessing for income tax was resorted to, of taking one-third of the rent as representing the profit. As income tax in those days was not assessed on incomes below £160, a farmer had to pay a rent of £180 before he became liable for income tax at all, and as the great majority of farms in Scotland are rented at less than £480, it followed that unless a farmer had an income from other sources in addition to his farm he paid no income tax. National exigencies arising out of the war necessitated a revision of this basis, and in 1915 income tax was assessed on farmers on the basis of one year's rent. This, of course, rendered the great majority of farmers liable. Two years ago a

further change was made, and farmers were assessed on the basis of two years' rent representing their profits. The royal commission has now reported that this method of assessing farmers should be abolished, and that henceforth farmers should be assessed like other traders and producers on the profits disclosed by their accounts. The meaning of this is, of course, that farmers must keep accounts like other business men. Recognizing the difficulties attending farmers accounting, the Government has appointed an agricultural costings committee or commission. Under its auspices a large body of trained men has been organized; each of these has a district assigned to him, and it is his duty to render every assistance to farmers in his district in keeping correct accounts, showing costings and profits. It is not the intention of the Government to push this alteration of the incidence of income tax on agriculturists unduly. Time will be given to farmers to



A Bunch of Shorthorn Calves.

adjust their methods, but the determination of the legislation is that farmers must pay on profits, and that these profits must be disclosed by accurate accounting as in other industries. The fairness of this cannot be challenged. It has long been a sore point with other traders and producers that farmers were dealt with in this exceptional way. With the advance of education and a more extended acquaintance with the scientific side of agricultural methods, excuses for neglect of bookkeeping which were once plausible can no longer be maintained. I anticipate a very large increase to the revenue as a result of this altered method of levying income tax on farmers.

#### TRIALS OF THE FLOCK-MASTER.

Hill flock-masters have recently held several interesting conferences dealing with matters affecting their interests. The two chief mountain breeds of Scotland are the Blackfaces and the Cheviots. Speaking generally, the former are the more hardy and are to be found on the lower slopes, and predominate on the borders of England and Scotland and in the north and west Highlands. The interests of flock-masters owning the two breeds are almost identical. They have to contend with the same difficulties in carrying through their stocks during severe snow-storms. The Blackface



Hereford Bull Calves.

breed is celebrated for its tenacity of life. Astonishing tales are told of the length of time during which ewes have been buried beneath snow wreaths and taken out alive. Gradually their breath tubes, as it were, are through the snow and breathing tubes, as it were, are formed. This doubtless has much to do in assisting the ewes retaining new vitality. The sheep also eat the snow. They exhibit wonderful sagacity in anticipating a snow storm, and in avoiding areas in which they are likely to be smothered. I do not know that Cheviots are quite so sagacious, but they are a marvellous breed, having a beauty of symmetry and form all their own, and their strong white faces impart a striking beauty to the breed. During the past thirty years Cheviots have been greatly improved in respect of size and

hardiness. From forty to fifty years ago they were bred rather soft, and during one or two very severe winters flock-masters sustained unusually heavy losses with the result that in a large number of cases the Whitefaces were dispensed with and Blackfaces took their place. Sheep breeders in Scotland have to contend with three extremely troublesome and so far obscure diseases. These are known popularly as louping-ill or trembling, braxy, and scrapy. The first and third are popular names derived from marked symptoms showing the presence of the disease. Sheep affected with the first are seized with trembling which develops into a curious gait to which the term "louping," or a sort of leaping feature is attached, hence louping-ill. "Scrapy" is a disease which manifests itself by the sheep attacked avoiding its fellows, wandering away alone and scraping itself against any sort of obstruction it can discover. The origin of the name Braxy is unknown. It cannot be said to convey any idea of the symptoms of the disease. I suspect it has a Gaelic origin. Usually it is the best thriven hogs or young sheep that are attacked by braxy. It would be idle for a layman to pretend to a knowledge of its cause, seeing that up to this date scientific experts have failed to discover a plausible explanation or to suggest an effective remedy. All three diseases are localized; there are areas in which each is much more prevalent than elsewhere, and there are very extensive areas in which all three are unknown. A determined effort is to be made to investigate the causes of these diseases. The losses from them are annually estimated to run into many hundreds of thousands, if not one million pounds sterling. An association has been formed to consolidate effort, to raise funds, and to employ concerted scientific assistance in investigating at first hand the causes of these diseases, and if possible to find a remedy.

Another form of handicap against which hill flock-masters in particular have to contend is an over-weening demand for sport to the detriment of sheep grazing. It cannot be denied that the increase of rabbits is detrimental to the promotion of pastoral farming. Rabbits are vermin, and they multiply at an amazing rate. In that respect they are perhaps only excelled by rats. They pollute the pastures, and it is a known fact that sheep will eventually not graze pastures that are over-run with rabbits. In like manner flock-masters have to contend with a foolish prejudice on the part of game preservers against burning heather. In order that heather may be kept young and tender it must be burned in fixed rotations, but were flock-masters always to burn it when the weather permitted they would of necessity destroy the nests of grouse. Consequently Acts of Parliament have been passed restricting the period during which heather can be burned. In a spring like the present, with an excessive rainfall, it is almost impossible to burn heather within the prescribed period and there is an agitation for the extension of the period. The prescribed date is the middle of April; flock-masters are pleading for an extension to the end of April; and as this was conceded during the war in the interests of food production, that is for the purpose of growing crops, the demand seemed reasonable that the concession should not now be withdrawn. Another problem is connected with the creation of what are called deer forests. A deer forest is really not a forest at all. It is, or it should be, the higher portions of mountain grazings which are not suitable for sheep. Unfortunately the growth of wealth led to such active competition for these "forests" that many proprietors cleared off the sheep and put on deer, where the former were undoubtedly the better class of stock for the well-being of the country. If deer could be kept to their own high grazings the evils would not be so great attending their existence, but unfortunately during severe weather they invade the lower grounds, and if frosts and snows be long continued they come right down on to the low ground and destroy both crops and stack-yards. Their powers of destruction are even greater than their capacity for the consumption of food. This has long been a burning question. War experiences have taught farmers many lessons. One of them is that deer forests have multiplied to a wholly indefensible extent and that this policy of substituting sport for agriculture, deer for sheep, must take end. The problem of re-peopleing the deer forests with flocks of sheep is not a simple one. Nevertheless, it is a problem which must be attacked and solved if the land of this country is to be used for agriculture and not converted into a sporting arena.

#### IN THE CLYDESDALE ARENA.

Clydesdale interests have received a filip during the past month by the shipment of the Government of Alberta of James Kilpatrick's Craigie Masterpiece (18297). This horse was selected by Norman Weir on behalf of the Hon. Duncan Marshall, Minister of Agriculture for Alberta. It cannot be gainsaid that Mr. Weir has done his work well. The horse is an ideal animal for the purpose in view. He has a beautiful top, with the best of "underpinning" as you call it. He has a head, neck and shoulders like those of a Thoroughbred, a splendidly-rounded barrel, with good back and quarters. His breeding is of the choicest, and his reputation as a prolific sire has been well proven and thoroughly attested. I do not think Mr. Weir could possibly have done better. The horse has been shipped, and in order to this being done it became necessary to get the district horse-breeding society, which had hired him for 1920, to rescind their contract. This they did on Mr. Kilpatrick placing at their disposal a uterine brother of Craigie Masterpiece, a younger horse, but is one which promises to be equally successful. It is obvious that the movement represented by this ship-

reason, they, too, could as they will not thrive. In some cases it is her bath ten days later than hatched from eggs.

commercial mixture and care taken not to be added at frequent intervals. Another point is that the so small, as compared to one should fail to dip haven't got a regular tub or trough. If the sheep will not be and the thriftiness of the flock will be greater than where they are allowed to fight pests without any assistance from the sheep.

### Conditions in British Pigs.

How long it will last and when it will end, dependent on the weather, but there is a remarkable battle going on between the breeders of the noble breeds. At the time of writing the pig, and the Middle East struggle for breed being paid for pigs have been for Shorthorn cattle, the golden age" of that U. S. A. and at home Bates cattle at figures and oft quoted poem

00 are being paid for sold at an average of number make £200; quality but of correct and £80, where a few dispose of for a five- of a number of young asking for a moderate sale return. To-day, with the establishment breeders have to seek to enable them to without the risk of writing 700 guineas April 15th at Mr. Drayton, Cambridge. Best of All, farrowed of first prize for the Smithfield Club Show of the show against 15 lbs. at 7 months, days old. In gilt to Democrat her buy-Holt Thomas, fixed at the extraordinary named. Other this sale realized 500, 400 guineas, and average of £122 15s. on 32 head, or a of £10,066.

shire pigs are meet- a revival in trade Old Country. The Berkshire Pig Society show and sale at on April 14th, when and gilts were dis- at an average of apiece and 33 boars average of £56 17s. Thus the 87 head total of £5,211 3s. or age of £53 18s. apiece. ard Palmer gave 300 for J. Nagle's boar and's Hot'entot and peas for Lord Stal- boar, Motcombe first and reserve nnection with the s. Beatrice Gervoise mula 4th, first and

eight Yorkshires, as ers' sale at Histon, gilts, all sisters, by piece. Mrs. Hayes thy and level July, mption boar at the tion pigs averaged ALBION.

ting to \$4,118,571 legislature. Of this re and \$50,000 to

ment of Craigie Masterpiece represents a new departure in stock breeding in the Northwest. Its issue will be closely followed, and no doubt Mr. Weir's selection will be subjected to keen criticism. I have every confidence that the criticism will mainly take a favorable form. It is not possible to please everybody, but Mr. Weir certainly pleased himself within the limits that were open to him. By that is meant that he was under the necessity of purchasing not the horse which possibly pleased him in every detail, but only the horse for which it was possible to obtain liberation so that he might be shipped in time for the coming season in Canada. Mr. Weir has certainly got a right good horse, and it will surprise us if Craigie Masterpiece does not do much to rehabilitate the Clydesdale in the good opinion of some who may be disposed to cavil at inferior representatives of the Scottish breed which had found their way to Canada.

The Aberdeen spring show of Clydesdales has been held since I last wrote. It was a conspicuously successful event. The feature of it was a class of yearling fillies of wonderful merit. The leader was a daughter of the old sire Royal Favorite (10630), an exceedingly well-balanced and well-colored filly with beautiful limbs and very nice top. She was shown by her breeder, Mr. Robert Young, Parkhall, Polmont, Stirlingshire. Another feature was an extraordinary big two-year-old filly named Dunure Maud, owned by Falconer L. Wallace, of Balcairn, the great Shorthorn breeder. This is a grand filly of abnormal size for a Clydesdale of her age, and yet very uniform in her build. She is not long legged, but very deep with a grand top. Her future will be watched with interest as she represents a somewhat unusual type in the modern Clydesdale.

SCOTLAND YET.

**AUTOMOBILES, FARM MACHINERY AND FARM MOTORS.**

Much of the satisfaction and success in plowing depends upon the adjustment of the plow. Take time to adjust it properly and save time later on.

The man who gets the greatest amount of satisfaction from the tractor is the one who takes the greatest care of it and avoids expensive losses of time in the busy season.

How are the cultivator teeth? Are they sharp and in good condition for the spring work? The harrows also should be put in good shape and the teeth sharpened and cleaned.

The long delayed spring has given a little more grace to the man who has not got his farm machinery in shape for the spring work. With labor so scarce and expensive it will pay to utilize every spare moment in providing against delays later on that might have been avoided.

Has the mower been lying outside all winter? If so and if you expect to work with it this summer it will probably need some repairs. Repairs take considerable time and when haying time arrives there will be no time to spare. Get at it on the first rainy day and see that the haying machinery is in condition for the work it must do.

Before you blame the tractor for the difficulties experienced and the poor work done, be sure that you know how to adjust the tractor implements and how to operate the tractor properly. There are plows and plows for instance and because one can ride a sulky or handle a walking plow expertly is not necessarily an indication that one can pose as an expert with a tractor plow.

**Some Tractor Pointers for Everyday Use.**

This article consists of excerpts from a bulletin recently issued by the U. S. Dept. of Agriculture covering the results of an inquiry among more than 300 farmers in North and South Dakota concerning their experience with tractors. We have selected such parts of the bulletin as are deemed of greatest interest to our readers.

The cost of performing farm operations with the tractor is made up of four main factors; namely, operating expenses (including fuel, oil, and greases, repairs, depreciation, and man labor. To these are added some less important charges, such as interest on the investment, cost of housing, and time spent in caring for the outfit, other than repair work.

The approximate cost of plowing per acre with a tractor under conditions described as calculated from figures obtained would be as follows: 2-plow, gasoline, \$2.00; kerosene, \$1.79; 3-plow, gasoline, \$1.85; kerosene, \$1.55; 4-plow, gasoline, \$1.66; kerosene, \$1.37.

The items of cost include fuel, oil, greases, repairs, depreciation, man labor and interest. The cost of gasoline is figured at 99 cents and of kerosene 59 1/2 cents per gallon each case, but 17 1/2 cents of the kerosene cost is for gasoline for starting.

For all field operations the daily charges for interest, depreciation, and man labor will, of course, be about the same, but must be divided by the acreage covered by the implement used. This average will vary with different implements. The fuel and oil charge will be the same for a 10-hour day in other field operations

as in plowing, provided the tractor is loaded to the same extent. This, however, frequently is not the case. If a comparatively light load is drawn, the fuel and oil consumption will be somewhat reduced, but not in proportion to the load. For stationary work, if the engine is working to full capacity, the fuel and oil charges will be approximately the same as for a day's work in plowing, but no grease will be used on most machines. This, however, would be only a small item.

**ECONOMY.**

From the figures given it will be noted that the cost of plowing or performing other field operations with a tractor is approximately the same as with horses, excepting for the item of man labor. This will average lower with the tractor than where horses are used, assuming wages to be the same in each case.



The Operator Should be Able to Handle Both Tractor and Implements Easily.

This has been true of practically all improved farm machines, even of the grain binder, which is generally considered one of the greatest agricultural inventions of the nineteenth century, but which did not, contrary, perhaps, to general opinion, decrease the cost of harvesting wheat to any considerable extent, though it did increase about eightfold the acreage which one man could handle.

It should be remembered that the cost of doing the work with a tractor in most cases can not be compared directly with the cost of doing it with horses, since on farms where tractors are used, a number of horses generally are retained; any comparison, therefore, must be made between the cost of operating the farm with horses alone, and the cost of operating with the tractor and a certain number of horses. Not infrequently horses stand idle while the tractor is being used for field work because sufficient help is not available to use them at the same time, and in such cases part of the cost of their maintenance must be considered when figuring the cost of farm operation since they are as much a part of the farm power plant as is the tractor.

Neither should it be forgotten that not only should the relative expense of operation with the two methods be considered, but also the relative results.



The Wearing Parts of the Tractor Should Not be Exposed to the Dust.

Not a few farmers, when considering the purchase of a tractor, hesitate because of the fear they may not be able to do the work as satisfactory as with horses. This applies particularly to plowing. That there is little reason for this attitude is indicated by the fact that 37 per cent. of tractor owners report that the quality of work, done by the tractor is better than done by horses, while only 2 per cent. say it is poorer. The remaining 61 per cent. see no difference.

The quality of work done in plowing does not depend so much upon the tractor as upon the plow and its adjustment. Under average conditions, the work done by most engine gang plows when properly adjusted is fully equal, and often superior, to the work done by either a walking or gang plow drawn by horses and operated by a skillful plowman. If a job of plowing where a tractor is used is not satisfactory, it is not usually the fault of the tractor, but of the plow, or, more probably, it is due to improper adjustment of the plows. Of course, in fields with obstructions, sharp rocks, etc., the tractor may be responsible for poor work because of its clumsiness, but under most conditions the plow and the operator determine the quality of the work done. The tractor's part is to furnish the power to pull the plows.

The average depth of plowing done with tractors by the Dakota farmers who furnish data is slightly less than 6 1/2 inches. The average depth they had previously plowed with horses was about 5 inches. While this deeper plowing is ordinarily considered as indicating a better quality of work, it does not appear to have had any marked effect on the crop yields, although increases from this cause were reported in a number of cases.

As to the quality of disking, or other work on plowed land, it will, of course, as with plowing, depend largely upon the implement drawn and the skill of the operator. The question of packing the soil is usually more important in connection with work on plowed land than in plowing, but that this is not a serious drawback, with modern tractors in a large portion of the Dakotas is indicated by the fact that 70 per cent. of Dakota tractor owners reporting say that their machines are satisfactory for use on plowed land.

The reliability of a tractor depends to a very great extent upon the ability of the operator. Of 281 tractor owners in the Dakotas who answered the question as to how many days their tractors were out of commission when needed, 139 (49 per cent.) reported that their outfits were not disabled a single day when needed during the past season. Of the remaining 51 per cent. the average number of days their tractors were out of commission when needed was 6. This average, however, did not include five men who stated that their machines were out of commission a large part of the time.

Of the tractors owned by Dakota farmers reporting, about 93 per cent. are operated by the owner or some member of his family, the best results usually being obtained by this class of operators. Thirty-two per cent. of Dakota owners reported no time lost in the field on account of trouble with the outfit. This probably means that the time lost was not worth mentioning. Most men do not consider it trouble so long as they know at once the cause of stoppage or other irregularity in the engine's operation and are able to remedy it promptly. The average time lost per day by the 68 per cent. reporting trouble is a little over three-quarters of an hour.

**DISPLACEMENT OF HORSES.**

The reports show that on Dakota farms, horses are displaced by the tractor on about 57 per cent. of the farms where the tractor is bought and where no increase is made in the acreage farmed. The tabulation of the reports from 108 farms where no increase was made in the acreage after the purchase of the tractor showed that on 62 of these farms horses were displaced while on 46 the same number were kept as before the purchase of the tractor. On the first group of 62 farms, with a total crop acreage of 18,904, or an average of 305 crop acres per farm, a total of 630 horses were kept before the purchase of the tractor, while only 406 horses are now used on these farms. In other words, an average of slightly less than four horses were displaced on each farm by the purchase of the tractor. On the second group of 46 farms, having a total of 15,553 crop acres, an average of 338 for each farm, 409 horses are now kept, the same as before the purchase of the tractor.

For a number of years following the introduction of gasoline and kerosene tractors the only special equipment for use with these machines was the gang plow. Experience soon demonstrated, however, that a great many of the horse-drawn machines which could be attached behind the tractor were not sturdy enough for use with mechanical power, because the latter is more powerful and unyielding than horses, and machines used in connection therewith are subject to more sudden and severe jolts. As a consequence during the past two or three years, more attention has been given to the development of disks, binders and other machines especially constructed to withstand the heavier service.

It is obviously impossible to obtain maximum results with a tractor when it is used with implements designed primarily for use with horses, and the objection of many tractor owners that the tractor can not be used with profit for certain types of field work will probably cease to hold good with the further development of special machinery for use with the tractor. There is considerable activity at present in the line of further inventions of implements and attachments designed especially for use with the tractor. Many of these will doubtless increase its value for farm work, making it practicable and economical for many field operations where its use is now both impracticable and uneconomical. It is for the purpose of doing work of the nature last mentioned that several horses are often kept after the purchase of the tractor. With the development of special machinery as above outlined, it seems probable that a higher percentage of work stock will be displaced where the tractor is used.

The amount of repairs required depends upon many factors, the most influential of which is the proficiency of the operator and the care he gives the outfit, both when in use and when idle. The conditions under which the outfit is used—that is, whether on rough ground, in dusty fields, etc.—the load it is required to pull, and, of course, the quality of the machine itself, all effect the repair bills. Many tractors are kept in repair by the manufacturer free of charge during the first year's service, excepting such items as are caused by some fault of the operator. It is not until the second year, therefore, that the owner bears the full expense.

Of 110 tractor owners in the Dakotas who had used their outfits one season or less (average age, 10 months), 38 reported that they had spent nothing for repairs. The others had repair bills varying from a few cents to \$100 or more, the average being \$29, making the average repairs for the entire group about \$19. The average repairs for 137 Dakota outfits between the

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ages of 13 and 24 months (average age, 19 1/4 months)  
was \$40. For 49 machines between the ages of 25 and  
36 months (average age, 33 months), average, repairs  
amounted to \$97.

The figures reported for repairs indicate an annual  
repair charge during the first three years of a tractor's  
life of about 3 per cent. of the first cost, but this would  
undoubtedly increase during the latter years of its life,  
as is the case with most other machines. It would not  
seem safe to expect the cost of repairs for a tractor to  
average less than that for other farm machines, which  
is a little over 4 per cent. of the first cost, and it is not  
improbable that it will amount to slightly more than  
this. In figuring the repair costs to be charged against  
each day of use or acre plowed, the average annual  
charge has been taken as 4 per cent. of the first cost.

**PLOWING DONE PER ACRE.**

The number of acres covered per day by a plow  
drawn by a tractor is usually slightly greater than that  
covered by the same sized horse-drawn plow. The acre-  
age covered by two different machines, each pulling  
the same number of plow bottoms, often varies con-  
siderably, because they travel at different speeds, are in  
different kinds of soil plowing different lengths of furrows,  
etc. Theoretically a 14-inch plow when drawn by a  
tractor should cover approximately 3 acres in an ordinary  
working day of 10 hours, as the average plowing speed  
is slightly more than 2 miles per hour. This holds true  
in actual practice when the plowing conditions are  
favorable, provided the outfit does not give trouble.  
That is, a 2-plow machine should plow 6 acres and a  
10-plow outfit 30 acres per day, provided both travel  
at the average rate of speed and are kept moving. How-  
ever, where trash, which frequently clogs the plows,  
is to be turned under, each plow drawn by a large tractor  
will cover much less ground, in a day than one drawn  
by a small outfit, since the delays will naturally be in  
proportion to the number of plows pulled. A delay  
on account of 1 plow on a 2-plow outfit stops only 1  
other plow, while on a 10-plow rig, for example, it stops  
9 other plows.

According to the figures furnished by tractor owners  
in the Dakotas, the area covered per day (10 net working  
hours) in plowing with the tractors most commonly  
used is 6.3, 8.5, and 10.9 acres for the 2, 3, 4-plow out-  
fits, respectively.

The acreage covered per day in field operations  
other than plowing will vary, of course, with the width  
of the implement pulled, and this in turn will depend  
upon the relative draft. The approximate acreage  
covered in a day of 10 hours with implements of different  
widths can be determined easily by allowing about 2  
acres per day for each foot of the implement's width  
where the outfit is working on soft ground. Where  
it has a good footing it may be safe to allow 2 1/2 acres  
for each foot of the implement's width. The acreage  
covered, of course, will vary with different machines  
owing to the different speeds, but the figures given are  
based on a speed of 2 miles per hour, with an allowance  
for time lost in turning and the slight overlapping,  
which is a trifle greater in most other field operations  
than in plowing.

By far the largest proportion of the work done by  
tractors is in plowing and preparing the seed-bed and  
in belt work. Though they are used for a number of  
odd jobs at different times, these represent an insignifi-  
cant portion of the total work. Hauling which usually  
occupies farm horses for several days annually, is not  
commonly undertaken with the tractor, and, in most  
cases where it has been tried it has been found less satis-  
factory and more expensive than hauling with horses or  
trucks. To make an economical load for the tractor  
it is necessary to have several heavily loaded wagons  
and this makes an unwieldy outfit in turning corners  
and in getting in and out of loading and unloading  
places in most towns. Other objections to the use  
of the tractor for hauling advanced by men who have  
tried it are the heavy wear and tear on both tractor and  
wagons on hard roads, expense on the unloaded return  
trip almost as great as when loaded, and difficulty in  
handling heavy loads on grades. It is not surprising  
therefore, that only about 14 per cent. of tractor own-  
ers report doing hauling with their outfits and that on  
the whole, hauling represents less than 3 per cent. of  
the work done by tractors in the Dakotas.

**THE DAIRY.**

Keep the calves on skim-milk or whey as long as  
possible. It will pay in the better growth secured.  
If they can continue to get milk for six or seven months  
all the better.

When the calf is about two months old it may begin  
to nibble a little corn silage. This may be fed more or  
less freely, but the calves will not eat any appreciable  
quantity until they are three or four months old.

Sometimes, when neither skim-milk or whey can be  
secured, the use of hay tea is suggested. This is made  
by boiling cut clover or timothy until a strong tea is  
secured, which is fed in exactly the same manner as  
milk.

Plan to keep the young calves in the stable until they  
are at least six months old. Flies will bother them to  
such an extent that they are likely to make poor growth  
and the skin of a calf is not tough enough to enable it  
to stand the hot sun.

It is good policy to grow all the roughages on the  
farm that can be grown. These, together with the grain

that will be available from the farm, will furnish the  
bulk of next winter's feed. The ration can then be  
balanced with purchased feeds.

If it is to develop into a profitable cow or an animal  
of good size and vigor, the calf must be kept growing  
steadily from birth to maturity. A good growing heifer  
should gain at least thirty pounds a month for the first  
three months and from then on until she is a year old the  
gain should be a little more.

One of the reasons why it is not advisable to put the  
young calves on pasture until they are about six months  
old is the fact that they require feed that is more con-  
centrated than older animals. Grass is very bulky and  
will prove uneconomical as a feed for the digestive  
system of the young animal.

Do not breed the young heifers too early. The  
proper age for breeding will depend somewhat upon  
the breed, but in general it is not wise to breed until  
they are at least twenty months old. Heifers of the  
larger breeds that mature later should not be bred as  
early as the smaller breeds.

If green crops are desired that can be cut and fed  
to the cattle during the dry season, a mixture of one and  
a half bushels oats and one-half bushel peas, per acre  
is recommended. This mixture can be sown two or three  
times, about two weeks apart, and afterwards a patch  
of millet or Hungarian grass.

**Clean Milk for Cheesemaking.**

It has often been said that this is an age of standard-  
ization and there is more truth than poetry in the state-  
ment. Everywhere we are turning to the markets where  
we sell our products for a guide as to what is required by  
the consumer and this is becoming just as true of farming  
as it is and has been true of manufacturing. For some  
years it has begun to be realized that although there  
still remains a very great deal to be learned about the  
art of farming and growing crops and animals, we have  
not paid sufficient attention to the question of marketing.  
Co-operation has, therefore, taken on a new meaning  
and everywhere there are evidences of the fruits of  
co-operative marketing. But co-operation leads us to  
new points of vision and allows us to get new per-  
spectives of the business of farming, one of the most  
important of which is an early knowledge of the fact  
that if marketing is to be successful we must put on the  
market what the market wants. The market is the



Soon Can this Scene be Duplicated on Hundreds of Farms.

consumer and the consumer always wants good products.  
All consumers want the best of quality, but only part  
of the consumers are able, or willing to pay. Nevertheless,  
all will pay more for a good product than they will for an  
inferior one and the obvious thing to do is to strive for  
a good thing in the knowledge that in spite of our best  
efforts there will be sufficient failures to provide enough  
of the poorer products for those who will not or cannot  
pay.

Cheesemaking is a tremendous big industry in  
Canada and particularly in Eastern Canada. This  
industry supplies a product which is of the highest  
value as human food and a large part of it must find  
a world market. In fact the almost absolute dependency  
of the dairy industry of Canada upon the world's market  
is a factor in the dairy farmer's success that is too little  
realized. Most of us when we are not getting what we  
realized. Most of us when we are not getting what we  
think we should for our products want to know why,  
but this is impossible unless we know something about  
the market. The market tells us why our prices are  
low or high and if low we can find out from the market  
what is the matter with the product itself. Standard-  
ization, or rather the lack of it, is one of the things that  
has been lacking in our dairy products for many years  
and we are just beginning to find out how serious a  
detriment it is. We are learning, too, that although we  
can begin at the marketable product and standardize it,  
we must start back at the raw material with our stand-  
ardization, or the percentage of the product that grades  
high will be very small. This can only mean that before  
we are through with standardization as a means of  
giving the consumers what they want, we must get  
back to the basis of cheesemaking and supply the cheese-

maker with milk of the best possible quality. How  
to do this is the farmer's own problem, but he also  
will find that extra precaution costs money and that  
an extra price is necessary for better milk. The superior  
product will partly provide this and co-operation will  
also help, but the best method of getting pay for the  
raw material of a quality actually produced is to adopt  
the method of paying according to test and to insist  
that only milk that is quite suitable for cheesemaking  
be allowed to enter the vats. Eventually we must come  
to some practical system of grading milk and cream  
for the manufacture of such important foods as are all  
our dairy products. The consumer will demand it and  
he pays the bills. The farmer's own interests will make  
it profitable to comply with this requirement for a good  
product.

The principle question is how to get good clean milk  
for the cheesemaker. Obviously this problem is up to  
the farmer because the cheesemaker's liability can begin  
only when he receives the milk. Cheese making is more  
or less of a summer business and unfortunately for the  
industry the summer months are the months when it is  
hardest to keep milk in good condition for any length  
of time. Merely keeping milk cold is not enough. We  
must go back further and see that the milk that is to  
be kept cold is clean. Cleanliness is to some extent  
parallel with but even more important than the carrying  
back of our standardization process to the raw material.  
If all milk were clean and cool when manufactured  
into dairy products there would be no need for standard-  
izing raw materials because fresh milk cannot be altered  
except by adulteration or condensing. It would be  
unfortunate and a poor commentary on the intelligence  
and honesty of farmers if it should ever be necessary  
for us to have compulsory grading of milk for cheese  
factories. This should not be necessary and after all  
the best kind of grading is the kind that is done voluntar-  
ily, by each dairyman doing his best to produce the  
cleanest milk possible under his conditions. A great  
deal of the trouble now is due to indifference and igno-  
rance. Ignorance because we do not know sufficient  
about the marketing end of our business so that we can  
appreciate what poor milk means to the finished product  
and eventually to our balance of trade with other  
countries and the wiping out of our national debt. This  
not at all far fetched because it is only common-sense to  
think that the prosperity of the country is based primar-  
ily on the intelligence and the thrift of the individual  
whether he be farmer, employee or manufacturer. The  
trouble due to indifference arises out of the fact that when  
we milk the cows and strain the milk, or clean the stable  
at milking time, we do not think in terms of cheese on

the table of some family  
in Great Britain, who help  
to swell our national trade  
balance and provide us with  
the market for our milk.  
We are not indifferent to  
the immediate price we re-  
ceive for our milk, but we  
are too indifferent to the  
ultimate destiny of our pro-  
duce. Our outlook must be  
changed before we can ever  
have voluntary grading of  
our raw materials. And good  
milk is absolutely essential  
to a first-class product.

Clean milk means clean  
healthy cows, clean stables,  
clean utensils and clean  
dairywomen. None of these  
are beyond the reach of the  
average cheese factory pat-  
ron. To have clean, healthy  
cows we must supply plenty  
of ventilation and exercise  
when they are stabled. The  
cow is a wonderful machine  
for the manufacture within  
her body of human food and,  
like any other machine,  
her body must be taken care of.  
No other single animal,  
aside from the human being,  
is so important on this  
earth as the dairy cow. From  
her body we secure milk,  
cream, butter, cheese, con-  
densed, evaporated and  
powdered milks, beside many  
other important products  
used in manufacturing and  
for the feeding of other  
kinds of live stock. Milk,  
however, is very perishable,  
in fact so perishable that in  
the warm weather of summer  
it is very difficult to keep  
in satisfactory condition.  
Thus it is that the cow her-  
self must be kept clean and  
healthy as a primary precau-  
tion against unhealthful  
and dirty milk. The feed and  
water she consumes are just  
as important as ventilation  
and exercise, because it is  
from these that the milk is  
actually manufactured with-  
in the cow's body. The cow  
will need pure water espe-  
cially for the manufacture of  
clean milk, because milk itself  
is over 80 per cent. water and  
a cow that yields heavily  
needs all this water besides  
that necessary for the main-  
tenance of her body. Some  
feeds tend to taint the milk  
no matter how they are fed,  
while others, unless fed very  
skilfully, will produce unsat-  
isfactory results. Brewers' grains,  
distillery slops, turnips or  
tops, rape, mouldy meal, spoiled  
hay, spoiled silage or cleanings  
from horse stables, are among  
the feeds likely to produce such  
results.

Dirty stables are the result of pure carelessness or  
lack of sufficient help. The latter conditions is very  
hard to overcome, but where both conditions are met  
with the effect on the milk is very serious and may even  
be injurious to the health of those who drink or use it.  
The importance that is placed upon clean milk from a  
health standpoint is realized by all those supplying

market milk to our city markets because they must keep their stables in better condition than is usual and the milk must be cared for properly. This is one of the reasons why market milk is worth more than cheese milk. Dirty stables and cows mean that much dirt can find its way into the milk pail and dirty straw or manure abounds in the more injurious bacteria, we are told. One often notices the practice of cleaning the stable or bedding down the cows while the milking is being done and those who do it are either careless, or they do not realize that the air becomes heavy with dust, some of which inevitably finds its way into the milk pail. Do not leave the milk standing in the stable while the calves are fed or the last little chores are done about the barn. Take it out of the stable air as quickly as possible after it is drawn.

What is the use of having clean healthy cows and clean stables if we draw the fresh uncontaminated milk into dirty milk pails or dirty milking machines? The milk should be carefully strained immediately after milking through a fine, wire strainer or a clean cloth. The strainer requires special care and to keep it clean it requires to be rinsed and scalded after each milking. If cheese cloth is used to strain the milk it will pay to renew it frequently and boiling occasionally will help to keep it clean until it is renewed. The cans in which the milk is kept or taken to the factory must be just as clean as the milk pails because bacteria which cause the souring or the spoiling of milk would just as soon find their way into the milk by way of the milk cans as the milk pail. Much of the trouble from milking machines is due to the fact that they are not kept clean. It is just as possible to produce clean milk drawn through a milking machine as by hand, but sometimes, due to carelessness, such milk is not nearly as clean as that which is hand drawn. The statement that cleanliness is next to Godliness was never more true than in connection with the dairy industry. Eternal vigilance against the unclean in the price of clean milk and pure dairy foods.

And now for the dairyman himself. Must he wear a white apron—a clean one—and comb his hair and have a bath before each milking. Not by any means, although it might mean cleaner milk if he did—and less of it for the consumer. At least he can wash his hands and perhaps have a clean smock in the milk house that he can slip on when it comes time to milk. Clean earth even if eaten will not harm many people, but it is not the earth or the straw in the milk that spoils it but the injurious bacteria that cover it. The same is true of our hands. Even clean hands probably carry some bacteria, but if we could count the bacteria on even a moderately dirty hand we would probably be astounded. All bacteria are not harmful, even to milk which is so very susceptible, but the harmful kinds are so tiny and numerous that they are like the poor—they are always with us.

"Let us then be up and doing" and if it is not practicable for us to produce absolutely clean milk let us do the best we can. The spirit of cleanliness will produce marvellous results if we encourage it. Diseases and death to human beings follow in the wake of dirty milk.

**Holstein Sale at Unionville.**

The weather on Tuesday, May 4, was too fine for the success of the Holstein sale, held at Unionville, comprising the herd of the late Frank Boyle. Many of the cows, too, had gone partly wrong in their udders from some cause or other, and this, of course, pulled down the average as well as the prices of those which were sound.

Some cattle were consigned by W. F. Elliott and these also sold well within their value, and the sale throughout may be said to have favored the buyers rather than the sellers. The total receipts for the sale were \$6,097, of which \$4,510 was paid for the Boyle herd. The cows, three-years-old and upwards, made an average of \$222, and calves under a year sold from \$50 up to \$135. Following is a list of the animals sold for \$100 or over, together with the names and addresses of their purchasers:

Dina Pontiac Galatia, A. W. Stephenson, Richmond Hill	\$235.00
Heifer Calf, J. W. Stewart, Lyn	105.00
Pietertje Sylvia, A. W. Churchill, Philipsville	325.00
Rivermead DeVries Sylvia, H. W. Emerson, Harlem	200.00
Heifer Calf, F. C. Brown, Norval	120.00
Greenwood Princess, A. W. Churchill	155.00
Princess Sylvia Pontiac, G. C. Lockyer, Lansing	225.00
Heifer Calf, J. W. Stewart	125.00
Gipsy Wayne Pontiac, E. E. Muirhead, Clarkson	330.00
Queen Pontiac Ettie, Leslie Mason, Agincourt	180.00
Queen Buttercup, A. W. Stephenson	260.00
Heifer Calf, H. Adamson, Edenvale	130.00
Queen Pontiac Buttercup, G. C. Lockyer	205.00
National Echo Bosch, A. W. Churchill	205.00
Pietertje Texal Bessie, Geo. Forester, Gormley	100.00
Sir Sylvia Texal, E. F. Ramsey, Sharon	200.00
Pontiac Sylvia Cornucopia, Carman Baker, Brighton	390.00
Verhelle De Kol Keyes, J. F. Elliott, Agincourt	150.00
Rivermead Sylvia Keyes, Carman Baker	350.00
Spotty Silva Echo, F. C. Hamilton, Kelvin Grove	190.00
Pauline Scot, J. Fitzgibbons, Scarborough Jet	225.00
Heifer Calf, H. W. Emerson	155.00
Het Leo May, I. R. Green, Concord	200.00
Roseland Segis, W. W. Clubine, Riverview Hill	270.00
Sir Echo Galatia, Wm. Sifton, Agincourt	190.00
Sylvia Bosch Beets, H. W. McKeen, Scarborough	230.00

Rivermead Fanny Cornucopia, Wm. McKeen, Scarborough Jet	210.00
Lyndenwood Comet Ormsby, Geo. Forester	205.00
Mercena Hengerveld Korndyke, W. W. Clubine	240.00
Lora May Pontiac, F. C. Brown	145.00
Susie Korndyke Walker, H. Adamson	180.00
Neta Pontiac Sylvia, H. Adamson	175.00
Dorothy Hill, H. W. Emerson	232.50

**POULTRY.**

The orchard is usually an ideal place to rear young poultry stock. They get plenty of shade, exercise and animal feed.

If the broody hens are allowed to occupy the nests, the hens that want to lay cannot do so and the egg yield is likely to be curtailed.

Put the chicks on new soil if possible and choose such soil as is not too heavy nor wet. For the first week or so they should not be given too much range.

Do not forget that with the advent of warm weather the laying flock needs plenty of exercise and green feed. Free range is excellent and reduces the amount of feed required, besides keeping the birds in good health.

It is very important to remember that when hens are used for hatching they must be dusted thoroughly with insect powder a few days before the hatch comes off, or a heavy mortality may result among the chicks.

A mixture of rolled oats or dry bread crumbs together with a small quantity of hard boiled eggs is recommended for the first feed of young chicks. Use one part of eggs to six parts of rolled oats or bread crumbs.

When the chicks hatch it is a good plan not to feed them anything for about three days because sufficient nourishment is provided within the egg to last the chick for this length of time. Bowel and digestive troubles may result from feeding too soon.

**Duckling Raising.**

EDITOR "THE FARMER'S ADVOCATE":

In order to raise ducklings successfully, the eggs should be carefully selected and kept in a dry, cool place, and set in from ten to twelve days after being laid. The nest should be thoroughly cleaned and sod cut to fit the nest, then put chaff two or three inches deep on top of the sod. Hollow the sod in the centre so as to make it nest shape.

Put the hen on the nest for a day or so, so as to get her used to the nest before setting. Slats should be put in front of the hen so as to prevent other hens breaking the eggs. The hen should be fed and watered twice a day.

If the eggs should happen to get broken in the nest while sitting, they should be washed in lukewarm water and then fresh chaff put in the nest. As soon as the ducklings start to pick the shells, dip the eggs in lukewarm water every four or five hours. When ducklings begin to hatch out take them from the nest and put in a basket, with a woolen cloth over them, and put the basket in the house where it is warm until all are hatched.

When starting to feed the ducklings give them sweet milk after they are twenty-four hours old. Ducklings should be given to the hen and kept in for a few days, then let out in the middle of the day. Do not let them out in wet grass until they are three or four weeks old. Feed them on bread and milk for two or three weeks, and then start them on a mash of sour milk and shorts. Mix the mash four hours before feeding.

A yard should be built for ducklings and it is best to have a shelter in one corner so they can run under it, to prevent the hot sun and winds from striking them. They should have fresh water in front of them all the time. A trough should be put in front of them about seven inches deep, so as to prevent drowning. Young ducks can be raised on shorts and cornmeal. Mix one-third cornmeal and two-thirds shorts and feed three times a day. Ducklings can be kept on this until ready for market.

Leeds Co.

WALTER MANHARD.

**Handling Young Chicks.**

In handling young chicks, whether hatched by the natural or artificial method, that is to say, with a hen or with an incubator, many make the mistake of feeding



**Where Both Chickens and Children Have Free Range and Plenty to Eat.**

As yet there is not sufficient green feed and insects to give the birds all the feed they require on the range. At any rate it is not advisable to change the feed too suddenly and as the range gets better the grain that the hens have been used to should be gradually cut down.

If the flock is a good sized one and you are not sure that there will be sufficient of the right sort of green feed for the summer months it will be profitable to plant two or three small patches of such crops as peas and oats. A row of sunflowers is desirable also for shade.

What plans have been made so far for the co-operative marketing of eggs in your locality? We are now getting nearer the hot summer weather when the loss from spoiled and stale eggs is always very high. Co-operative marketing through egg circles or farmers' clubs should make it easier for everyone to get the most out of the product of the poultry yard.

Broody hens that are not required for hatching purposes should be looked after promptly. One of the best ways to break up a broody hen is to confine her to a slat bottomed coop for three to five days and feed her on a light ration of wheat with plenty of water, and all heating feeds away from her and do not let her brood in her natural nest. Some poultrymen confine broody hens in a swinging coop that tends to make her forget about her broodiness more quickly.

too soon after hatching. At the time it leaves the shell the young chick has a substantial amount of yolk attached to its digestive tract which is sufficient to provide it with all the feed it needs for five or six days. Feeding before the greater part of this yolk is absorbed into the system is very likely to cause digestive troubles. After the chick has been hatched about three days, some feed should be given in small amounts and at frequent intervals. Feeding frequently is much better for the chicks than feeding larger amounts less frequently. It has been discovered that for the first ten days or two weeks it is a good plan to feed at two or three-hour intervals, giving five feeds per day, especially for early spring, while as the hours of daylight lengthen so that it is still light at 7 or 7.30 p.m., another feed should be given. Probably these feeds could be equalized best throughout the day as suggested by Professor W. R. Graham, O. A. C., Guelph, in the following: The first feed, 7 a.m.; second, 9 a.m.; third, 11.30 a.m.; fourth, 2.30 p.m.; fifth, 5.30 p.m., and where a sixth feed is given, 7.15 or 7.30 p.m. It will be noticed that the two first feeds are only two hours apart, which is due to the fact that in the morning the chicks are hungry, and two fairly light feeds close together at this time will have a tendency to avoid overfeeding.

We have already mentioned in these columns a mixture of rolled oats or stale bread crumbs, mixed with hard-boiled eggs for very young chicks. The eggs should be boiled for thirty minutes and fed in proportion of six parts of rolled oats or bread crumbs

to one part of eggs including the shells two or three days commercial or home chick feed can be made of 35 parts; granulated corn, 30 parts; always make some form. So very young chicks are convenient. The corn on the sand in the fine cracked have a limited until they have more at one time soon, and this experience of so of equal parts of meal will make that are being should not be all be fed separately of equal parts of is used for the eliminated during wheat may be s chicks grow large the hen is much artificial, principally look after the considerable extent.

Both underfeeding tests have about one ounce proper amount increase should or fifth day. We are told that of an ounce per the chicks are a to use some kind ration, and for to a crumbly or middlings, will stale bread more factory, and add some bone per cent. or less powdered charcoal orders.

Some poultry to the chickens advises the use day, and after buttermilk for is likely to over to the tenth day Green feed also or sprouted grain fed to supplement them. If feed it should be sown, because at work away at get the necessary

Frequent feeding of chicks are found artificially. As be reduced to daily. When daily, the ratio corn fed in the a mash feed of



ising.

successfully, the eggs kept in a dry, cool place for twelve days after being thoroughly cleaned and soaked in two or three inches of water in the centre of the nest.

When ducklings are hatched, they should be kept in a dry, cool place for twelve days after being thoroughly cleaned and soaked in two or three inches of water in the centre of the nest.

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Chicks.

Chicks hatched by the hen should be kept in a dry, cool place for twelve days after being thoroughly cleaned and soaked in two or three inches of water in the centre of the nest.

The latter should be finely ground, including the shell, and the mixture fed dry. After two or three days a feed can occasionally be given of commercial or home-mixed chick feed. A home-mixed chick feed can be made up as follows: cracked wheat, 35 parts; granulated oatmeal, 30 parts; small cracked corn, 30 parts; grit, chicken size, 5 parts. One should always make sure that grit is given to the chickens in some form. Some prefer to feed only rolled oats to very young chicks, because it is light in color and convenient. The chicks can see it readily when thrown on the sand in the coop. Sometimes chicks are started on fine cracked corn or wheat, but they should only have a limited amount of grain for the first few days until they have learned to eat it. It is not wise to feed more at one time than the chicks will clean up reasonably soon, and this point should be carefully watched. The experience of some poultrymen indicate that a mixture of equal parts of cracked corn, cracked wheat and oatmeal will make a good ration for the first week for chicks that are being brooded by the hen, but the hen herself should not be allowed to get this mixture, since she can be fed separately and three times a day a grain mixture of equal parts of corn and wheat. If the above mixture is used for the chicks, the oatmeal may be gradually eliminated during and after the second week, and whole wheat may be substituted for the cracked wheat as the chicks grow larger. The feeding of chicks hatched by the hen is much more simple than where the hatching is artificial, principally because the hen will pretty well look after the flock for the first few days, and to a considerable extent thereafter.

Both underfeeding and overfeeding should be avoided. Feeding tests have been conducted which show that about one ounce of feed per day for twelve chicks is the proper amount when feeding is first started, and that an increase should be given ordinarily about the fourth or fifth day. This increase should not be very heavy. We are told that it should never exceed one-quarter of an ounce per day to a flock of sixty chickens. When the chicks are a week or ten days old it may be necessary to use some kind of a filler that will provide bulk in the ration, and for this purpose cooked vegetables, dried to a crumbly condition by the addition of shorts or middlings, will be found economical. Sometimes stale bread moistened with milk can be used satisfactorily, and about this time also it is a good idea to add some bone meal to the ration, but only up to five per cent. or less. After the fourth or fifth day a little powdered charcoal will tend to correct digestive disorders.

Some poultrymen advocate giving all the skim-milk to the chickens that they will take but Professor Graham advises the use of plenty of fresh water up to the tenth day, and after that the substituting of sour milk or buttermilk for the water. He states that the chick is likely to overfeed on milk fed in any quantity prior to the tenth day and that all milk used should be sour. Green feed also is necessary after the first week. Lettuce or sprouted grains are excellent for this purpose, and are fed to supplement the other feeds, not to replace any of them. If feeding grains of any kind, or chick feed, it should be scattered in the chaff on the floor of the pen, because after the chicks are a week old they will work away at it for practically a whole day and thus get the necessary exercise.

Frequent feeding should be continued until the chicks are four weeks old, if they are being brooded artificially. At four weeks the number of feeds can be reduced to four, and at seven weeks, to three feeds daily. When the feeds are reduced, to three times daily, the ration may consist of whole wheat and cracked corn fed in the morning and again in the evening, with a mash feed of some kind in the middle of the day. A

good mash for this purpose consists of bran, shorts and cornmeal in equal parts, with an addition of ten per cent of animal meal or beef scrap. An additional feed of mash per day will help to force the chicks along, but is not advisable unless forcing is necessary.

Chicks hatched at this season when they can range out of doors very early need not be fed as often, or as carefully, as described above, at least after the first two weeks. If they are being brooded by a hen, she will look after them to a great extent. Labor can be lessened during the spring and summer months by placing a hopper or trough of chick feed in the coop along with the hen and chicks, and keeping the supply of feed in it well maintained. This is an especially good plan where chicks have a good range about the fields of the average farm. The supply should be large enough to last about a week, and although the hopper may be made of any size or shape, it has been found that those which slope from both sides will feed better than those with the slope on only one side. The coops and colony houses should be cleaned frequently and should be roomy enough to avoid over-crowding. Confining the chickens in close, stuffy houses will weaken them quicker than almost anything else.

HORTICULTURE.

Setting Out the Orchard.

The late spring and considerable wet weather has delayed all operations on the land, with the result that new orchards to be set out this spring have had to await the coming of more favorable weather before the soil was fit to handle. Planting is now going on and has been for a week or so in the earlier districts, but there is still time in most of the apple sections of the Province for the setting out of young trees.

Those who are about to set out new orchards this spring have probably made up their minds already just how the orchard is to be laid out, but it may be interesting to note just here that there are several systems of planting, chief among which are the square or rectangular system, the quincunx and hexagonal systems. The square or rectangular system is the most common by far, in as much as the trees are set in rows that line up at right angles with each other, and also at right angles to the sides of the orchard. In the quincunx method, the same plan is followed but a tree is set in the centre of each square, or, in other words, along the side of an orchard set out by this system only the end tree of every other row will come flush with the edge of the orchard, the first trees of alternate rows being set in half the distance between any two trees of the other rows. In the hexagonal system the trees are set so as to form hexagons, or six-sided figures, with one tree in the centre of each hexagon. This system gives the greatest number of trees per acre and divides the air and soil space more evenly, but is not so adaptable to the use of fillers and is sometimes a little more difficult to cultivate. The square plan in perhaps the better all-round plan, since fillers can be used to any extent desired and cultivation can be carried on with equal facility in both directions.

Once having decided upon the plan of the orchard, it should be laid out and staked according to this plan. Staking is the only satisfactory method of getting trees to line up when planted, and, as an aid to straightness, the best method is undoubtedly the use of a long wire notched or marked at the proper distances that will stretch from one side of the field to the other. The first thing to do undoubtedly is to select one side of the field as a base line and run a stright row of stakes across it at the proper distances apart. If the field

is not too large a line of stakes across the other end will be of assistance. The wire can then be used to mark each tree row between each corresponding pair of stakes. Having placed a stake at the place where each tree is to go, these should be lined up where this is necessary before the trees are set.

It should be unnecessary to remark that the soil should have received thorough preparation previous to planting, so that there will be plenty of fine earth which can be worked in and pressed firmly about the trees. It is quite true that labor is very scarce, and that preparation of the soil costs now much more than it formerly did, but at the same time nursery stock is scarce and very expensive.

It should be remarked also, of course, that different varieties will require different distances of planting. The size of the individual tree or variety when mature should be the guide to the distance of planting, and the aim should be to give the tree plenty of room, while still being as economical as possible of ground. Such varieties as Baldwin, Snow, Golden Russet, Gravenstein, Greening, King, McIntosh and Spy are all strong growing varieties in the better apple sections, and should be planted no less than thirty-five and preferably forty feet apart each way. On the other hand, the Ben Davis, Alexander, Blenheim, Hubbardston and Stark are more moderate growing and may be planted somewhat closer together, but under no condition less than thirty feet apart. Duchess, Wagener and Wealthy, the three common filler varieties which are often planted to utilize the space more thoroughly while the orchard is young, but which should be removed as soon as the standard varieties reach maturity and require all the space, are smaller growing, earlier bearing and may be planted still closer together.

On the whole, spring planting is undoubtedly the best, but there is no objection to fall planting if trees can be secured in the fall that are fully matured. Planting is at the very least a two-man job, and three men can be used to excellent advantage after the orchard is laid out and the trees are on the ground. In this connection it is well to point out that trees should not be allowed to lie on the ground with roots exposed for any length of time. A few trees may be distributed ahead of the planter without harm, but no more on the ordinary day than a bundle, say, of twenty-five. The remaining bundles necessary for the orchard should always be heeled in, as shown in the accompanying illustration. To do this only requires two or three minutes' work with the shovel, and to lift a bundle of trees requires no extra work. The best method of procedure in actual planting is to use a planting board, such as is shown in the second illustration accompanying this article. This board is placed at the stake where the tree is to be, with the stake in the centre notch where the tree is now standing. Two pegs are provided to fit holes in either end of the planting board. The board is placed in position around the stake and pegged down. One end is lifted and the hole dug where the stake is. The board is then placed back in position and the tree inserted as shown in the illustration. It will be noticed from this illustration that the tree is being set one or two inches deeper into the ground than it originally stood in the nursery; that is to say, the union between the bud and the stalk, which is very noticeable on all trees and is situated only a few inches above the root, is well buried when the trees are planted. Moreover, it will be noticed that the side branches have all been removed from the young tree, leaving only a whip. Part of the roots are also removed, especially of all tap roots that are of any size. Remove, in addition, all broken or injured roots. After the orchard is all planted the trees can be headed back to the desired height, which will vary from 18 to 24 inches preferably, depending upon the height at which the desired arrangement of



The use of a planting board will help very much in setting the trees. Note that the tree is placed ready to be covered with earth.



Trees taken to the field should be heeled in temporarily unless they are to be used in a very short time.

buds can be secured that will eventually form a strong whorl of main branches without the presence of injurious crotches.

When the tree is set, some little slant should be given to it in the direction of the prevailing winds. If the winds are not very heavy, no particular slant is necessary, but if they are heavy the uprightness of the tree will be influenced to a surprising extent, and a slant is given so that eventually the tree will stand upright.

Potato Growing in 1920.

EDITOR "THE FARMER'S ADVOCATE":

What is the outlook for the potato crop in 1920? If one could only see the end from the beginning, how much wiser he would be in knowing what was best to do.

In a potato-growing district where very good crops prevailed last summer two farmers were talking about the prices of potatoes, which had reached \$4.75 per bag for Cobblers.

When it is generally known that some early producing potato districts in the South had been visited by three frosts in succession, and that U. S. buyers were scouring Eastern Canada for any surplus stock they may have on hand, it might be good policy to enlarge the area to early potatoes, especially as there is bound to be a good demand for them when the early supplies from the States are thus affected, and by the exchange situation as well.

When seed potatoes are scarce, it is then that varieties get mixed and names changed so that when one buys his seed stock from unreliable sources he is likely to get most anything, under some name, of course, but it isn't likely to be the right name.

In a potato district where over sixty carloads have been shipped out since last fall, when they could have been bought for \$1.50 per bag in the field, a dealer made the remark that one grower claimed he had 125 bags per acre as being a very large yield.

FARM BULLETIN.

Will Fight Tuberculosis in Canada's Live Stock.

A meeting of great importance to the live-stock industry was held at Ottawa on May 5 and 6, when representatives of the producers, packers and Department of Agriculture got together in an effort to devise a scheme whereby disease in Canada's live stock might be reduced.

The deliberations were marked by harmony and earnestness throughout and the representatives left the meeting feeling that a very forward step had been taken both in regard to disease control and a better understanding between producers, packers and Department.

Grass Seed Quotations.

During the last couple of months there has been considerable difference in the price farmers have received for clover seed and what other farmers have been obliged to pay when purchasing from the dealers on the retail market.

The enormous demand for clover seed existing here and in the United States drew supply from Europe, chiefly Italy and France, which countries, owing to the enormous profit to be made by accepting payment in New York funds, were willing to ship great stores of clover seed to America.

The Commissioner's explanation would lead one to conclude that farmers having clover seed for sale, and farmers wishing to buy, should get together and deal co-operatively.

Sessional Indemnities Up in the Legislature.

The debate on the Budget in the Provincial Legislature came to an end on Monday night, May 3. At no time during the debate was the discussion very critical of the new Government.

On Tuesday, however, the temperature rose considerably as discussion waged about the question of higher sessional indemnities for members of the Legislature.

the House was in committee, supply, made this the occasion of an announcement that the Government could not see fit to grant the increase, adding that it would not be discretion to increase the sessional indemnity of members at the first session of Parliament.

During the week, important alterations in the Workmen's Compensation Act were brought before the House, when the first meeting of an amending bill was asked for by the Honorable Walter Rollo, Minister of Labor.

Participation Certificates Worth 40 Cents.

James Stewart, Chairman of the Canadian Wheat Board has announced that participation certificates will be worth not less than 40 cents per bushel which will add considerably to the selling price already obtained.

The Canadian Wheat Board feels that some idea should be given as to the probable value of the participation certificates issued by the board.

Notwithstanding this, the board estimates that it should be able to pay at least 40 cents per bushel against the wheat represented by the participation certificates.

- Toronto U. S. Montreal (Eas) Winnipeg Calgary Edmonton

- Toronto (U. S. Montreal (Eas) Winnipeg Calgary Edmonton

Markets

Toronto The movement of stall-fed stock was an increase of 25 per cent. The market was a market, values per hundred, cattle on hand increase of 25 prices back to of the season Thursday with at the higher were loaded for strike, which forced values point, undoubtedly contributing to the the packers fresh meat store "hand to mouth" ing a shortage produces a str Advances from it being frequent ment of win run its course, the effect that to come. Pro surplus of cat is the final fac but the prop has a big inf stability of th the present hi unload only a next week in a depression in v to absorb the f a distinct prefl lighter grades, old heavy ste one of the fir shipped to the sold at \$15.75 averaged four pounds, and w Elgin, Ontario \$15.50, and s \$14.75 to \$1 weights includ had a particul cattle of baby- nine hundred numerous indi at an equal pri to twelve hun from \$14 to \$ being moved sentative sales averaging ten pounds at \$14 aging ten hu at \$14.65, and ten hundred a \$14. Light ste quality sold up averaging nine bringing that averaging nine moved at \$1 the sales were r medium quali to \$12.50 per had equally go while \$13 and extra choice co made from \$12 in bulls sold u

# Toronto, Montreal, Buffalo, and Other Leading Markets

Week Ending May 6.

Receipts and Market Tops.

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

CATTLE						CALVES					
Receipts		Top Price Good Steers (1,000-1,200)				Receipts		Top Price Good Calves			
Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Same Week	Week Ending	
May 6	1919	Apr. 29	May 6	1919	Apr. 29	May 6	1919	Apr. 29	May 6	1919	
Toronto U. S. Y.)	7,313	3,190	4,167	\$15.00	\$15.25	\$14.25	4,009	594	3,080	\$22.00	\$15.00
Montreal (Pt. St. Chas.)	368	384	820	15.00	14.50	14.75	3,400	1,946	3,790	17.25	12.50
Montreal (East End)	253	675	908	15.00	14.50	14.75	2,235	2,205	3,693	17.25	12.50
Winnipeg	1,575	3,037	1,508	15.00	15.00	14.50	222	168	243	17.00	16.00
Calgary	432	968	948	14.25	15.50	13.75	66	—	10	12.00	—
Edmonton	241	441	182	13.50	15.00	13.50	29	42	3	15.00	13.00

HOGS						SHEEP					
Receipts		Top Price Selects				Receipts		Top Price Good Lambs			
Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Week Ending	Same Week	Week Ending	Same Week	Week Ending	
May 6	1919	Apr. 29	May 6	1919	Apr. 29	May 6	1919	Apr. 29	May 6	1919	
Toronto (U. S. Y.)	8,758	3,923	5,342	\$20.50	\$22.25	\$21.00	285	27	245	\$20.00	\$19.00
Montreal (Pt. St. Chas.)	1,196	1,251	1,384	21.00	22.25	21.50	136	88	67	14.00	15.00
Montreal (East End)	775	1,210	1,274	21.00	22.25	21.50	71	109	164	14.00	15.00
Winnipeg	1,814	4,533	1,950	20.75	21.25	20.00	33	13	127	16.00	15.25
Calgary	351	1,236	408	21.50	21.75	21.00	30	424	165	—	15.00
Edmonton	263	398	328	20.75	21.50	20.50	—	—	—	—	—

## Market Comments.

### Toronto (Union Stock Yards.)

The movement of cattle during the week was an indication that marketings of stall-fed stock are following a normal course. Approximately sixty-three hundred head comprised the offering for the week. On Monday, receipts totalled twenty-six hundred head and in a snappy market, values appreciated fully 50 cents per hundred, while with two thousand cattle on hand on Wednesday a further increase of 25 cents occurred, bringing prices back to a level with the high point of the season. The market closed on Thursday with a good steady undertone at the higher level. While few cattle were loaded for Buffalo, the switchmen's strike, which restricted receipts and forced values to a higher level at that point, undoubtedly was a factor contributing to the local advance. However, the packers are not overloaded with fresh meat stocks, and are buying on a "hand to mouth" basis; anything indicating a shortage of supplies immediately produces a stronger tone in the market. Advices from the country are conflicting, it being frequently stated that the movement of winter-fed cattle has about run its course, while other reports are to the effect that heavy deliveries are yet to come. Provided there is exportable surplus of cattle, the foreign markets is the final factor in determining values, but the proper regulation of supply has a big influence in determining the stability of the trade. Notwithstanding the present high market, shippers should unload only a normal volume for the next week in order to avoid any serious depression in values. The trade was able to absorb the few heavy cattle on sale, but a distinct preference was shown for the lighter grades, if of good quality. An odd heavy steer or two sold at \$16, but one of the finest loads of heavy cattle shipped to the market this season was sold at \$15.75 per hundred; these latter averaged fourteen hundred and eighteen pounds, and were fed by J. Muir of Pt. Elgin, Ontario. A lighter load sold at \$15.50, and several loads moved from \$14.75 to \$15.25. Steers of lighter weights including handyweight butchers had a particularly good trade, and nine cattle of baby-beef quality which averaged nine hundred pounds sold at \$16, and numerous individual sales were made at an equal price. Steers of ten hundred to twelve hundred pounds sold generally from \$14 to \$15, several hundred head being moved within that range; representative sales were those of twenty head averaging ten hundred and eighty-eight pounds at \$14.50, seventeen head averaging ten hundred and forty pounds at \$14.65, and thirty-four head averaging ten hundred and seventy-five pounds at \$14. Light steers and heifers of butcher quality sold up to \$14.50, eighteen head averaging nine hundred and fifty pounds bringing that price; twenty-eight head averaging nine hundred and fifty pounds moved at \$14.15, and most of the the sales were made from \$13.25 to \$14.25; medium quality moved from \$11.50 to \$12.50 per hundred. Cows and bulls had equally good clearances as the steers; while \$13 and \$13.50 were paid for a few extra choice cows, most of the sales were made from \$12.50 down. Extra quality in bulls sold up to \$14, but most of

## TORONTO

CLASSIFICATION	No.	Avg. Price	Price Range Bulk Sales	Top Price
STEERS heavy finished	211	\$14.89	\$14.50-\$15.50	\$15.75
STEERS good	631	14.23	13.75-14.75	15.00
1,000-1,200 common	73	12.21	10.50-13.50	13.50
STEERS good	1,528	13.77	13.25-14.50	15.00
700-1,000 common	501	11.31	10.00-13.00	13.00
good	1,192	12.73	13.00-14.50	15.00
HEIFERS fair	161	11.99	10.50-13.25	13.75
common	107	9.99	8.50-12.50	13.00
COWS good	175	11.45	10.50-12.25	12.50
common	627	9.84	8.50-11.00	11.00
BULLS good	95	11.16	10.50-12.00	12.25
common	59	9.31	8.50-10.75	11.00
CANNERS & CUTTERS	178	6.22	5.50-7.00	7.00
OXEN	—	—	—	—
CALVES veal	3,985	17.24	14.00-19.50	22.00
grass	24	—	—	—
STOCKERS good	403	11.22	10.50-11.50	11.50
fair	238	9.53	8.75-11.00	11.00
FEEDERS good	188	12.21	11.50-12.50	12.50
fair	16	11.64	11.25-12.00	12.00
HOGS (fed and watered)	7,419	20.14	20.00-20.50	20.50
selects	1	19.25	19.00-19.25	19.25
heavy	1,079	18.10	18.00-18.25	18.25
lights	248	16.25	15.00-17.25	17.25
sows	11	14.25	13.25-15.25	15.25
stags	—	—	—	—
LAMBS good	93	18.35	17.00-19.50	20.00
common	2	—	—	17.00
SHEEP heavy	169	16.03	14.00-17.50	18.00
light	21	17.67	6.00-9.00	10.00

## MONTREAL (Pt. St. Charles)

No.	Avg. Price	Price Range Bulk Sales	Top Price
40	\$14.75	\$14.50-\$15.00	\$15.00
23	14.00	13.00-14.75	14.75
42	11.50	10.50-12.00	13.00
17	13.50	12.50-13.75	13.75
3	11.25	11.00-12.25	12.25
35	9.50	9.00-10.50	10.50
18	11.50	11.00-12.00	12.00
44	9.00	8.00-10.50	11.00
10	11.25	11.00-12.00	12.00
57	9.25	8.50-10.00	10.50
23	6.50	5.00-7.00	7.00
21	—	—	—
3,369	15.00	14.00-16.50	17.25
(off cars) 902	20.85	20.50-21.00	21.00
15	—	—	—
216	20.80	20.50-21.00	21.00
47	16.85	16.50-17.00	17.00
3	—	—	—
22	—	10.00-14.00	(each)
25	12.75	12.50-	14.00
85	11.50	11.00-12.00	12.00

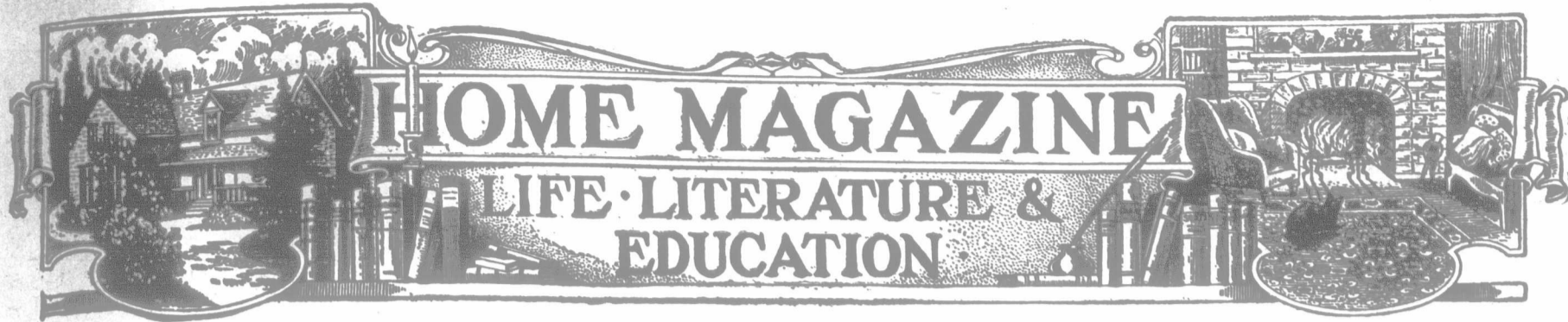
the sales ran from \$12.25 down. There was a considerable demand for feeding cattle, but the high prices eliminated most of the feeder buyers; the abattoirs buying for the killing pens, bid feeder cattle to a point where graziers considered it unwise to operate. A few choice feeders sold at \$13.25 per hundred, and good stockers and feeders bringing generally from \$11 to \$12.50, and medium quality from \$9.50 to \$11. Milch cows had a quiet trade; while a few cows of choice quality sold up to \$165 most of the sales were made from \$80 to \$130. The spring calf crop from the dairy districts is being marketed in record volume, local receipts running much heavier than during last year. As American quotations on live and dressed veal govern the course of the local trade, a stronger tone on United States markets forced an advance in Toronto prices, and as high as \$22 per hundred was paid for choice veal on Wednesday with most of the sales from \$17 to \$19 per hundred, or about \$2 above the prices of the previous week. On the closing market values weakened and earlier accessions in prices were almost completely lost. Lamb and sheep receipts were meagre and trading featureless. Spring lambs sold from \$9 to \$18 each, the latter price being for lambs around sixty pounds; yearlings sold up to \$20, and ewes from

\$12 to \$18 per hundred for unclipped, and clipped stock \$2 to \$3 less. The hog market was steady during the week, but easier at the close, when packers were successful in depressing values 25 cents per hundred. Selects sold during the week at \$20.25 to local packers, with local butchers paying, in some cases, 25 cents above that figure. On Thursday most of the hogs sold at \$20, fed and watered, with a few \$20.25. Packers' buyers are talking lower levels. The total receipts from January 1 to April 29, inclusive, were 94,804 cattle, 23,942 calves, 125,534 hogs and 14,895 sheep; compared with 105,776 cattle, 19,416 calves, 126,981 hogs and 27,076 sheep received during the corresponding period of 1919. Montreal. There was a light run of cattle during the week and quotations advanced to nearly the high level reached at the middle of April. The top price for the week was paid when a load of steers averaging ten hundred and ninety pounds sold at \$15 per hundred. Part of a load of Winnipeg steers brought \$14.50, while \$14 was paid for fifteen steers averaging ten hundred and thirty pounds, which yielded practically 54 per cent. of dressed meat after allowing 2 per cent. for cooling. One lot made up principally of choice

young heifers averaging nine hundred and twenty pounds brought \$13.75. The majority of the common grades of cows were sold at prices ranging from \$8.50 to \$9.50 per hundred. There were very few cows offered and for the best the top price was \$12. Canners remained steady from \$5 to \$5.50. The lowest price for steers and heifers was \$7.50 this figure being paid for some very thin young stock averaging five hundred and eighty pounds. A couple of bulls less than one-year-old brought \$13, while the top for heavy fat bulls was \$12. Fairly heavy meaty bulls brought from \$10 to \$10.50, and common bulls from \$8 to \$9.50. There was a good firm market for veal calves throughout the week; the top price for a straight load was \$17.25, while a number of loads were sold from \$16 to \$16.50. Mixed lots of fair quality brought \$14 to \$14.50, and very common thin calves from \$10 up. Good unclipped sheep sold up to \$14 per hundred. Clipped sheep from \$11 to \$12.50, and lambs from \$10 to \$14 each. Hogs sold for \$20.50 to \$21 per hundred, off cars, the latter price being principally paid by the local butchers. There was an easier tone at the close of the week. Pt. St. Charles.—The total receipts from January 1st to April 29th, inclusive, were: 9,481 cattle, 17,104 calves, 19,234 hogs and 5,008 sheep; compared with

Worth 40  
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participation certificates  
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## A Day in May.

By RUTHLE NOVAK.

In our mountain shanty  
I cook and wash and sweep,  
I tip to see our baby  
And find that she's asleep.  
The song that's in my heart  
Leaps singing to my lips,  
My feet go nimbly dancing  
On their many little trips.

The fragrance of the woodbine  
And the sweetness of the rose  
Float in from the garden  
To tantalize my nose.  
Oh, you are young and I am too.  
And life to us is play—  
For you love me and I love you,  
And it's a day in May.  
In Contemporary Verse.

## Making the Back Yard Pleasant and Profitable.

Usually the soil in the back yard, especially at an "old" place, is very rich. Sometimes the rich mould of an old-time chip-yard is there; washday suds have been thrown upon it; the grass and (whisper it gently) weeds of many decades have grown and rotted and left a rich residue of fine black earth all ready to be turned into beauty and use.

But on many farms the invitation is not responded to. Too generally the plot is left in grass, indifferently attended to—for who has time to bother with the back yard in the busy season? Sometimes it is adorned with old barrels, old trumpery of other kinds, and sloop pails.

Really it doesn't take very much time during the summer to have the back yard—which one sees more frequently than any other spot about the place—both useful and pleasant to look at. You need not break it all in, you see, unless you are such a lover of flowers that you wish to see it crammed with them,—in which case you are likely to have it already laid out according to pattern in flower beds, with neat gravel walks between.

If you are too busy to attempt such luxuriance, just dig a border all about the edge. In part of it put lettuce, and keep up a succession of sowings, every two weeks. The lettuce is pretty in itself, and having it so handy will save you many a trip to the vegetable garden during the busy summer days when every step counts. Other plants that are both beautiful and useful are parsley, sage, garden cress, summer savory and thyme. If you get into the way of putting two or three sprigs of parsley on the plate of cold meat for garnish, cutting a little of it into stews and soup, or putting some of it, chopped very fine, over omelet and similar dishes, you will appreciate having the plants growing near the doorstep. Many people too, like a little sage cooked with fried potatoes as well as in fowl dressing and dressing for "mock duck" (made, as you know, with round steak). All of these plants may be tucked into the border between clumps of flowers, as may also radishes and other things you can think of. Nothing can be prettier in a border than chives, small onion-like plants very nice to use anywhere green onions can be used.

If you are very economical of space you can train tomatoes and cucumbers up against the fence, which is easily done by giving them a roughly-made inclined trellis made of laths or slats to climb upon; but probably you will prefer to have these in the vegetable garden.

Now for the flowers: Behind the useful plants mentioned, you can have clumps of hollyhock and phlox, which will grow up year after year, giving practically no trouble. They do not

show much the first year, but become more and more beautiful every year after.

I think you will want some "old man" in your back yard garden, and perhaps a few double yellow buttercups (bachelor's buttons) to give it old-time company. Also there will be clove pinks and mignonette for sweet perfume, phlox drummondii for long and steady bloom, and nasturtiums and asters for cutting as well as for their beauty in the garden.

If there is a porch to be covered, or an ugly fence that needs screening, Japanese hop, Dutchman's Pipe, or kudzu vine ("Jack and the Beanstalk") will do splendidly, as all grow very rapidly in rich soil. Or the whole fence may be covered with old-fashioned scarlet runner beans, which are excellent for cooking, either when ripe or green. A very ugly view may be shut off by a criss-cross lattice above the fence, the whole covered with vines.

If one is anxious to have a "feature" in the backyard, a skilfully built rockery may occupy one corner; do not put it out in the grass plot. In it plant sedum, moss pinks, edelweiss, sweet alyssum, etc., with periwinkle, ferns, forget-me-nots, trillium and anemone at the base.

A different sort of feature is a tub sunk in an out-of-the-way corner, with water-lilies and arrow-heads from the creek growing in it and tall grasses and iris at the back. A few little fish in the tub will keep mosquito larvae eaten up.

A dead tree on the edge of the backyard, or anywhere on the lawn, for that matter, does not need to be cut down; transform it into a thing of beauty by letting it become over-run with virginia creeper and trumpet vine. Also cover up the ugly bareness of the clothes-reel post by training morning-glories or scarlet runner about it.

There will not be much trouble about keeping the grass in the back yard from growing too high; an occasional cutting will be sufficient.

It is not yet too late to plant roots of perennials, if the work is carefully done, or to sow seed. A "spare" day may provide an opportunity.

## The Twilight Flower Garden.

THE S— family are very fond of sitting out as long as they can on summer evenings. They have a broad porch fitted with comfortable chairs, two small tables and a swinging seat. There is also a big lamp with a broad shade, which makes sewing or reading possible on warm evenings from June to September. But often the lamp is not lighted, and the family and their friends just sit about and talk, and look out at the moon and stars, and are thankful that the roads near by are real country roads, not dotted with hard little points of electric light, hard on the eyes and so distracting that when they are about people forget to look at the great solemn lights of heaven.

The S— folk are very fond of flowers also, and often bemoaned the fact that, lovely though the night is, it submerges the beauty of dark pink roses, and purple pansies, and larkspurs more blue than the skies.

One day a brilliant idea came to Mrs. S—. Why not have a twilight garden? In other words why not intersperse the usual flowers of the garden with others perceptible both by color and odor during the dim soft nights of summer?

To think meant to do, and soon the bright little old lady was studying the catalogues and every book she could find that dealt with flowers.

The result was that a season or so later a notable change had come over

the garden. When looking out over the dim starlit lawn, once a blur of gray lost in the blackness of shrubbery and trees beyond, one now saw clumps of white gleaming along the borders, and caught a variety of sweet odors as the breeze shifted, now here, now there.

Tall white phlox provided both color and perfume, and attracted to itself, as night drew on, little hawk-moths—"lady birds"—that hovered like humming birds before the musky-scented blossoms. White asters gave a lower line of white—with white candytuft and low-growing sweet alyssum. While looking at these one caught a perfume different from that of the phlox, and looking towards a different "art" saw another tall clump of white—*Nicotiana glauca*, very sweet-scented, and also a great favorite of the hawk-moth. *Nicotiana glauca*, by the way, is excellent as a cut flower, if kept away from sunshine. Cuttings of the plant may be taken in September and started in pots for winter blooming.

In other parts of the garden, to keep up a succession of white and sweet scents, were planted Madonna lilies (*Lilium candidum*), pale evening primroses, white peonies, and, close to the porch, white funkias or day lilies, whose leaves are always beautiful, and whose white flowers have a very delicate perfume that suggests, somehow, the early spring—makes one think of the hepaticas and ladies-and-gentlemen of the woods.

Clambering up the porch, too, gleaming in the moonlight, was a moonflower vine, with its attractive leaves and flowers that resemble somewhat, white morning-glories. As the seeds are very hard to start, and have even to be filed to get them to start at all, this vine was considered a great triumph.

To add to the perfume-scheme, a bed of mignonette was placed where breezes from the west would carry its delicate evanescent odor to the porch, nor were English violets forgotten for early spring. And Mrs. S— considered that she found a real gem for the twilight garden when she heard of a night-blooming stock, with the imposing name *Matthiola bicornis*. People who saw this stock during the day wondered why Mrs. S— had such an unattractive plant in her garden, for the gray-green foliage is not attractive; but when they sat on the porch in the evening, and caught the wonderfully sweet perfume from it as its purplish-lilac blossoms unfolded, they wondered no longer, but thought the names of the plant very appropriate—"night-smelling stock," and "sweet scented stock." Mrs. S— had to explain that the botanical name was appropriate also, since "bicornis," signifying "two horns" had been chosen as the specific name because of the curious two-horned seed pods that succeed the flowers. *Matthiola bicornis* is of no use for the day garden, but it is delightful for the twilight garden. Its seeds may be started in the hotbed, in boxes in the house, or in the open; after the first year it "self seeds."

Mrs. S— had many other flowers, day flowers, in her garden, but they do not concern us here in this little story, which deals primarily with those species which made the spot, as someone said, "a dream of the spices of Araby."

## The Frost-Proof Garden.

IS there anything more desolate to look at than a garden largely made up of tender and semi-tender plants after the first hard frost? One's heart sinks as one looks at it. Even newspapers spread about have failed to stay the subtle marauder. One couldn't cover everything of course, and anyhow some of the papers fall off. The coleus are hanging limp and faded—

collapsed at the first onslaught of the enemy. Along the edge of the flower-borders the heliotrope lies flat and black. The castor bean that spread its leaves so tropically yesterday looks little more valiant than the coleus. The balsams are worse. In a day or so the whole collection will be black and "dead as a doornail."

Now it is possible by exercising some care in selection, to have a garden that will be attractive almost until snowfall,—not that the tender plants should be entirely omitted, but that they should be so interspersed with hardy species that when the frosts come their poor blackened carcasses may be rooted out without leaving great desolate voids along the border.

Among the very hardiest species,—practically frost-proof—are: The African marigolds that glow like miniature suns until the very end of October; our native asters (including "Michaelmas daisies") which are beautiful in any garden; the late phloxes, golden rod (another native plant very effective in the garden); some of the sunflowers; verbenas; zinnias—which now come in a variety of rich colors, and the supremely beautiful Japanese anemones, with lovely, waxy white and pink flowers. Sweet alyssum, also, lasts better than heliotrope as an edging. . . . All of these are as faithful as old dog Tray.

A number of others will last through light frosts fairly well, and even comparatively late in the season if given a light covering. Among these are cosmos, salvias, ten-weeks-stock, coreopsis, bachelor's buttons, candy tuft, snapdragons and nasturtiums. It is wise to plant salvias and nasturtiums in a place where some shelter will be afforded in the fall.

## Your Health.

"MEDICUS."

Fats. (Continued).

WE were talking about fats and their effect on the hydrochloric acid of the stomach juice. Fats lessen this important acid and, for this reason, often disagree, or as the patients say, are "hard to digest." If you eat salt along with the fat you can overcome to a certain extent the lessening of the hydrochloric acid. Of course, if you eat too much salt (and most people eat too much salt rather than too little) you will suffer from heartburn or sour stomach, because the salt (Na Cl) has produced too much hydrochloric acid (HCl).

It is interesting to watch the cook add salt to her dishes rich in fat, or add an acid, e.g., acetic acid or vinegar. In making salads she uses olive oil or salad oil, and then to make it more readily digested she adds vinegar. Instead of vinegar some use lemon juice (which is sour because an acid is present). Salt is usually eaten along with nuts because the nuts are oily and hard to digest. Salted peanuts, salt in butter, are other examples. When you give a course dinner upon a "state occasion" you will have fish—just a taste—for your second course. Now fish is greasy, and the fat may upset your guests' dainty stomachs so you put a slice of lemon on the plate with the fish and expect them to squeeze the acid juice on the fish, and so save their digestion for the remaining three or four courses. You can think of a whole lot more examples if you watch the cook from day to day.

Then if the baby, or "Dad" has a sour stomach, what is best to do? Baking soda is your remedy, and it is practically harmless. How much would you give a baby for "gas on its stomach?" I told a friend of mine, when "wee Jock" had colic or was cross, to give him soda, but

E. Day, Sec. Dominion Association.

to Crop.

(Farms Note.)  
of our most important  
it is one that very  
receive the attention it  
practice of many  
planting of potatoes  
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GUS NICHOLSON.  
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didn't tell him how much. The opportunity arrived at last. Jock was all doubled up with colic, and Billy (that's Jock's Dad) gave the remedy—a half teaspoonful—and Jock only six months old:

What happened? Nothing. Jock was relieved and soon fast asleep. But Whow! When the grandmother heard of it poor Billy was told that after he had raised a dozen or so of children he would know better than give a wee tot like Jock so much soda. "It was a wonder it didn't eat a hole in his stomach." Anyhow Billy is firmly convinced that soda is a good remedy for colic.

Soda does not cure the sour stomach, but it gives relief, and that is what many of us want. Soda does not remove the cause. In babies the two most frequent causes of colic are: too much cream in the food, and secondly, too frequent feedings. If you feed the baby every time he cries he will naturally have colic. If he vomits he usually feels better. The grandmother says that is a sign of a healthy baby. I have often said—unkindly—that the baby's stomach has more sense than the mother. The baby vomits when it is fed too much, but mother does not recognize the fact that she is the cause of the vomit because of too frequent feedings. No child over three months of age should be fed oftener than 5 times in 24 hours: say at 6 a.m. when mother wakes up; 10 o'clock in the forenoon, after the breakfast dishes are washed, the chickens fed, the milk cans washed, the floor swept and the potatoes peeled for dinner; then at 2 p.m., after the routine of dinner has been gone through; then at 6 p.m.; and the last feeding be 10 and 12 p.m. That gives the baby 6 to 8 hours quiet sleep at night (from 10 to 12 p.m. till 6 a.m.) and will allow a rest to its nervous system. You must remember that the nervous system in a babe requires more time for rest than any other part of the body; it grows the fastest, and to grow perfectly it requires rest. The children and adults are nervous nowadays. It is probably the result of improper care of the nervous system of the growing child. Compare the effects upon a child fed every two hours day and night with those upon a child that gets only five feeds in 24 hours. The latter method gives "mother" a rest too. Her nurse will be of better and more uniform quality if she gets 6 to 8 hours uninterrupted sleep of a night. Then, too, "Dad" should be considered. When he doesn't get his proper sleep his nerves may get on edge too, and that will not improve mother's nervous system. There are several more arguments for the longer interval between feeds. The best argument is—it works.

### Hope's Quiet Hour.

#### Behold! Consider!

Behold the fowls of the air, . . . your heavenly Father feedeth them. Are ye not much better than they? Consider the lilies of the field, . . . shall He not much more clothe you, O ye of little faith?—S. Matt. 6: 26, 30.

The Great Teacher draws our attention to page after page in the great book of Nature—the illustrated book of wonders provided by the Father for the pleasure and instruction of His children. We grow so used to the wonders around us that we often fail to "behold" them. Even when we notice some of them, in careless fashion, we often fail to consider the truths they reveal. The flowers spring up mysteriously, extracting beautiful colors and delicious perfumes from the earth and air. The bare trees put on their new spring suits, regardless of the high cost of living. They do not mock our natural love of beauty by clothing themselves unbecomingly in "overalls" on Sundays and festivals—when working clothes are out of place. The fruit trees are dressed in bridal array by the hand of God. No one else could manufacture the dainty pink and white blossoms which are so perfect in texture, so lovely and so sweet. Silently

and marvellously the flowers become fruit, and we accept unconcernedly the beautiful and delicious apples, cherries, peaches and grapes which have been manufactured for our use and pleasure by the Wonder Worker. They have come out of the invisible into this room of God's house. They bring to us health as well as delight. Our humble relations—the fruits and vegetables—dig down into the earth and bring up for us many treasures which we are too ignorant to find for ourselves. We trample the earth beneath our feet, and in return it sends us countless treasures by the hands of many messengers. By potatoes and spinach, onions and lettuce, turnips and carrots (and many other willing servants) health giving substances are extracted from the hardworking soil and brought within our reach. And everywhere we find delicate beauty of color and texture. I have planted carrot seed in a pot for the sake of its fernlike beauty. I have marvelled over the beauty of a collection of seeds in an exhibition. How do the beets extract red and the carrots yellow from the colorless earth? How do the violets, roses and lilies extract their distinctive perfume.

Open your eyes and behold the wonders hidden in every plant and living creature and you will not have to complain that life is dull. The picture books of our Father are not kept in a few city libraries, but are scattered everywhere. They change every day and every hour. Interesting wonders are constantly being produced before our eyes; and every ant-hill, every bee-hive, every drop of water and the pool at our feet teems with undiscovered mysteries.

But the eager scientist may behold many wonders of creation and yet miss entirely their spiritual meaning. Our Lord's heart was awake to human needs and He understood the message of love which the flowers were trying to deliver. Solomon was supposed to have understood the speech of animals; but a greater than Solomon has given us the key to the cipher of creation. The little birds make no provision for the winter, but they sing melodiously about the love of our Father. "Your" heavenly Father feedeth them, said Christ, "are ye not much better than they?" If our Father's constant love provides for the birds, surely we can trust Him to give all necessary and helpful things to His own children. Adam was the son of God (S. Luke 3: 38) and we are also His sons and daughters. God clothes in beautiful robes the buttercup and daisy; is He not able and willing to provide for our souls and bodies? You dress a little child and give him food; but, when he is able to do these things, you would only spoil him and injure his development by doing everything for him. Because you love him wisely, and desire his real and lasting advantage, you train him to do as much as possible for himself. Even so it is with our heavenly Father. Because we are growing up, He refuses to do for us what we can do for ourselves. Shall we blame him for treating us like men and women instead of helpless babies? If He gave us everything we wanted, without effort or hindrance, we might have good reason to complain of His kindness. Difficulties have helped mankind tremendously, and our Father knows we have need of them. Therefore He will not clear them all away in answer to our weak and foolish prayers.

Did we expect that the world would be an easy place to live in as soon as the war was over? If we did, then we have found out our mistake now. Look at Ireland and Russia, and—well, look at any country! The peace which Christ offered was not the peace that the world giveth. It is rest for the soul in the midst of the tribulations of this world.

I think that when the Master was talking about the wild lilies He may have held one of them up before the weary and troubled crowd. It gave up its life of easy gladness, but what a grand mission was God's gift to that little flower! It was the instrument in Christ's hand to teach the people He longed to help. Because it was so beautiful, and yet of as little value as the grass which we tread underfoot, its message was one of hope and trust. "If God has richly clothed me," it cried, "how much more shall He clothe you!" If a king, with his own hands, dresses in royal robes a beggar by the wayside, his own sons can be satisfied that he will give them the food and clothing—and the teachers—fitted for

their royal and responsible position. So much will depend upon them in the future, therefore they must be trained and educated. They can't be allowed to grow up ignorant and pleasure-loving. They must be taught the value of time and influence, of money and health. The greatest lessons of life cannot be learned in luxurious idleness. The Father knows what things His children "need", and He will give us what we need, even though His answer to prayer may seem exactly contrary to our asking.

Solomon's glory was coarse and gaudy as compared with the perfect texture of the lily's robes. He was not arrayed half so gloriously as "one" of these. The ground was ablaze with wild flowers, but the Master did not forget the individual flower in the multitude of flowers. God clothes each one. The sun, rain and dew bring gifts from Him to each little flower. Not one is overlooked in the crowd.

It is easy to talk about the hungry millions in Europe. A "million" is a vague word to most of us—to most women, at least. We may be able to eat our breakfast comfortably while we read of millions of starving children. But, if a starving child were set down in the midst of a family of happy children, it would be very different. All would rush to supply its need. Pitying tenderness would care for that "one."

God's way of dealing with His children is often hard to understand. When many helpless people are suffering, and the Father shows no sign of caring, we have to trust His love in the dark. But we have no right to judge until we see the final outcome of each life. If a lily bulb could understand (perhaps it can!) it would feel deserted and ill-treated when it was crushed into a hole and covered with earth. But that is not the end. Without that apparently harsh treatment it could not develop into higher life and beauty. The grain of wheat must die in its lonely grave before it can rise up to give much fruit to the world.

Before our Lord yielded up His spirit to His Father's keeping, He had looked across the gulf of death and made an appointment with the apostles to meet Him in Galilee. He knew that life would go on after death, and made His plans with calm indifference to the great enemy. If death were the end of one of God's children, then we might think His plan of education had failed. What have we gained that will go with us through the narrow gateway. Money, worldly influence and pleasure, and the greatest earthly fame must be dropped on this side. Character will still be ours and the love of friends can pass through after us. What shall it profit a man to gain the whole world and lose himself. The world must be dropped at the gate. Shall all the ambitious struggle of a lifetime be utterly wasted?

We pity the suffering and those we call the "unsuccessful." The One whose eyes are as a flame of fire pities the man clothed in purple and fine linen, who fares sumptuously every day and takes no pains to relieve the necessities of his neighbors. He may think himself "rich"; but the Lover of souls pities his degraded poverty. Do we pity the rich man or do we envy him? The suffering Christ pitied the man who crucified Him. He would not have changed places with them. Dare we, who are so far beneath His glory of manhood, pity the Master of the world in His victory?

The crowd around the Cross, because they judged by present appearances, were confident that God cared nothing for Jesus of Nazareth. But they were greatly mistaken. The royal road of sons of the King may be the way of the cross, yet the love of the Father never fails for one moment.

Consider the lily, which passes through darkness into light, through the grave to new and beautiful life. If the Father cares for a passing flower, how much more does He care for you!

"Cast thy care on JESUS,  
Nothing is too small  
For His vast compassion;  
He can feel for all;  
In the gloom and darkness  
Clasp His living hand,  
He will guide and cheer thee  
Through the desert land."  
DORA FALKENBERG.

## 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 a stamped envelope ready to be sent on. (4) Allow one month in this department for answers to questions to appear.

THIS week I spent an evening with three artists. The husband of one of them was at Vladivostok, Eastern Siberia, with the Canadian troops, and on the way home stayed four days in Japan, not idly, either, judging from the number of exquisite gifts which he brought back to his wife and which she showed us very delightedly—for where is the woman who does not love pretty things?

Among the gifts were two kimonos, by far the most beautiful I have ever seen. One was for summer, made double of the thinnest, "sleaziest," most shimmering silk. It made one think, somehow, of the foam on the crest of a green sea wave, for it was so light and feathery, and of the palest possible green, just one remove from pure white. The neck, skirt-edge and broad sleeve openings were button-holed in scallops, and about the shoulders was heavily hand-embroidered a flower design of the very same shade as the silk. The other kimono was double also, but black in color and of a heavier, richer silk, with longer sleeves. All about the lower edge was worked, by hand, a broad border suggesting still water, with water-lilies (white) lying on the surface, and upstanding pale green reeds and grasses, with tall white, clustered flowers, evidently native to Japan. White birds resembling storks, were also standing about in the water. Some of them were flying across the back of the kimono, while about the shoulders clambered a tangle of the most exquisitely shaded pink roses and green leaves. . . . I know all this sounds rather "too much of a muchness," but, probably owing to the Oriental character of the gown, it looked just right. The artists exclaimed over the beauty of the effect and we all examined the work with wonder that it could be so exquisitely perfect. Our conclusion was that we can teach the Orientals nothing, but that they can teach us much, in regard to the manufacture of silk and the art of embroidery. Then we tried the kimonos on, wondering how a work-a-day woman would manage with such a flowing robe—for the kimono is the everyday garb of the Japanese woman unspoiled by Western styles—and we discovered that with the sleeves turned back and the sash tightly tied the dress might be much more convenient as well as much more comfortable than ours.

"But wait until you see my shoes!" exclaimed Mrs. S., and then she brought out a pair of shoes that looked as if made of white denim, about as high as our boots used to be before they soared up to meet the short skirt, broad enough to be perfectly comfortable, with a separate compartment for the big toe—for which we could see no reason. The soles were made of white rubber, corrugated on the bottom to prevent slipping on a pavement, and the shoes were merely fastened with a strap, so that when they needed washing it was very easy to take them off.

One of the artists held up a kimono and the shoes for a better look.

"Well!" she exclaimed, "compared with these our clothes are ugly, uncomfortable and unhealthful!"

—And so they are. We wear stiff corsets that prevent easy movement and keep the perspiration in; we wear high heels and narrow toes that cramp our feet; and, instead of selecting an artistic design and keeping to it for a stock model, we go from one extreme to another, and usually the effect is grotesque or would be if we were not so accustomed to absurdities. Look at our record from the time of our grandmothers to the present!—Hoops, wasp waists, bustles, wide skirts and tight waists, tight skirts and sleeves so wide that photographs had to be taken crosswise on the card, skirts so long and tight that we had to split them to get room to step, then so short that ultra moralists began to rail at us for the indecency of them, high waists with stock collars that went up in two points behind the ears, and then waists so low that they threatened pneumonia on a winter's day, furs in July and

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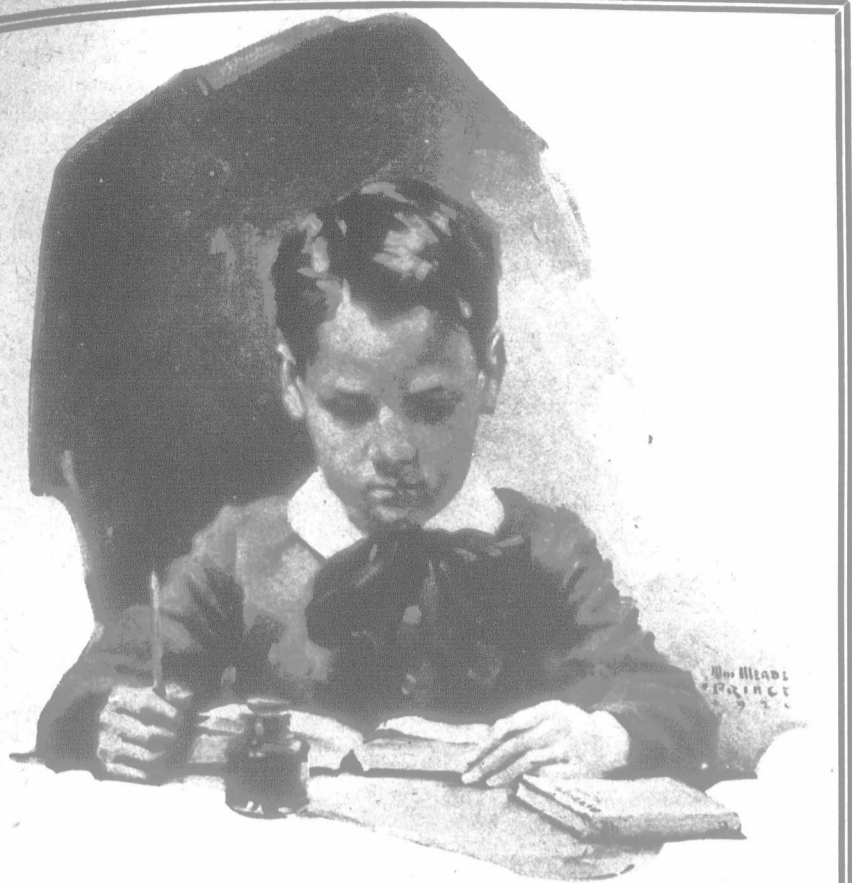
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Correspondence in this and other columns. Kindly write on one side of the paper. Always send name and address. If pen name is also given, it will not be published. (3) When possible, please forward to anyone, please envelope ready to be sent on the first of the month in this department for publication.

I spent an evening with my husband. The husband of one of our readers was at Vladivostok, Japan, with the Canadian Consulate. The way home stayed four days, not idly, either, judging from the number of exquisite gifts which he brought to his wife and which she received very delightedly—for a woman who does not love

There were two kimonos, by the way, beautiful I have ever seen. The summer, made double of the finest, most shimmering silk. One think, somehow, of the crest of a green sea wave, with a crest and feathery, and of the green, just one remove from the green. The neck, skirt-edge and openings were buttoned and about the shoulders and-embroidered a flower very same shade as the other kimono was double in color and of a heavier, longer sleeves. All the edge was worked, by a border suggesting still water-lilies (white) lying and upstanding pale grasses, with tall white, evidently native to birds resembling storks, flying about in the water. The white about the shoulders and of the most exquisitely and green leaves. I think rather "too much of a probably owing to the r of the gown, it looked like a work of art. Artists exclaimed over the effect and we all exclaimed with wonder that it was so exquisitely perfect. Our hats that we can teach the girls, but that they can regard to the manufacture of the art of embroidery. The kimonos on, wonder-k-a-day woman would wear a flowing robe—for the day garb of the Japanese—by Western styles—and that with the sleeves and the sash tightly tied—much more convenient and more comfortable than



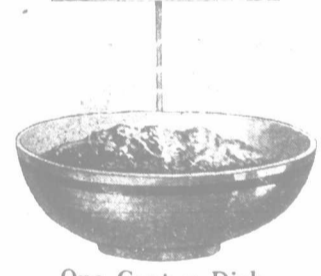
## 12 Cents Supplies a Day's Nutrition

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The calory is the energy measure of food value, by which all foods are rated. Note what 2,000 calories cost in other prime foods at this writing.

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A Slice of Bacon Buys Two Dishes Oats

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In Average Meats	- - 90c.
In Average Fish	- - \$1
In Hen's Eggs	- - 1.20
In Vegetables	- 22c. to 1.50

Thus meat, eggs and fish will average some nine times Quaker Oats. And many foods cost 20 times as much.

#### Not the Sole Diet

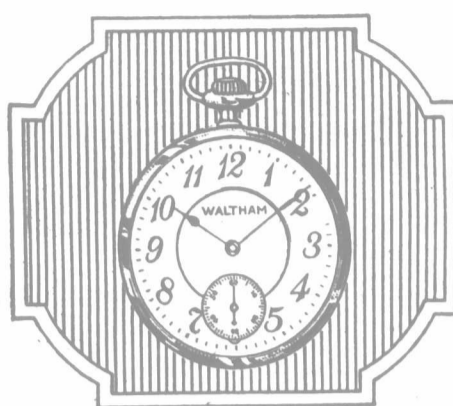
This does not mean that Quaker Oats should be the only diet. But the oat dish is important, as every mother knows. It starts the day with almost a complete food. It will save 80 per cent. on your breakfasts, compared with many foods. And that saving will cut down your average food cost. The Quaker Oat breakfast was never so important as to-day.

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Egg-O is absolutely pure and efficient—And *double acting*, that is, its first action occurs in the mixing bowl when cold water or milk in its various forms is added. Allowing the dough to stand for 15 or 20 minutes will give better results. When you put your baking in the oven Egg-O will continue to rise until your cakes are properly baked.

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All styles, all sizes and in various fabrics for men, women and children.

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Boys and Girls all over Canada are making money by acting as subscription agents for THE FARMER'S ADVOCATE AND HOME MAGAZINE. It's easy and pleasant work, and you earn generous commission.

Georgette crepe in January, silk stockings whether the thermometer was at 90 in the shade or 20 below zero!

—And during all this time the Japanese went calmly on with their comfortable, healthful, beautifully artistic clothing. One reads, of late, that some of them are adopting Western garb. One hopes that it is not true. Much more reasonable would it be to hear that Western women were adopting the Oriental styles.

Last summer a noted Japanese, touring this country to look into its agricultural system, spent half a day in our office. One of our men asked him "what do you think of American women?" He shrugged his shoulders a bit (unconsciously, I think) and smiled. "I think," he said, "that they may be useful and that they try to look ornamental." There was a world of meaning in that "try."

Why can't we study to find out a style that is wholly healthful, and reasonably graceful, then keep to it, instead of letting the fashion-makers twist and manipulate us to fill their own pockets, and the pockets of the manufacturers? How many times, in the past have we thrown aside a dress or coat simply because it was "all out of style." We are doing less of that now, of course. The H. C. of L. demands that things be worn longer. People are "making over" much more than they used to, and a drug traveller tells me that never before did he sell as many dyes as this spring. All this is along right lines. But why cannot each of us go a step further and select the kind of dress that is most becoming to her especial "style of beauty," then keep to it, forever more, or, at least, until she becomes so stout or thin that a different design is demanded? For instance the "chemise dress" is very becoming to some, and a very practical, sensible design it is, approaching the Oriental styles more closely, in many respects, than any other. The smock worn over a skirt fastened to an underwaist to throw the weight from the shoulders, is another simple, not in-artistic style that seems to suit certain people. Some of course, really need a "fluffy ruffles" effect, others look best in plain and tailor-made effects. Why not fix upon the style that suits best, the right length of skirt to suit one's height and figure, the very right size and shape of hat, then, as noted above, keep to it? Difference in color and material will give variety enough to prevent becoming too tired of any design.

I've an idea, of course, that we would all look best in rich, soft, flowing, beautifully colored robes such as those which have tumbled into my friends wardrobe, and which she intends to use for negligees (if they were mine I think I should put them in a glass case). In fact I can be reasonably sure we would all look better because—didn't I see the three artists so arrayed, one after the other! But, of course, one *daren't* start out in a kimono in this contradictory Western civilization; one might be arrested, even though, on all sides, women were skipping by in skirts half way to their knees and transparent waists half way down their backs. It's all custom, and after all, "*Honi soit qui mal y pense.*" I suppose we have to be Occidental, but at least let us try to be sensibly Occidental.

But we are improving. Oh yes, we are improving. I clipped the following from a this-year's paper:

"Chicago had a suffrage fashion pageant February 16. When the ladies met to try on their grandmothers' dresses, which were to figure in the exhibition, they found, to their great surprise, that the woman of to-day is a different creature physically from her ancestors of fifty years ago. Not a dress could be buttoned or hooked. The stolid waist of the early fashion plate has entirely disappeared. The ladies were driven to request their slim daughters to take their places."

We have, in these later days, vetoed wasp waists, bustles, and even the faint attempt to introduce a hoop. Some day not so very far in the future we may put a ban on high heels, and ridiculous gamuts of fashion. It is not impossible that even in our day we may settle down to designs that are really sensible, really permanent, and really artistic.

JUNIA.

### Worth Thinking Over.

"The longer I live, the more I am inclined to believe that this earth is used by other planets as a lunatic asylum."—Bernard Shaw.

"The modern woman's fetish is cleanliness. Show her the loveliest things for daily use that she cannot cleanse and she will have none of them."—House-Furnishing Review.

"No woman who wears the high-heeled shoe that is being foisted upon the female public to-day can retain her vitality, figure and personal magnetism."—Edna E. Love, Physical Culture Expert of Chicago.

### Wedding Queries.

For "Miss Pioneer."  
Making a "pioneer" trip into marital realms, are you? Lucky you are to be setting out in June.

Since you are to have so few people at the wedding why have a "stand-up" luncheon? Why not let everybody sit down and be comfortable, either at one long table, or at small tables, the largest being reserved for the bridal party? If people only would learn that it is not a law of the Medes and Persians to be formal at a wedding, that simplicity gives dignity, and that convenience should be consulted rather than a sheep-track—even in regard to weddings! At so very small a wedding the bridesmaid need not wear a hat. The Bride may dispense with a veil altogether. If she wears one she may change her dress and remove the veil later in the evening; it would be rather in the way to keep it on all the time. The duty of the best man is to help the groom in any way he can, relieve him of any small responsibilities that have to be seen to, e.g. looking after his gloves and hat, presenting the ring at the right moment, giving the fee to the clergyman, seeing to luggage, etc. The bridesmaid performs equivalent duties for the bride, helps her to remove her glove when the ring is to be put on, holds her bouquet, etc.

The bride should not be seen until the ceremony. Usually the bridesmaids go in first to the altar, the bride going first when coming away from it (at a church wedding.) At a quiet home wedding a similar procedure is followed before the ceremony. Afterwards the bride may stand in her place until "best wishes" are over, then lead the way to the dining-room.

Since the walls need screening, could you not festoon them with evergreen branches? There will be plenty of flowers in by the first of June—lilacs, etc.,—to help out with table decorations.

No, don't use the phonograph for a wedding march. That would seem too ludicrous. Better have no music at all; it is not essential.

I think you should have a wedding cake and one other kind of cake.

Very much happiness to you!

### From an Old Friend.

Dear Junia and all the Nookers: Will you let me come back? This year and over that I have been "doing without" the Advocate. I've felt like a wandering soul looking in through the windows at a happy family gathered round the fireside. And now there are some things I'd like to tell the Nook which I hope may help someone. The dandelions will soon be here and I wish everyone knew what a good medicine they are for "soul and body". I was going to say a lot on our stomachs, don't you think, Junia? Well, our souls do depend quite a lot on our stomachs, don't you think, Junia? Simply chew plenty of the blossoms and stems and swallow juice only and you'll find what a wonderful sweetener of the system they are. Then you may dry some (in the shade) for next winter to be steeped as tea. So many of our "weeds" are such good medicines—boneset—so invaluable for gripe or cough hops (not a weed this! for nerves and sleeplessness—catnip, for the same and so on down the list. For that obstinate cough or rundown, tiredout feeling with no appetite, black cherry bark tea. Always steep herbs with boiling water but don't boil.

Here is something I found years ago in the Ladies' Home Journal for keeping the throat in good condition: One-half teaspoon common baking soda in 1/2

MAY 13, 1911  
cup water little cold hot and use be used as excellent. weaker and teeth—better than the for correct Now for s ing ceilings tube, such to roll the —one about fine. Now enough, if I me if it is. Myrtle" is living," as I would lik permit me t enjoying m ngle Nook I remain a  
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Sour Cr sugar, 1 cu 1/4 teaspoon powder, 1/2 spoons shro spoon lemon Beat the sugar, bea dry ingred with the cr shredded stiff and o shallow pan Scalloped half cup sh parboiled 1 1/2 cup un cheese; bu and cover with it. white sau grated ch Bake in a r are brown  
Coffee J plain gran water for cups clear sugar, an Turn into small mou place to this will t Soft Gin 1 cup sou 1 teaspoon molasses milk, gin Last of a stiff bat cake tin a  
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Thinking Over.

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cup water hot enough to sizz; add a little cold water to make comfortably hot and use as a gargle twice a day.

Now for something difficult. In papering ceilings try using a large pasteboard tube, such as large calendars come in, to roll the paper on the ceiling with:—one about 18 inches long.

Welcome back, "Leezibus." We have missed you.—Junia.

The Cookery Column.

Sour Cream Cake.—Two eggs, 1 cup sugar, 1 cup sour cream, 1 1/2 cups flour, 1/4 teaspoon soda, 1 teaspoon baking powder, 1/2 teaspoon nutmeg, 2 table-spoons shredded lemon peel, or 1/2 tea-spoon lemon extract.

Scalloped Rice with Codfish.—One-half cup shredded codfish which has been parboiled 10 minutes; 1 cup white sauce; 1/2 cup uncooked rice; 1/4 cup grated cheese; buttered crumbs.

Coffee Jelly.—Soak 2 level tablespoons plain granulated gelatine in 1 cup of cold water for 10 or 15 minutes.

Soft Gingerbread.—One cup molasses, 1 cup sour milk, 1/2 cup butter or lard, 1 teaspoon soda, 1 teaspoon ginger, 1/2 teaspoon salt.

Serial Story

"His Family."

BY ERNEST POOLE.

(Serial rights reserved by The Farmer's Advocate and Home Magazine.)

CHAPTER XLII.

Delorah had not yet stopped work. Again and again she put it off. For in her busy office so many demands both old and new kept pressing in upon her, such unexpected questions and vexing little problems kept cropping up as Deborah tried to arrange her work for the colleague who was to take her place in the spring, that day after day she lingered there—until one afternoon in March her husband went to her office, gave her an hour to finish up, and then brought her home with him.

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And just as Dunlop Cord Tires, wherever you go, are being awarded the palm as "1920's best," so, right across Canada, our 1920 sales figures are registering the definite approval of motorists in decidedly unusual increases.

When you buy Dunlop Tires you buy from the world's greatest rubber organization, whether the comparison is in technical knowledge, area of plants, financial resources, etc.

Our new million-and-a-half-dollar factory is now nearing completion. It will be exclusively devoted to the manufacture of Dunlop Cord Tires—"Traction," "Ribbed."

Dunlop the Universe Over—The World's Greatest Rubber Organization.

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and went quietly on with her preparations for the coming of her child. But still the ceaseless interests of those hordes of other children followed her into the house.



This is the sign that identifies dealers showing the Eveready Daylo \$10,000 Contest Picture. Look for this sign on dealers' windows

Three Thousand Dollars For Somebody. YOU?

THREE thousand dollars in cash for one person; a thousand dollars for another; five hundred for each of three other people and ninety-nine other cash prizes from two hundred to ten dollars. Ten thousand dollars in all! How much for YOU?

This latest Eveready Daylo Contest will break all contest records. Anyone may enter—it costs nothing; there is no obligation of any kind. Men, women, boys and girls all have equal chances for any of the 104 cash prizes.

On June 1st, Daylo dealers throughout the United States and Canada will display the new Daylo Contest Picture in their windows. Go to the store of a Daylo dealer and study the picture. Secure a contest blank, which the dealer will give you, and write on it what you think the letter says. Use 12 words or less. For the best answer that conforms to the contest rules, the winner will receive \$3,000.00 in cash.

Get an early look at the picture. Submit as many answers as you wish. Contest blanks are free at all Daylo dealers. All answers must be mailed before midnight, August 1st, 1920.

A-3114



another EVEREADY contest! \$10,000 In Cash Prizes

1 First Prize.....	\$3,000.00
1 Second Prize.....	1,000.00
3 Prizes—\$500.00 each	1,500.00
4 Prizes—\$250.00 each	1,000.00
5 Prizes—\$200.00 each	1,000.00
10 Prizes—\$100.00 each	1,000.00
10 Prizes—\$ 50.00 each	500.00
20 Prizes—\$ 25.00 each	500.00
50 Prizes—\$ 10.00 each	500.00
104 Prizes	Total \$10,000.00

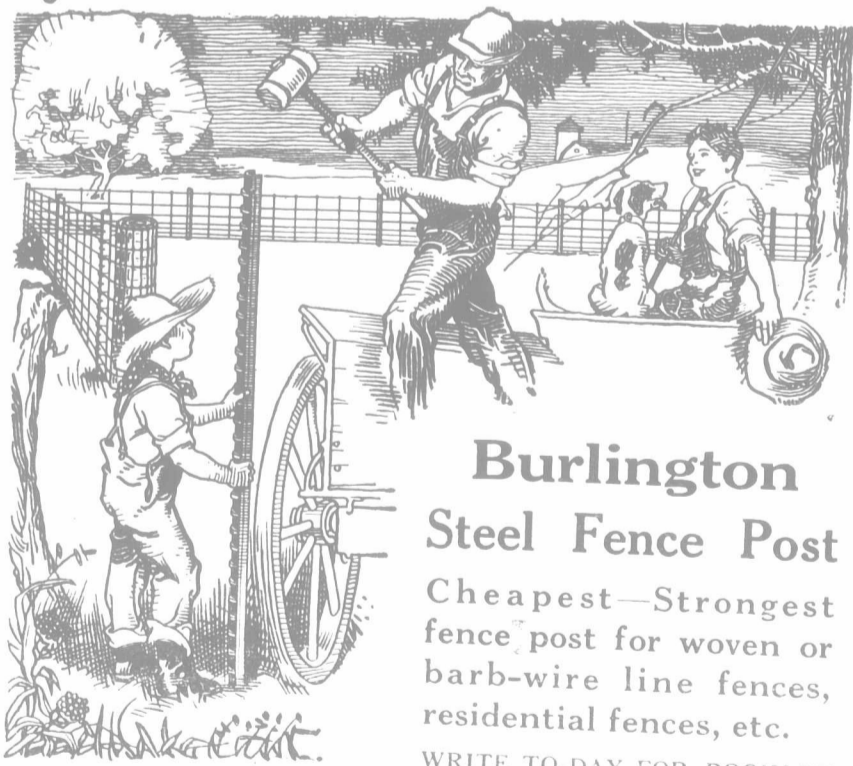
Answers will be judged by the editors of "LIFE" and contestants must abide by their judgment.

If two or more contestants submit the identical answer selected by the judges for any prize, the full amount of the prize will be paid to each.

Contest begins June 1, 1920, and ends Midnight, August 1, 1920. Postmarks on letters will determine if letter was mailed before close of contest.

Answers must contain not more than 12 words. Hyphenated words count as one word.

Complete Contest Rules are printed on Contest Blank. Ask Daylo dealers for them.



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sages to Deborah; last appeals for aid and advice, and gifts for the child who was to be born; tiny garments quaintly made by women and girls from Italy, from Russia and from Poland; baby blankets, wraps and toys and curious charms and amulets. There were so many of these gifts.

"There's enough for forty babies," Deborah told her father. "What on earth am I to do, to avoid hurting anyone's feelings? And isn't it rather awful, the way these inequalities will crop up in spite of you? I know of eight tenement babies born down there in this one week. How much fuss and feathers is made over them, and their coming into the world, poor mites?" Roger smiled at his daughter.

"You remind me of Jekyll and Hyde," he said.

"Father! What a horrible thought! What have Jekyll and Hyde to do with me?"

"Nothing, my dear," he answered. "Only it's queer and a little uncanny something I've never seen before, this double mother life of yours."

It was only a few days later when coming home one evening he found that Deborah's doctor had put her to bed and installed a nurse. There followed a week of keen suspense when Roger stayed home from the office. She liked to have him with her, and sitting at her bedside he saw how changed his daughter was, how far in these few hours she had drawn into herself. He had suspected for some time that all was not well with Deborah, and Allan confirmed his suspicions. There was to be grave danger both for the mother and the child. It would come out all right, of course, he strove to reassure himself. Nothing else could happen now, with her life so splendidly settled at last. That Fate could be so pitiless—no, it was unthinkable!

"This is what comes of your modern woman!" Roger exclaimed to Allan one night. "This is the price she's paying for those nerve-racking years of work!"

The crisis came toward the end of the week. And while for one entire night and through the day that followed and far into the next night the doctors and nurses fought for life in the room upstairs, Roger waited, left to himself, sitting in his study or restlessly moving through the house. And still that thought was with him—the price! It was kept in his mind by the anxious demands which her big family made for news. The telephone kept ringing. Women in motors from uptown and humbler visitors young and old kept coming to make inquiries. More gifts were brought and flowers. And Roger saw these people, and as he answered their questions he fairly scowled in their faces—unconsciously, for his mind was not clear. Reporters came. Barely an hour passed without bringing a man or a woman from some one of the papers. He gave them only brief replies. Why couldn't they leave this house alone? He saw her name in headlines: "Deborah Gale at Point of Death." And he turned angrily away. Vividly, on the second night, there came to him a picture of Deborah's birth so long ago in this same house. How safe it had been, how different, how secluded and shut in. No world had clamored then for news. And so vivid did this picture grow, that when at last there came to his ears the shrill clear cry of a new life, it was some time before he could be sure whether this were not still his dream of that other night so long ago.

But now a nurse had led him upstairs, and he stood by a cradle looking down at a small wrinkled face almost wholly concealed by a soft woolly blanket. And presently Allan behind him said, "It's a boy, and he's to be named after you." Roger looked up.

"How's the mother?" he asked.

"Almost out of danger," was the reply. Then Roger glanced at Allan's face and saw how drawn and gray it was. He drew a long breath and turned back to the child. Allan had gone and so had the nurse, and he was alone by the cradle. Relief and peace and happiness stole into his spirit. He felt the deep remoteness of this strange new little creature from all the clamoring world without which he himself was soon to leave. The thought grew clearer, clearer, as with a curious steady saunter Roger stood there looking down.

"Well, little brother, you're here, thank God. And nobody knows how close we'll be—for a little while," he thought. "For



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After many years' use by parents of all classes, in Royal Nurseries and humble homes, Savory & Moore's Food has the reputation of being a thoroughly reliable food for infants.

The experience of parents, nurses, and medical men all goes to show that babies do thrive remarkably well on this famous food, that its use prevents infant ailments, and that it builds up a strong constitution, so important in later life. You may therefore bring up baby on Savory & Moore's Food with the assurance that you are doing the best you can for your child.

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And this w nights. Agai dream. He s time of do saw Allan no figure stoop strong wide eyes kind an reassuring. times hobblin stopping on door, listenin recede, and it in the dark.

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we're almost out of the world, you and I."

Days passed, Deborah's strength increased, and soon they let Roger come into the room. She, too, was remote from the world for a time. That great family outside was anxious no longer, it left her alone. But soon it would demand her. Never again, he told himself, would she be so close, so intimate, as here in her bed with this child of hers to whom she had given her father's name. "These hours are my real good-byes."

Two long quiet weeks of this happiness, and then in a twinkling it was gone. The child fell sick, within a few hours its small existence hung by a thread—and to Roger's startled eyes a new Deborah was revealed! Tense and silent on her bed, her sensitive lips compressed with pain, her birthmark showing a jagged line of fiery red upon her brow as her ears kept straining to catch every sound from the nursery adjoining, through hours of stern anguish she became the kind of mother that she had once so dreaded—shutting out everything else in the world: people, schools, all other children, rich or poor, well, sick or dying! Here was the crisis of Deborah's life!

One night as she lay listening, with her hand gripping Roger's tight, frowning abruptly she said to him, in a harsh, unnatural voice:

"They don't care any longer, none of them care! I'm safe and they've stopped worrying, for they know they'll soon have me back at work! The work," she added fiercely, "that made my body what it is, not fit to bear a baby!" She threw a quick and tortured look toward the door of the other room. "My work for those others, all those years, will be to blame if this one dies! And if it doesn't live I'm through! I won't go on! I couldn't! I'd be too bitter after this—toward all of them—those children!"

These last two words were whispers so bitter they made Roger cold.

"But this child is going to live," he responded hoarsely. Its mother stared up with a quivering frown. The next moment her limbs contracted as from an electric shock. There had come a faint wail from the other room.

And this went on for three days and nights. Again Roger lived as in a dream. He saw haggard faces from time to time of doctors, nurses, servants. He saw Allan now and then, his tall, ungainly figure stooped, his features gaunt, his strong wide jaw set like a vise, but his eyes kind and steady still, his low voice reassuring. And Roger noticed John at times hobbling quickly down a hall and stopping on his crutches before a closed door, listening. Then these figures would recede, and it was as though he were alone in the dark.

At last the nightmare ended. One afternoon as he sat in his study, Allan came in slowly and dropped exhausted into a chair. He turned to Roger with a smile.

"Safe now, I think," he said quietly.

Roger went to Deborah and found her asleep, her face at peace. He went to his room and fell himself into a long dreamless slumber.

In the days which followed, again he sat at her bedside and together they watched the child in her arms. So feeble still the small creature appeared that they both spoke in whispers. But as little by little its strength returned, Deborah too became herself. And though still jealously watchful of its every movement, she had time for other thinking. She had talks with her husband, not only about their baby but about his work and hers. Slowly her old interest in all they had had in common returned, and to the messages from outside she gave again a kinder ear.

"Allan tells me," she said one day, when she was alone with her father, "that I can have no more children. And I'm glad of that. But at least I have one," she added, "and he has already made me feel like a different woman than before. I feel sometimes as though I'd come a million miles along in life. And yet again it feels so close, all that I left back there in school. Because I'm so much closer now—to every mother and every child. At last I'm one of the family."

CHAPTER XLII

Of that greater family, one member had been in the house all through the month which had just gone by. But he had been so quiet, so carefully unobtrusive, that he had been scarcely noticed. Very early each morning, day after day, John had gone outside for his breakfast and thence to the office where he himself had handled the business as well as he could, only coming to Roger at night now and then with some matter he could not settle alone, but always stoutly declaring that he needed no other assistance.

"Don't come, Mr. Gale," he had urged. "You look worn out. You'll be sick yourself if you ain't careful. And anyhow, if you hang around you'll be here whenever she wants you."

Early in Deborah's illness, John had offered to give up his room for the use of one of the nurses.

"That's mighty thoughtful of you, Johnny," Allan had responded. "But we've got plenty of room as it is. Just you stick around. We want you here."

"All right, Doc. If there's any little thing, you know—answering the 'phone at night or anything else that I can do—"

"Thank you, son, I'll let you know. But in the meantime go to bed."

From that day on, John had taken not only his breakfast but his supper, too, outside, and no one had noticed his absence. Coming in late, he had hobbled silently up to his room, stopping to listen at Deborah's door. He had kept so completely out of the way, it was not till the baby was three weeks old, and past its second crisis, that Deborah thought to ask for John. When he came to her bed, she smiled up at him with the baby in her arms.

"I thought we'd see him together," she said. John stood on his crutches staring down. And as Deborah watched him, all at once her look grew intent. "Johnny," she said softly, "go over there, will you, and turn up the light, so we can see him better."

And when this was done, though she still talked smilingly of the child, again and again she glanced up at John's face, at the strange self-absorbed expression, stern and sad and wistful, there. When he had gone the tears came in her eyes. And Deborah sent for her husband.

The next day, at the office, John came into Roger's room. Roger had been at work several days and they had already cleared up their affairs.

"Here's something," said John gruffly, "that I wish you'd put away somewhere." And he handed to his partner a small blue leather album, filled with the newspaper clippings dealing with Deborah's illness. On the front page was one with her picture and a long record of her service to the children of New York.

"She wouldn't want to see it now," John continued awkwardly. "But I thought maybe later on the boy would like to have it. What do you think?" he inquired. Roger gave him a kindly glance.

"I think he will. It's a fine thing to keep." And he handed it back. "But I guess you'd better put it away, and give it to her later yourself."

John shifted his weight on his crutches, so quickly that Roger looked up in alarm: "Look here! You're not well!" He saw now that the face of the cripple was white and the sweat was glistening on his brow. John gave a harsh little nervous laugh.

"Oh, it's nothing much, partner," he replied. "That's another thing I wanted to tell you. I've had some queer pains lately—new ones!" He caught his breath.

"Why didn't you tell me, you young fool?"

"You had your own troubles, didn't you?" John spoke with difficulty. "But I'll be all right, I guess! All I need is a few days off!"

Roger had pressed a button, and his stenographer came in.

"Call a taxi," he said sharply. "And John, you go right over there and lie down. I'm going to take you home at once."

"I've got a better scheme," said John, setting his determined jaws. The sweat was pouring down his cheeks. "It may be a week—but there's just a chance it—be a little worse than that! So may be a room in a hospital! See? Be better all round!" He swayed forward.

"Johnny!" Roger caught him just in time, and the boy lay senseless on his arms.

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At home, a few hours later, Allan came with another physician down from John's small bedroom. He saw his colleague to the door and then came in to Roger.

"I'm afraid Johnny has come to the end."

For a moment Roger stared at him.

"Has, eh," he answered huskily. "You're absolutely sure he has? There's nothing—nothing on earth we can do?"

"Nothing more than we're doing now."

"He has fooled you fellows before, you know—"

"Not this time."

"How long will it be?"

"Days or hours—I don't know."

"He mustn't suffer!"

"I'll see to that." Roger rose and walked the floor.

"It was last month did it, of course—"

"Yes—"

"I blame myself for that."

"I wouldn't," said Allan gently.

"You've done a good deal for Johnny Geer."

"He has done a good deal for this family! Can Deborah see him?"

"I wish she could."

"Better stretch a point for her, hadn't you? She's been a kind of a mother to John."

"I know. But she can't leave her bed."

"Then you won't tell her?"

"I think she knows. She talked to me about him last night."

"That's it, a mother!" Roger cried.

"She was watching! We were blind!" He came back to his chair and dropped into it.

"Does John know this himself?" he asked.

"He suspects it, I think," said Allan.

"Then go and tell him, will you, that he's going to get well. And after you've done it I'll see him myself. I've got something in mind I want to think out."

After Allan had left the room, Roger sat thinking about John. He thought of John's birth and his drunken mother, the accident and his struggle for life, through babyhood and childhood, through ignorance and filth and pain, through din and clamor and hunger, fear; of the long fierce fight which John had made not to be "put away" in some big institution, of his battle to keep up his head, to be somebody, make a career for himself. He thought of John's becoming one of Deborah's big family, only one of thousands, but it seemed now to Roger that John had stood out from them all, as the figure best embodying that great fierce hunger for a full life, and as the link connecting, the one who slowly year by year had emerged from her greater family and come into her small one. And last of all he thought of John as his own companion, his only one, in the immense adventure on which he was so soon to embark.

A few moments later he stood by John's bed.

"Pretty hard, Johnny?" he gently asked.

"Oh, not so bad as it might be, I guess—"

"You'll soon feel better, they tell me, boy," John shut his eyes.

"Yes," he muttered.

"Can you stand my talking, just a minute?"

"Sure I can," John whispered. "I'm not suffering any now. He's given me something to put me to sleep. What it is you want to talk about? Business?"

"Not exactly, partner. It's about the family. You've got so you're almost one of us. I guess you know us pretty well."

"I guess I do. It's meant a lot to me, Mr. Gale—"

"But I'll tell you what you don't know, John," Roger went on slowly. "I had a son in the family once, and he died when he was three months old. That was along time ago—and I never had another, you see—to take his place—till you came along." There fell a breathless silence. "And I've been thinking lately," Roger added steadily. "I haven't long to live, you know. And I've been wondering whether—you'd like to come into the family—take my name. Do you understand?"

John said nothing. His eyes were still closed. But presently, groping over the bed, he found Roger's hand and clutched it tight. After this, from time to time his throat contracted sharply. Tears welled from under his eyelids. The gradually, as the merciful drug which Allan had given did its work, his clutch relaxed and he began breathing deep

MAY 13, 19...

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and hard. But still for some time longer Roger sat quietly by his side. The next night he was there again. Death had come to the huddled form on the bed, but there had been no relaxing. With the head thrown rigidly far back and all the features tense and hard, it was a fighting figure still, a figure of stern protest against the world's injustice. But Roger was not thinking of this, but of the discovery he had made, that in their talk of the night before John had understood him—completely. For upon a piece of paper which Allan had given the lad that day, these words had been painfully inscribed:  
"This is my last will and testament. I am in my right mind—I know what I am doing—though nobody else does—nobody is here. To my partner, Roger Gale, I leave my share in our business. And to my teacher, Deborah Baird I leave my crutches for her school."

CHAPTER XLIII

After John had gone away the house was very quiet. Only from the room upstairs there could be heard occasionally the faint clear cry of Deborah's child. And once again to Roger came a season of repose. He was far from unhappy. His disease, although progressing fast, gave him barely any pain; it rather made its presence felt by the manner in which it affected his mind. His inner life grew uneven. At times his thoughts were as in a fog, again they were amazingly clear and vistas opened far ahead. He could not control his thinking.

This bothered him at the office, in the work he still had to do. For some months he had been considering an offer from one of his rivals, a modern concern which wished to buy out his business together with that of three other firms and consolidate them all into one corporation. And Roger was selling, and it was hard; for the whole idea of bargaining was more distasteful than ever now. He had to keep reminding himself of Edith and her children.

At last it was over, his books were closed, and there was nothing left to be done. Nor did he care to linger. These rooms had meant but little to him; they had been but a place of transition from the old office far downtown, so full of memories of his youth, to the big corporation looming ahead, the huge impersonal clipping mill into which his business was to merge. And it came to his mind that New York was like that—no settled calm abiding place cherishing its memories but only a town of transition, a great turbulent city of change, restlessly shaking off its past, tearing down and building anew, building higher, higher, higher, rearing to the very stars, and shouting, "Can you see me now?" What was the goal of this mad career? What dazzling city would be here? For a time he stared out of his window as into a promised land. Slowly at last he rose from his desk. Clippings, clippings, clippings. He looked at those long rows of girls gleaning in items large and small the public reputations of all kinds of men and women, new kinds in a new nation seething with activities, sweeping on like some wide river swollen at flood season to a new America, a world which Roger would not know. And yet it would be his world still, for in it he would play a part.

"In their lives, too, we shall be there—the dim strong figures of the past."  
From his desk he gathered a few belongings. Then he looked into John's small room, with the big gold motto over the desk: "This is no place for your troubles or mine." On the desk lay that small album, John's parting gift to Deborah's boy. Roger picked up it and walked out of the office. He had never liked good-byes.

In the elevator he noticed that his shoes needed shining, and when he reached the street below he stopped at the stand on the corner. The stocky Greek with bushy black hair, who had run the stand for many years, gave him a cheery greeting; for Roger had stopped there frequently—not that he cared about his shoes, but he had always liked to watch the crowds of people passing.

"No hurry, boss?"  
"None," said Roger.  
"Then I give a fine shine! Polish, too?"  
"Yes, polish, too." And Roger settled back to watch. "And put in new shoe strings," he added, with a whimsical smile.  
Men and women, girls and boys by

thousands passed him, pushing, hurrying, shuffling by. Girls tittering and nudging and darting quick side glances. Bobbing heads and figures, vigorous steps and dancing eyes. Life bubbling over everywhere, in laughter, in sharp angry tones, in glad expectant chatter. Deborah's big family. Across the street was a movie between two lurid posters, and there was a dance hall overhead. The windows were all open, and faintly above the roar of the street he could hear the piano, drum, fiddle and horn. The thoroughfare each moment grew more tumultuous to his ears, with trolley cars and taxis, motor busses, trucks and drays. A small red motor dashed up town with piles of evening papers; a great black motor hearse rushed by. In a taxi which had stopped in a jam, a man was kissing a girl in his arms, and both of them were laughing. The smart little toque of blue satin she wore were crushed to one side. How red were her lips as she threw back her head.  
"Silk or cotton, boss? Which you like?"  
Roger glanced at the shoe strings and pondered.

"Silk," he grunted in reply. Idly for a moment he watched this busy little man. From whence had he come in far away Greece? What existence had he here, and what kind of life would he still have through those many years to come? A feeling half of sadness crept into Roger's heavy eyes as he looked at the man, at his smiling face and then at other faces in the multitudes sweeping past. The moment he tried to single them out, how doubly chaotic it became. What an ocean of warm desires, passions, vivid hopes and worries. Vaguely he could feel them pass. Often in the midst of his life, his active and self-centered life, Roger had looked at these crowds on the street and had thought these faces commonplace. But now at the end it was not so.

A woman with a baby carriage stopped directly in front of him and stood there anxiously watching for a chance to cross the street. And Roger thought of Deborah. Heavily he climbed down from his seat, paid the man and bade him good-night, and went home to see Deborah's baby.

For a long time he sat by the cradle. Presently Deborah joined him, and soon they were laughing heartily at the astonishing jerks and kicks and grimaces of the tiny boy. He was having his bath and he hated it. But safe at last on his his mother's lap, wrapped to his ears in a big soft towel, he grew very gay and contented and looked waggishly about.

There followed long lazy days of spring, as April drifted into May. Early in the morning Roger could hear through his window the cries of the vendors of flowers and fruits. And he listened drowsily. He rose late and spent most of the day in the house; but occasionally he went out for a stroll. And one balmy evening when groups of youths came trooping by, singing in close harmony, Roger called a taxi and went far down through the tenement streets to a favorite haunt of his, a little Syrian pawnshop, where after long delving he purchased a ring to put in the new collection that he had been making lately. He had nearly a dozen now.

Days passed. The house was still so quiet, Deborah was still upstairs. At last, one night upon leaving his study, he stopped uncertainly in the hall. He took more time than was his wont in closing up the house for the night, in turning out all the windows, in turning out the various lights. Room after room he left in the dark. Then he went slowly up the stairs, his hand gratefully feeling those guiding points grown so familiar to his touch through many thousand evenings. His hand lingered on the banister and he stopped again to listen there.

He did not come downstairs again. He was able to sleep but little at night. Turning restlessly on his bed, he would glance out of the window up at the beetling wall close by, tier on tier of apartments from which faint voices dropped out of the dark. Gradually as the night wore on, these voices would all die away into long mysterious silences—for to him at least such silences had grown to be very mysterious. Alone in the hours that followed, even these modern neighbors and this strange new eager town pressing down upon his house seemed

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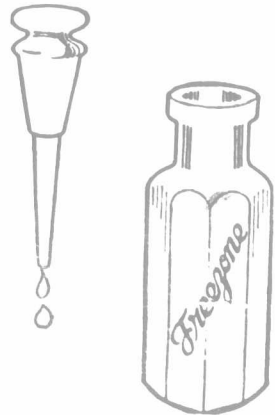
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no longer strange to him nor so appallingly immense, seemed even familiar and small to him, as the eyes of his mind looked out ahead.

From his bed he could see on the opposite wall the picture Judith had given him, always so fresh and cool and dim with its deep restful tones of blue, of the herdsman and the cattle on the dark mountain rim at dawn. And vaguely he wondered whether it was because he saw more clearly, or whether his mind in this curious haze could no longer see so well, that as he looked before him he felt no fear nor any more uncertainty. All his doubts had lifted, he was so sure of Judith now. As though she were coming to meet him, her image grew more vivid, with memories emerging out of all the years gone by. What memories, what vivid scenes! What intimate conversations they had, her voice so natural, close in his ear, as together they planned for their children. . . . Wistfully he would search the years for what he should soon tell his wife—until the drowsiness returned, and then again came visions.

But by day it was not so, for the life of the house would rouse him and at intervals hold his attention.

One evening a slight rustle, a faint fragrance in the room, made Roger suddenly open his eyes. And he saw Laura by his bed, her slender figure clad in blue silk, something white at her full bosom. He noticed her shapely shoulders, her glossy hair and moist red lips. She was smiling down at him.

"See what I've brought you, dear," she said. And she turned to a chair where, one on the other, tray after tray, was piled his whole collection of rings. At sight of them his eyes grew fixed; he could feel his pulse beat faster.

"How did you ever find them?" he asked his daughter huskily.

"Oh, I had a long hunt all by myself. But I found them at last and I've brought them home. Shall we look them over a little while?"

"Yes," he said. She turned up the light, and came and sat down at the bedside with a tray of rings in her lap. One by one she held them up to his gaze, still smiling and talking softly on in that rich melodious voice of hers, of which he heard but snatches. How good it felt to be so gay. No solemn thoughts nor questionings, just these dusky glittering beauties here, deep soft gleams of color, each with its suggestion of memories for Roger, a procession of adventures reaching back into his life. He smiled and lay in silence watching, until at last she bent over him, kissed him softly, breathed a good-night and went out of the room. Roger followed her with his glance. He knew he would never see her again. How graceful of her to go like that.

He lay there thinking about her. In her large blue limousine he saw his gay young daughter speeding up the Avenue, the purple gleaming pavement reflecting studded lines of lights. And he thought he could see her smiling still. He recalled scattered fragments of her life—the first luxurious little ménage, and the second. How many more would there be? She was only in her twenties still. Uneasily he tried to see into the years ahead for her and he thought he saw a lonely old age, childless, loveless, cynical, hard. But this fear soon fell from his mind. No, whatever happened, she would do it gracefully, an artist always, to the end. He sighed and gave up the effort. For he could not think of Laura as old, nor could he think of her any more as being a part of his family.

Edith came to him several times, and there was something in her face which gave him sharp forebodings. Making a great effort he tried to talk to her clearly.

"It's hard to keep up with your children," he said. "It means keeping up with everything new. And you stay in your rut and then it's too late. Before you know it you are old."

But his words subsided in mutterings, and Roger wearily closed his eyes. For a glance up into Edith's face has shown him only pity there and no heed to his warning. He saw that she looked upon him as old and still upon herself as young, though he noticed the threads of gray in her hair. . . . Then he realized she had seen and that his chamber had grown dark. He must have been dreaming. Of what, he asked. He tried to re-

member. And suddenly out of the darkness, so harsh and clear it startled him, a picture rose in Roger's mind of a stark lonely figure, a woman in a graveyard cutting the grass on family graves. Where had he seen it? He could not recall. What had it to do with Edith? Was she not living in New York? . . . What had so startled him just now? Some thought, some vivid picture, some nightmare he could not recall.

His last talks were with Deborah. All through those days and the long nights, too, he kept fancying she was in the room, and it brought deep balm to his restless soul. He asked her to tell him about the schools, and Deborah talked to him quietly. She was going back to her work in the fall. She felt very humble about it—she told him she felt older now and she saw that her work was barely begun. But she was even happier than before. Her hand lay in his, and it tightened there. He opened his eyes and looked up into hers.

"All so strange," he muttered, "life." There was a sharp contracting of her wide and sensitive mouth.

"Yes, dearie, strange!" she whispered. "But I'm so glad you're going on."

He frowned as he tried to be simple and clear, and make her feel he understood what she had set herself to do.

"All people," he said slowly, "never counted so much as now. And never so hungry—all as now—for all of life—like children—children who should go to school. Your work will grow—I can see ahead. Never a time when every man and woman and child could grow so much—and hand it on—and hand it on—as you will do to your small son."

He felt her hand on his forehead, and for some moments nothing was said. Vaguely in glimpses Roger saw his small grandson growing up; and he pictured other children here, not her own but of greater family, as the two merged into one. He felt that she would not grow old. Children, lives of children; work dreams and aspirations. How bright it seemed as he stared ahead. Then he heard the cry of her baby.

"Shall I nurse him here?" he heard her ask. He pressed her hand in answer. And when again he opened his eyes she was by his side with the child at her breast. Its large round eyes, so pure and clear, gazed into his own for a long, long time.

"Now he's so sleepy," she whispered. "Would you like him beside you a moment?"

"Please."

He felt the faint scent of the tiny boy, and still those eyes looked into his. He forgot his daughter standing there; and as he watched, a sweet fresh sense of the mystery of this life so new stole deep into his spirit. All at once the baby fell asleep.

"Good-night, little brother," he whispered. "God grant the world be very kind." He could feel the mother lift it up, and he heard the door close softly.

Smiling he, too, fell asleep. And after that there were only dreams.

CHAPTER XLIV

And his dreams were of children. Their faces passed before him. Now they were young again in the house. They were eating their suppers, three small girls, chattering like magpies. From her end of the table their mother smiled quietly across at him. "Come children," she was saying, "that will do for a little while." But Roger said, "Oh, let them talk." . . . Then he saw new-comers. Bruce came in with Edith, and George and young Elizabeth, and Allan came with Deborah who had a baby in her arms, and Laura stood beside them. Here were his three daughters, grown, but still in some uncanny way they looked to him like children still; and behind them he detected figures long forgotten, of boys and girls whom he had known far back into his own childhood. John, too, had come into the house. Strangely now the walls were gone, had lifted, and a clamorous throng, laughing, shouting, pummeling, hedged him in on every hand—Deborah's big family!

Soon the uproar wearied him, and Roger tried to shut them out, to bring back again the walls to his house. And sometimes he succeeded, and he was left for a while in peace with Judith and his three small girls. But despite his efforts

to keep them there, new faces kept intruding. Swiftly his small family grew, split into other families and these were merged with other figures pressing in from every side. Again he felt the presence of countless families all around, dividing, reuniting, with ceaseless changes and fresh life—a never ending multitude. Here they were singing and dancing, and Laura gaily waved to him. At another place were only men, and they were struggling savagely to clutch things from each other's hands. A sea of scowling visages, angry shouts, fists clinched in air. And he thought he saw Bruce for an instant. Behind them lay wide valleys obscured by heavy clouds of smoke, and he could hear the roar of guns. But they vanished suddenly, and he saw women mourning now, and Edith with her children turned to him her anxious eyes. He tried to reach and help her, but already she had gone. And behind her came huge bending forms, men heaving at great burdens, jaws set in scowls of fierce revolt. And John was there on his crutches, and near him was a figure bound into a chair of steel, with terror in the straining limbs, while in desperation Deborah tried to wrench him free. Abruptly Roger turned away.

And in a twinkling all was gone, the tumult and the clamor, and he was in a silent place high up on a mountain side. It was dusk. A herd of cattle passed, and George came close behind them. And around him Roger saw, emerging from the semi-dark, faces turning like his own to the summits of the mountains and the billowy splendors of the there. It grew so dark he could see no more. There fell a deep silence, not a sound but the occasional chirp of a bird or the faint whirr of an insect. Even the glow on the peaks was gone. Darkness, only darkness.

"Surely this is death," he thought. After that he was alone. And presently from far away he heard the booming of a bell, deep and slow, sepulchral, as it measured off his life. Another silence followed, and this time it was more profound; and with a breathless awe he knew that all the people who had ever lived on earth were before him in the void to which he himself was drifting: people of all nations, of countless generations reaching back and back and back to the beginnings of mankind; the mightiest family of all, that had stumbled up through the ages, had slaved and starved and dreamed and died, had blindly hated, blindly killed, had raised up gods and idols and yearned for everlasting life, had laughed and played and danced along, had loved and mated, given birth, had endlessly renewed itself and handed on its heritage, had striven hungrily to learn, had groped its way in darkness, and after all its struggles had come now barely to the dawn. And then a voice within him cried,

"What is humanity but a child? In the name of the dead I salute the unborn!"

Slowly a glow appeared in his dream, and once again the scene had changed. The light was coming from long rows of houses rising tall and steep out of a teeming city street. And from these lighted houses children now came pouring forth. They filled the street from wall to wall with a torrent of warm vivid hues, they joined in mad tempestuous games, they shouted and they danced with glee, they whirled each other 'round and 'round. The very air seemed quivering. Then was heard the crash of a band, and he saw them marching into school. In and in and in they pressed, till the school seemed fairly bursting. Out they came by another way, and went off marching down the street with the big flag waving at their head. He followed and saw the street divide into narrower streets and bye-ways, into roads and country lanes. And all were filled with children. In endless multitudes they came—marching, marching, spreading, spreading, like wide bobbing fields of flowers rolling out across the land, toward a great round flashing sun above a distant rim on hills.

The sun rose strangely dazzling. It filled the heavens with blinding light. He felt himself drawn up and up—while from somewhere far behind he heard the cry of Deborah's child. A clear, sweet thrill of happiness came. And after that—

—we do not know.

For he had left his family.

(THE END.)

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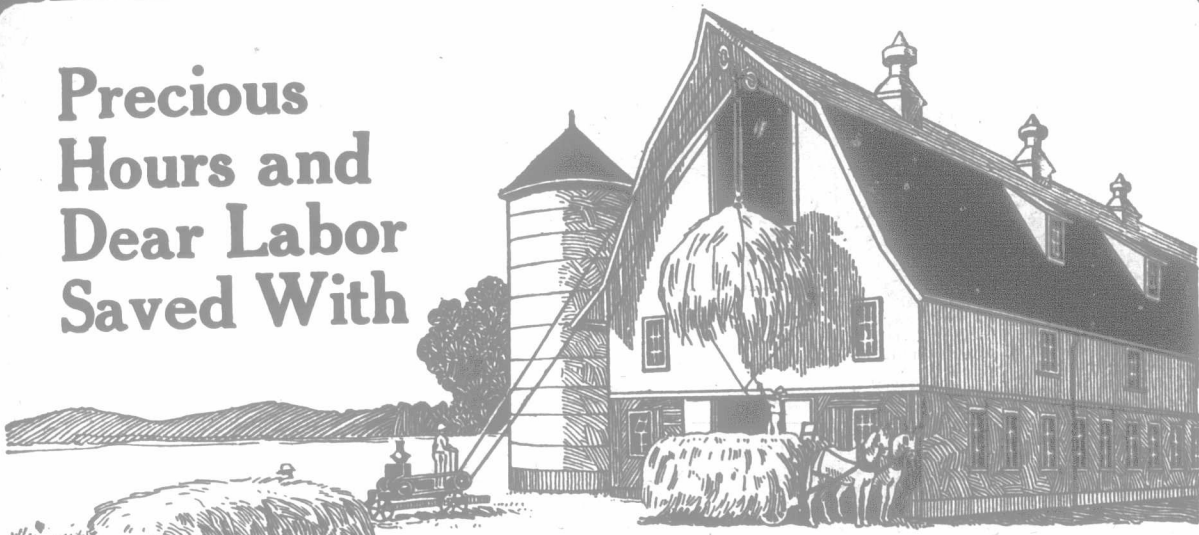
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The Company is composed of J. Crouch, President; G. R. Crouch, Vice-President and Treasurer; R. G. Ivey, Secretary; Directors, Wm. Bernard and Jas. McCartney.

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## Precious Hours and Dear Labor Saved With



# LOUDEN HAY TOOLS

**HAYING** is one of the heaviest jobs on the farm. Are you going to have the necessary labor to harvest the crop? Added to the labor scarcity is the uncertainty of the weather.

Hay which is cured and ready to haul into the barn loses much of its feeding value if it becomes wet.

### Works Like A Giant

With a Louden Haying Outfit to work like a giant for you, you are not only enabled to reduce the labor of harvesting your crop, but you are relieved of much of the anxiety of being caught by catchy haying weather. It will enable you to get through your haying in one-half the usual time—with one-half the help—and with fewer horses.

### Five to Seven Minutes

A Louden Sling Carrier Outfit will handle your biggest loads in from five to seven minutes. Lifting the load straight up from the wagon it is deposited well-spread and cross-wise of the mow, which makes mowing back easy. It does not matter how high your barn is, it can be filled to the peak with a Louden Outfit.

A Louden Outfit not

only means less work for you, but may mean the saving of enough more good well-cured hay to pay for the whole outfit in one year.

### Bound Grain Also Handled

Hay, Bound Grain, Straw or any other forage can be handled quickly and equally well. An all-year-round equipment is what you get when you use a Louden Sling Carrier Equipment.

If your barn is unsuited for a sling carrier equipment the next best thing is the Louden Senior Fork Carrier and Giant Grapple Fork. We are the Pioneers in the manufacture of Haying Tools and years of specialization well fits us to take care of your needs.

A man on the load—one in the mow or on the stack—and a boy at the hoist. That's all the help you need to run a Louden Sling or Hay Fork, a Louden Hay Carrier and a Louden Hoist.

### CATALOGUE—BARN PLANS—FREE

The Louden Illustrated Catalogue tells all about Louden Hay Tools. Write for it. If you are building or remodeling your barn send coupon for Louden Barn Plan Book prepared by leading specialists.

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Head Office: 650 Crimea St., Guelph, Ont.  
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The Louden Machinery Company of Canada, Limited  
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Please send me the book(s) checked below:  
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I expect to build or remodel a barn about (date).....  
for.....cows.....horses. Am interested in.....Hay Tools  
.....Carriers.....Stalls.....Stanchions.

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## Current Events

The first aerial mail for Western Canada was brought to Winnipeg from Grand Forks, N. D. by Lt. A. F. Bingham, last week.

Maj.-Gen. Sir Charles Townshend, K.C. B., D. S. O., the hero of Kut-el-Amara, visited Toronto last week.

The Spanish River Pulp and Paper Company has bought a hydroplane for inspecting and communicating over its timber limits.

The body of Hon. A. G. MacKay, late Minister of Municipal and Health Affairs for Alberta, and former leader of the Liberal Opposition in the Ontario House, was interred in Greenwood Cemetery, Owen Sound, on May 2nd.

Sir Hamar Greenwood was sworn in as Chief Secretary for Ireland on May 6th.

An Italian chemist has discovered a method of cheaply producing liquid hydrogen which may be used for driving automobiles.

The Allies have refused the Hungarian pleas against the terms of the treaty handed to her representatives in January.

The Poles, in their war against the Bolsheviki, are closing in on Kiev. They are now virtually protectors of the Ukraine.

Russian Bolsheviki forces have occupied the important port of Baku on the Caspian Sea.

A bloodless revolution against the Carranza Government has broken out in Mexico, and Carranza's troops are reported to be melting away without showing fight as the rebel forces reach them. Carranza is said to have left Mexico City for Vera Cruz.

Danish troops, on May 5th, occupied Northern Slesvig, returned to Denmark, after a plebiscite had been taken among the people, by the Peace Treaty. The territory had been under German control since 1866.

The temper of the first meeting of the Congress of the Provincial Nationalist Government held last week at Angora, the headquarters of Mustapha Kemal, savored strongly of an attempt to raise a Holy War, should the enforcement of the terms of the Peace Treaty threaten to crush Turkey, the stronghold of Islam. Mustapha Kemal declared that the Allies had ignored Mr. Wilson's fourteen points in the decision on a Turkish peace. Turkish officers in general disregarding the counsel of the Sultan at Constantinople, show no disposition to move against Kemal.

### Everyone Wants it First.

EDITOR "THE FARMER'S ADVOCATE":  
Find enclosed \$1.50 for your paper as we would not like to miss a single copy of it. It is a race to see who gets it first when it comes.  
Lincoln Co., Ont. A. F. HURST.





**Salt in Live-Stock Rations**  
(Experimental Farms Note.)

Common salt (sodium chloride) plays an important part in the diet of most classes of farm animals. This will be better appreciated if we stop to consider that, of the minerals in the fluids of the body, salt is present in the largest amount. Salt does not contribute directly to the energy of the body as does the food consumed, but nevertheless it is necessary in the proper nutrition of the body. Besides its physiological action salt serves as an appetizer and increases the palatability of many foods. It also stimulates the secretion of digestive juices, promotes good circulation of the fluids of the body and prevents digestive disturbances.

Of the common classes of farm animals, namely, horses, cattle, sheep and swine, the latter have the least need of salt. This is in all probability due to the difference in diet, that of swine usually consisting largely of grain whereas other classes consume large quantities of roughage in which less salt is found. Too large quantities of salt derange the stomach and bowels of swine causing gases, diarrhoea, convulsions and paralysis, often resulting in death. Nevertheless pigs should have access to salt, the best means of providing it being to keep before them at all times, in a covered receptacle if outdoors, a mixture of salt, charcoal, air-slaked lime, bone-meal and wood ashes or soft coal cinders.

For sheep salt is very necessary. Keeping it before them at all times is here again the most advisable course for an irregular supply induces scouring. The salt tends to keep the sheep in a good state of health, and they are better able to ward off attacks of diseases or internal parasites. Furthermore, sheep fed plenty of salt shear a better quality and heavier fleece than do those receiving no salt.

In the case of cows owing to their much larger size and the fact that they are giving daily large amounts of milk which contains considerable salt, a heavier ration of salt is needed. For cows being fed in the stable up to 2.5 ounces per day is recommended. While cows giving a heavy flow of milk require an abundance of salt, at the same time the dry, pregnant cows should not be overlooked as their requirements are even greater. Cattle on pasture usually require less salt than those indoors, and the amount necessary varies with the nature of the soil and vegetation. On this account it is advisable to have a supply before them at all times. Either rock salt or ground salt may be used, but in either case it should be placed in a receptacle in which it will be sheltered from the rain or much of it will be lost. Young growing animals usually require a larger percentage of salt than do mature animals.

Horses are no exception in the matter of salt requirement. Here again it should be regularly supplied. A cake of rock salt in the corner of the manger where the horse can get it at will is the best means of provision. Horses at heavy work require more than those that are idle or at light work. An allowance of 2 ounces per day is generally recommended.

GEO. W. MCIR,  
Asst. Dom. Animal Husbandman.

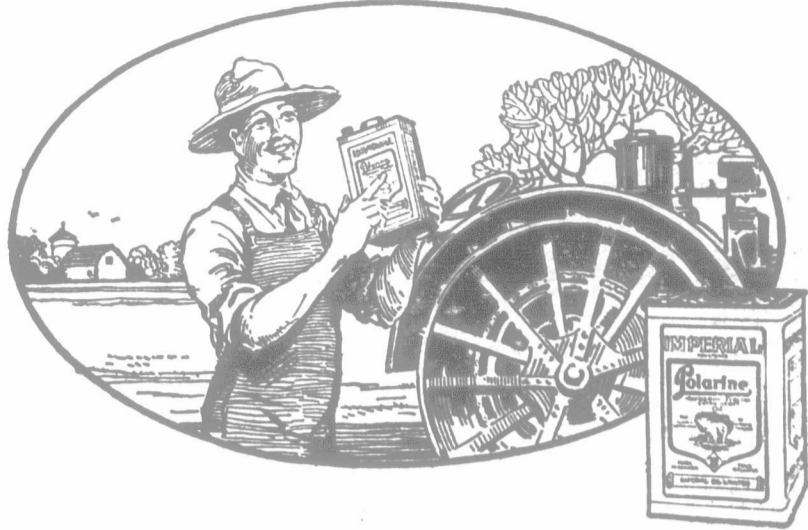
**Forty-five Years a Subscriber.**

EDITOR "THE FARMER'S ADVOCATE":  
Find enclosed \$1.50 being for renewal of subscription to "The Farmer's Advocate." We have had the paper in the home for 45 years, and to be without it would seem like losing a trusty friend.  
Brant Co., Ont. A. W. VAN SICKLE.

**Most Appreciated.**

EDITOR "THE FARMER'S ADVOCATE":  
I receive a number of papers but "The Farmer's Advocate" is more appreciated by the family than any of the rest. It is a great help to the farmer and his wife. It seems as though we could not live without it.  
Quebec. F. A. SMILEY.

EDITOR "THE FARMER'S ADVOCATE":  
Enclosed please find postal note for \$1.50 for my renewal subscription to your valuable journal. It certainly is the farmer's friend and no mistake.  
York Co., Ont. ELMER EDWARDS.



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For open bearings of separators, binders, etc.  
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For worn and loose bearings—a thick oil.  
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For steam cylinder lubrication—tractors and stationary engines.  
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For stationary and portable engines using either kerosene or gasoline.  
**IMPERIAL STANDARD GAS ENGINE OIL**  
For grease cup lubrication—a clean solidified oil.  
**IMPERIAL ARCTIC CUP GREASE**  
Made in different consistencies.  
Imperial Farm Lubricants are sold in 1 and 4 gallon sealed cans, half-barrels and barrels.

WHEN you know what oil gives best results, insist on getting it. Nothing is more important to successful mechanical operation.

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Each Imperial Farm Lubricant has been developed for farm service and tested under actual working conditions. They are endorsed and recommended by leading manufacturers of automobiles and farm machinery.

Consult the Imperial Charts of Recommendations to make sure you are giving your automobile and tractor the most suitable lubrication—displayed wherever Imperial Lubricants are sold. For further information, consult the Imperial Oil Man; or write our nearest branch.

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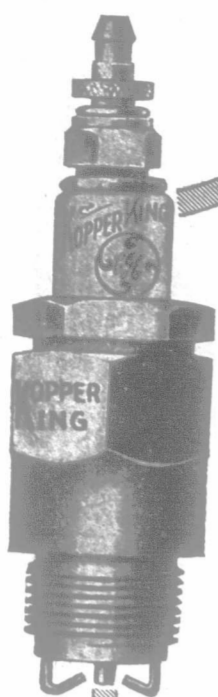
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Kopper King Spark Plugs are anti-fouling and rust-proof. They will not rust into the cylinder head.

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## Convince a Man Against His Will, He's of That Same Opinion Still

More truth than poetry. If you happen to be one of the few who "won't believe," then don't waste your time reading further. This appeal is intended for men who are willing to be shown—men who will not hesitate adopting a better method if they can be shown that it is to their own interests to do so.

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### Sydney Basic Slag Fertilizer

and we must market it to the better class of farmers. We ship thousands of tons to Ontario each season for use on Fall Wheat, but there are a few districts where the goods have not yet been introduced. Now, we want the opportunity of convincing one or more of the better farmers in such districts, and, therefore, would be pleased to PAY ALL YOUR TRAVELLING EXPENSES to go and look at crops of wheat now growing where Basic Slag was applied. You can talk with these farmers at first hand, hear what their experience has been, and then make your own decision whether you could conscientiously introduce these goods into your neighborhood. You are to be the sole judge, and not the slightest obligation need rest on you. Possibly you have a friend who is also keenly interested. If so, bring him along. Let us hear from you at once, as it takes time to arrange matters.

**THE CROSS FERTILIZER COMPANY, Limited**  
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Address all enquiries to our General Sales Agent  
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(Please mention this paper when writing)

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of the Great-West Life Assurance Company is now in print, and will be mailed to any interested person on request.

It records a year of remarkable success—success founded upon twenty-seven years of remarkable

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Scotch Block,  
Halton, Ontario.

Dear Sir:

We are much pleased with the roof you put on. I consider that we have got a No. 1 job. I have not the least hesitation advising anyone wanting shingles, to get them in Preston. You gave us a first-class article and used us well.

Yours truly,  
THOS. HAGGARD.

THE only metal shingle that the modern farmer of to-day should consider, is the shingle that shows its worth when emergencies put it to the test. Shingles that have been repeatedly tested and proven are

## PRESTON SAFE LOCK SHINGLES

The over-lap of each shingle protects the nails. Extra heavy galvanizing over a special steel composition, makes a shingle that neither time nor weather can affect.

Specially constructed to withstand the most terrific gales and storms, Preston Safe Lock shingles lock together in such a way as to form a solid sheet of steel.

You won't be satisfied with your roof until you have it covered with PRESTON SAFE LOCK SHINGLES.

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METAL SHINGLE AND SIDING COMPANY  
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"Sweat the machine and not the man"

said Lord Leverhulme when asked his method of getting greater production.

Let a "London" Engine do the hard work. You'll find in it

"Your RIGHT arm of Power"

You know that vertical type engines are used in all autos because they have proven best. Well, the "LONDON" is that kind of engine. No tank, no packed joints, no freezing—a compact, simple, willing worker, and a giant for power. Fully guaranteed and moderately priced.

Write for Folder.  
**LONDON GAS POWER CO., Limited**  
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**Save Every Chick**  
The most important factor in raising baby chicks is feeding. Wrong methods are expensive—the right way costs but little—but results and profits are astonishing.

**Pratts' Buttermilk BABY CHICK FOOD**  
will raise every livable chick, if fed during the danger period—the first three weeks. Proves profitable even when used for five and six weeks. Prevents leg weakness, insures a sturdy constitution, rapid growth and freedom from intestinal disease. At your dealer's in popular priced pkgs., also in money-saving 50-lb. and 100-lb. bags.

**Pratts' White Diarrhoea Remedy** used in the drinking water relieves bowel trouble and prevents the deadly white diarrhoea from getting a foothold.

**Pratts' Poultry Disinfectant** keeps the coops and brooders sweet and sanitary. Destroys lice and mites.

**MONEY BACK IF NOT SATISFIED.**  
Mr. Harold G. Dell, of Fort Erie, Ont., writes:  
"I used your Baby Chick Food and White Diarrhoea Remedy, and never raised such fine chicks with such small loss in my experience."  
Write NOW for Pratts' new Baby Chick Book. It's FREE. BC-11  
**Pratt Food Co. of Canada, Ltd.**  
328 L. Carlaw Ave., Toronto.

Question

1st—Questions to "The Farmer's Advocate" department free.  
2nd—Questions should be plainly written and must be accompanied by the address of the writer.  
3rd—In veterinary questions especially must be stated whether the writer is a veterinarian or layman.  
4th—When a reply is desired, it must be enclosed.

Can you give the raising of

Ans.—Squabs are a business in attention to detail management. pens be kept and 6 feet deep and 8 feet wide pairs of birds. pen be well strong current taken at the or fermented. are used. Too sometimes cause new wheat is water for dri A squab at b ounce, and at ounces. At th for market. I ing housing, fe would advise "Squabs for P Wm. E. Cox. through this o

New Min in

C. McGill Weyburn, Sas Minister of Ag and has alrea duties. Hon. the resignati combined the Agriculture He will now time to the It will be in Ontario read Minister of Whitechurch, January, 187 education in t He attended school at Reg College at W he taught sch homestead an an extensive familiar with Province, as in provincial prominent ir been Presid Association of for ten year Grain Grow life member Growers' Ass

A. A. Colv Shortthorns a he has had business. A dales were s near neighb Unionville. heifers, four stock bull, nice-quality Sullivan, of H. E. Hod couple of n turned from purchases o American br old Tamwo winner at se that he will show circu number of y of in differ

EDITOR "TH I am sorr sooner, bu "The Farm Bruce Co

MAY 13, 1920

**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.**

**Raising Squabs.**

Can you give me any information on the raising of squabs? S. U. B.  
 Ans.—Squab raising and marketing is a business in itself and requires particular attention to details, as regards feeding and management. It is important that the pens be kept clean. A pen 8 feet wide and 6 feet deep, with a yard 16 feet long and 8 feet wide, will make a house for 25 pairs of birds. It is important that the pen be well ventilated, yet free from strong currents of air. Care should be taken that the feed given has not molded or fermented. Wheat and corn, cracked, are used. Too much wheat in the ration sometimes causes bowel disturbance, and new wheat is considered dangerous. The water for drinking must also be fresh. A squab at birth weighs about half an ounce, and at four weeks about twelve ounces. At this age they are about ready for market. For full information regarding housing, feeding and management, we would advise you to secure the book on "Squabs for Profit," by Wm. E. Rice and Wm. E. Cox. This book may be secured through this office for 75 cents.

**Gossip.**

**New Minister of Agriculture in Saskatchewan.**

C. McGill Hamilton, M.L.A., for Weyburn, Sask., has recently been made Minister of Agriculture for that Province, and has already entered upon his new duties. Hon. C. A. Dunning has, since the resignation of W. R. Motherwell, combined the duties of the Portfolio of Agriculture and Provincial Treasurer. He will now be able to devote his entire time to the affairs of his Department. It will be interesting to many of our Ontario readers to know that the new Minister of Agriculture was born at Whitechurch, in Bruce County, in January, 1878, and received his early education in the public schools of Ontario. He attended high school and Normal school at Regina, and also the Manitoba College at Winnipeg. For several years he taught school, and in 1901 took up a homestead and has since been farming on an extensive scale. He is thoroughly familiar with the agricultural needs of his Province, as he has had a wide experience in provincial organizations. Besides being prominent in municipal affairs, he has been President of the Saskatchewan Association of Rural Municipalities and for ten years has been President of the Grain Growers' at McTaggart, and is a life member of the Saskatchewan Grain Growers' Association.

A. A. Colwill, a breeder of Clydesdale, Shorthorns and Tamworths, writes that he has had a very satisfactory year's business. A pair of pure-bred Clydesdales were sold to Wm. Brunt & Son, a near neighbor. Colonel F. H. Deacon of Unionville, secured six choice Shorthorn heifers, four of which were bred to the stock bull, Primrose Duke. A typey, nice-quality bull calf went to R. R. Sullivan, of Latta, and another one to H. E. Hodgins, of Farran's Point. A couple of neighbor boys who have returned from the front have also made purchases of Shorthorn heifers. An American breeder secured the two-year-old Tamworth hog which has been a winner at several fair fairs. It is expected that he will be shown on the American show circuit this year. Quite a large number of young pigs have been disposed of in different parts of the Dominion.

EDITOR "THE FARMER'S ADVOCATE":

I am sorry I did not send my renewal sooner, but I would not be without "The Farmer's Advocate" for \$10 a year.  
 WARREN THOMPSETT.  
 Bruce Co., Ont.

Grandpa says —  
 "Show me the Cows"



No need to put the strongest men on the farm at milking!

An old man—a boy or girl, can do as much with a Hinman Milker as three able-bodied men by hand.

Think what this means when hours are precious!

Think what it means in saving the wages of highly-paid help!

Over 50,000 Hinman Milkers are in use to-day—many of them milking prize cows.

Investigate. Write for illustrated booklet and testimony of dairymen you know.

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You can earn it in your spare time by securing NEW SUBSCRIBERS to The "Advocate" Advts. Pay. Farmer's Advocate and Home Magazine. Write for instructions.

# CHASE TRACTOR

## Built Without— Differential Gears

### Pulls Itself Out of Trouble—Uses Less Kerosene—Avoids Tie-Ups and Repairs

Because the Chase has no differential gears it avoids many frequent causes of tractor trouble.

Understand how differential gears affect the operation of a tractor and the superiority of the simple design of the Chase is clear.

Tractors with differential gears can do their best work only on a straight-away pull on level land. The moment one wheel meets an obstacle the differential throws all the power into the other wheel, so, quite often you see such a tractor with one rear wheel dead and the other spinning. That happens when the tractor gets one wheel in a mud hole. The very time when extra driving force is needed the differential gears rob the motor of its power to move the tractor.

The same thing occurs in a lesser degree in all ploughing work. For, the side-draft tends to place more load on one wheel than on the other and the differential gears throw the power into the other wheel.

**More than half the time the Tractor with differential gears is, in effect, a one-wheel-drive tractor.**

**Pulls Itself out of Trouble.**

The Chase Tractor, having no differential gears, drives both rear wheels with equal power. When the Chase gets into a hole the driver can use **both rear wheels** to pull out. When obstacles are met, the Chase rides over them. On side-hill ploughing or on level ploughing the side-draft cannot pull the Chase from a true course. The Chase pulls its load more evenly—is easier to control—is more constantly "on the job."

**Uses less Kerosene.**

This no-differential feature saves kerosene for two reasons. 1st. Gears waste 10% of a motor's power. The direct drive

of the Chase saves that 10%. In addition, the Chase saves the power that would be wasted by the uneven pull due to differential gears.

**Avoids Tie-ups and Repairs.**

Because it pulls evenly the Chase saves wear on bearings, and avoids strain on all working parts. This means less adjusting and less replacement of parts. It means more hours "on the job."

**Judge the Chase on its Construction and its Performance.**

The Chase Tractor is a simple sturdy machine.

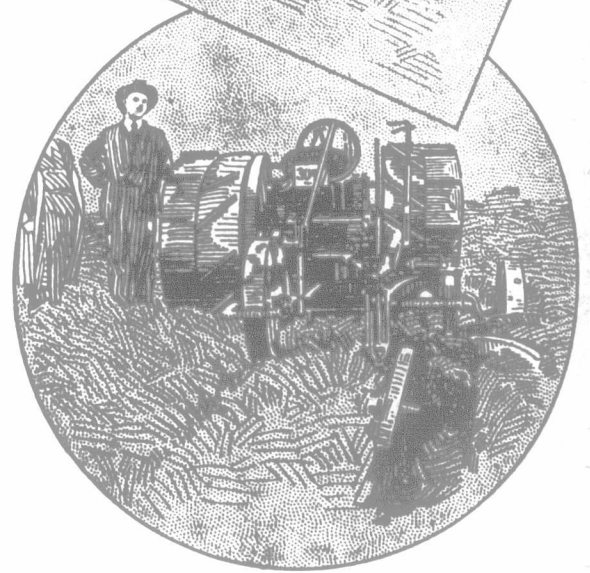
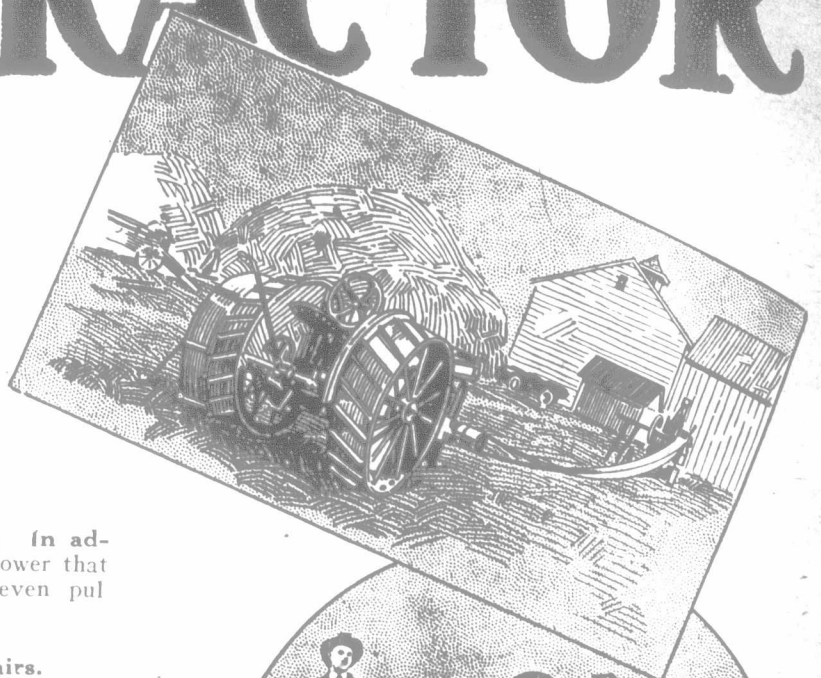
It has fewer parts than other tractors—hundreds less than most tractors. It is a tractor that a farmer can handle easily either in the field or for Belt power, and because of its simple construction and the accessibility of its parts, one that he can attend to with the least trouble and loss of time.

It is a low-riding tractor—gets under trees in orchard work, has sure footing on side hills.

The Chase turns in a narrow radius. By throwing either rear wheel out of gear a sharp turn can be made.

The motor is the heavy-duty tractor type, built to do continuous service without overheating, to give high efficiency on kerosene or low-grade gasoline, to avoid the waste of lubricating oil, which is customary when kerosene is used in ordinary motors. The man who understands and delights in fine machinery should examine the Chase Tractor and watch it in action. The more he knows about tractors, motors and machinery, the greater respect he will have for a piece of engineering construction like the Chase Tractor.

*Write for literature and information. Find out, at once, where you can see the Chase Tractor and investigate for yourself the claims we make for it.*



### BEEMAN

#### One-Horse Garden Tractor

Does everything that one horse can do in garden or field work—does it better and faster.

Cultivates as close as a hoe—even in 12-inch rows. Ploughs, harrows, seeds. Hills potatoes. Ideal for market gardeners. Invaluable to farmers.

Has a 4 H.P. Motor for belt-work—and trots from one job to another.

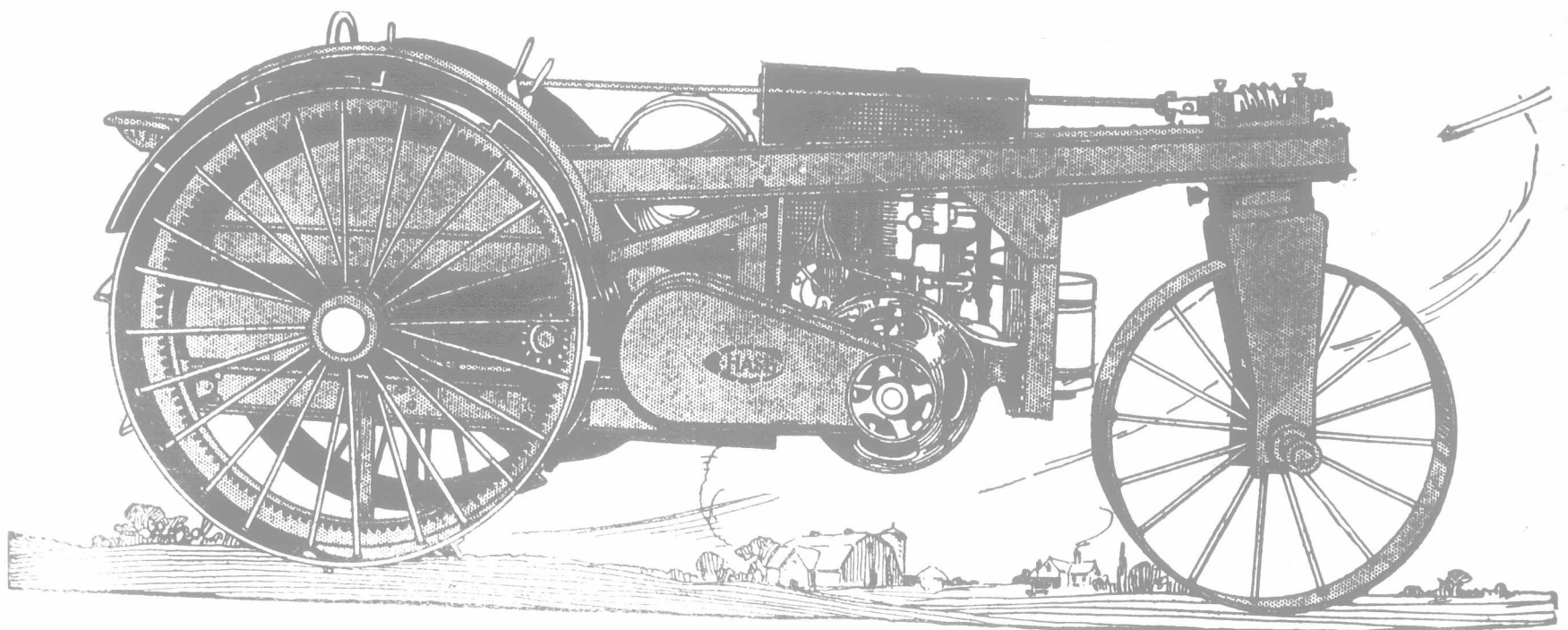
Thousands in use for cutting lawns, golf-courses, parks.

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R. Dezell,

MAY 13, 1920

# DA DANGEROUS

as well as painful

Backache  
Lumbago  
Stiff Joints  
Neuralgia  
Rheumatism  
Sprains

## Combault's Caustic Balsam

WILL RELIEVE YOU.

Its penetrating, soothing and healing and for all  
Sores or Wounds, Felons, Exterior Cancers, Burns,  
Bells, Carbuncles and all Swellings where an outward  
application is required CAUSTIC BALSAM HAS NO  
Equal. Removes the soreness—strengthens the muscles.  
Price \$1.71 per bottle. Sold by druggists or sent  
by express post-paid. Write for Booklet L.

The LAWRENCE WILLIAMS COMPANY, TORONTO

## Our Golden Jubilee

In 1869 the Late C. M. Taylor of Waterloo, Ont., was instrumental in successfully promoting the Mutual Life Assurance Company of Canada.

Organization was completed and the company began business in 1870.

For fifty years the Mutual has steadily kept in view its first aim of furnishing the largest amount of life insurance at the lowest possible cost.

We are celebrating our Golden Jubilee with a feeling of pride in the financial strength of the Company with its assets of over \$36,000,000 and more than \$160,000,000 of assurances in force, a success attained on the intrinsic merits of the Mutual System.

"Be a Mutualist"

## Mutual Life of Canada

Waterloo-Ontario.

101

### Gossip.

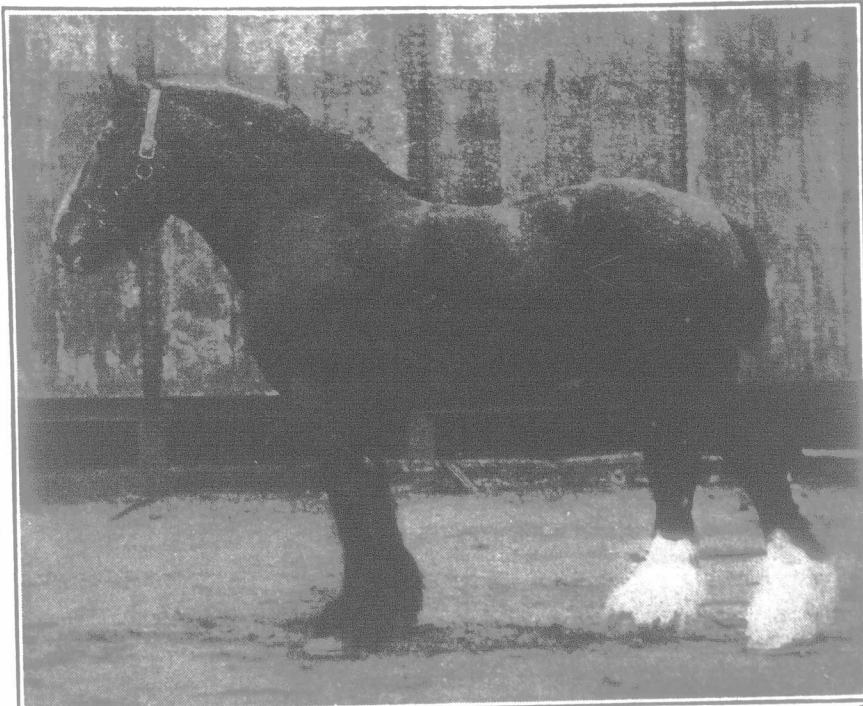
#### Cedar Brook Farm Holsteins.

In the live-stock advertising columns of this issue, it will be noted that T. Jenkins, of Cedarbrook Farm, Inglewood, Ont., is offering two young sons of Highland Pontiac Sylvia, the promising 31.92-lb. grandson of the great May Echo Sylvia. These calves are choice youngsters, and their grandsire is probably the most noted of any of May Echo Sylvia's sons. On the dam's side, Highland Pontiac Sylvia, has a 31.92-lb. four-year-old dam which made an average of 36.51 lbs. of butter for his two nearest dams. We might also add that the milk records of these two dams average 786.49 lbs. for seven days. This is the sort of breeding which should appeal to all who are buyers of the best, and the two youngsters mentioned above should not remain long in Mr. Jenkin's stables. The younger calves which are now arriving at the farm are sired by the present herd bull Daisy Hartog Boy, No. 35214. This young bull, who is the chief sire in service, is got by Canary Mercedes Pietertje Hartog 7th, and his dam is Daisy Mottle Beauty, a 30.89-lb. daughter of Imperial Pietertje Posch, while Canary Mercedes Pietertje Hartog 7th is a son of the world's famous 34.60-lb. cow, Royalton De Kol Fern. He is described as one of Ontario's best individual sires, and with this wonderful combination of breeding it is only reasonable to expect further news from his get in the near future. Mr. Jenkin's farm is situated one-half mile only from the C. P. R. and G. T. R. stations at Inglewood, Ont., and visitors are welcome at all times.

#### Imported Scotch Shorthorns.

While in the vicinity of Millbrook, Ont., recently, a representative of "The Farmer's Advocate" visited the farms of I. L. & T. W. McCamus, whose splendid herd of Shorthorns is already known to many readers of these columns. The McCamus herds at present number one hundred head in all, and at least a dozen of the breeding matrons are imported cattle of the best Scotch families. At present quite a number of these imported cows have calves at foot, and these youngsters are also all got by one or the other of the two imported sires, Golden Challenger and Royal Sensation, the latter was a Ury bred bull by Royal Knight, grandam by Scottish Archer, while Golden Challenger, which is still the chief sire in service, is a Rosewood bull by Ascott Challenger. This bull, although still young, has wonderful promise and his dam, Rubyhill 27th, by Golden Champion, a Golden Drop bull, is described as one of the best breeding cows in the famous Kinellar herd. In referring to the breeding females, space will not permit individual mention throughout, and for this reason only those which have calves for sale at present are referred to. The complete list of these include five imported cows, among which is a Sittyton Rosebud with a Bruce-bred Mayflower calf; a Marygold cow by Caplean Broadhooks; a four-year-old Jilt cow with an imported dam September bull; a five-year-old Wimple and a six-year-old Broadhooks cow. These are all imported cows, and with the exception of the imported in dam calf, their bulls are got by either one or the other of the two sires mentioned above. There are also two imported cows, a four-year-old Butterfly and a four-year-old Secret, which have heifer calves at foot, besides several more which are due to freshen shortly. All to the service of Golden Challenger. The remaining families represented among the imported cows include Miss Ramsden, Misses, Waterloos, Campbell-Floras, etc. The home-bred females in the herd, which show up equally well as regards individuality, also bring forward a lot of splendid breeding, many ward a lot of the former herd sire, Oak Bluff Model. This bull will probably be best remembered as the sire of Roan Duchess, the top-priced heifer at the London sale; and besides being a sire of winners, he also had the distinction of being a son of Oak Bluff Champion, one of the best breeding grandsons of the great Whitehall Sultan.

Average Father (showing his prodigy's drawings)—Would you believe that he never took a lesson in his life? Art Editor—Seeing is believing—"Wall."



On Guard (imp.) 13409 (14293)

### On Guard—13409 (14293) FOR SALE

On Guard, Imported. Sire, Prince Sturdy, 2881 (10112). Dam, Lady Pride, 14628 (14761). This grandly bred stallion weighs at present 1,900, in flesh would weigh up to 2,100. Good stock horse, in fine condition and ready for the road. Can be inspected at Toronto. Apply to

ROBERT J. FLEMING

92 King Street, East, - TORONTO

## Ontario Grown Clovers

GOVERNMENT STANDARD

	Per bus.
No. 1 Red Clover	\$44.00
No. 2 "	40.00
No. 3 "	38.00
No. 1 Alsike	42.00
No. 2 "	40.00
No. 3 "	39.00
No. 1 Alfalfa, Northern grown	37.00
White Blossom Sweet Clover 1st quality	24.00
2nd	22.00
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Timothy and Alsike Mixed.....\$20.00  
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On all orders of \$50.00 or over, we pay the freight east of Manitoba. Bags extra at 65c. each. Terms—Cash with order. Ask for samples if necessary.

### TODD & COOK

Seed Merchants  
Stouffville :: Ontario

## Sure Cure for HEAVES

112 Portland St., Dartmouth, N.S., Nov. 29, 1919  
"Will you please send F. W. Cooper, Montague, Halifax Co., N.S., a sample of your Heaves Cure. He has a horse with a slight dose of Heaves and I know your remedy will cure him as I have used it with good results when I was in the horse business."  
C. G. NORTON.

Our records show that a trial package of Capital Heaves Remedy was sent Mr. Norton, on July 28, 1917, and it was this trial package that made him a good friend of Capital Heaves Remedy and caused him to write the above letter.

FREE We send a full week's trial free for 5c to cover postage and wrapping. If you have a horse that coughs or heaves write Veterinary Supply House, 750 Cooper Street Ottawa. 10

### BRED TO TROT DRIVERS

Young Stock from Widower Peter out of dams by Chimes Echo and Mitre Reaver. Prize winners and best blood. Buy direct from breeder, write R. Dezell, Varney, Grey County, Ont.

## IMPERIAL BRAND HARNESS

Fifty-four years in the Harness business is assurance that our goods are right. We manufacture the strongest and best looking harness it is possible to make and we figure our prices as low as they can be sold for. Ask your dealer for Imperial Brand Harness, made by Samuel Trees & Co. He will recommend it. If your dealer does not handle Imperial Brand, write us direct for prices on any style of our guaranteed Harness.

**SPECIAL** We have made an extra good Team Harness, No. 640, at a special price. **\$57**

NO. 640 Ask your dealer or write to us about it.

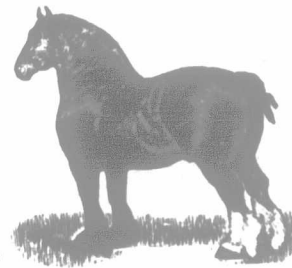
**SAMUEL TREES & CO., LTD. (Established 1866)**  
Manufacturers of Harness and Wholesalers of Auto Supplies  
42 WELLINGTON ST. EAST TORONTO, ONT.

## PREMIUM CLYDESDALES

Our Stud is headed by BARON GARTLY

winner of third place in open class at Glasgow, Scotland, and grand champion at both Toronto and Ottawa. Progeny have stood high in large classes at the latter two shows. High quality stallions for sale. Our new importation has just arrived including several noted premium winners. Intending purchasers should see our horses before buying.

BRANDON BROS., Forest, Ontario



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or stuttering overcome positively. Our natural methods permanently restore natural speech. Graduate pupils everywhere. Free advice and literature.

**THE ARNOTT INSTITUTE**  
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## KEATING'S POWDER

Kills Bugs, Flies  
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# The Most Important Holstein Announcement for May

**35  
HEAD**

## The Archibald Dispersal

BRINGING FORWARD

**Twenty-five Fresh Cows, Several Young Heifers and Five Young Bulls**

**35  
HEAD**

Comprising the entire herd belonging to JOHN R. ARCHIBALD, and selling at the farm, near

**Seaforth, Ont., Thursday, May 27th, 1920**

FOLLOWING IS A SAMPLE OF THE BREEDING LISTED:

K. S. A. C. Evangeline De Kol, born Dec., 1917. A most perfect individual, daughter of King Segis Alcartra Calamity and Witzde Evangeline De Kol, 31.00 lbs. of butter, 637.10 lbs of milk. This heifer is due at sale time to Dutchland Pontiac Colantha.

Jenny Hartog, a fine five-year-old cow by Canary Mercedes Pietertje. Her dam, Jenny Bonerges Ormsby 2nd, is a daughter of the five times 30-lb. cow, Jenny Bonerges Ormsby 2nd.

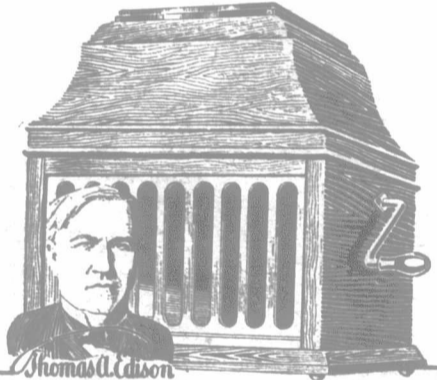
These are the sort of females which will be selling on May 27, and 25 of the lot will be selling either within a few weeks of calving or in full flow of milk. Their individuality is good, and the bulls to which they are bred include a number of Ontario's highest record sires. If you want fresh cows and foundation material at the same time attend this sale. For catalogues address:

Countess Calamity Korndyke, a fine young show cow, with a 7-day record of over 20 lbs., and the first cow ever tested on the farm.

Lillian De Kol Queen, a seven-year-old daughter of Sir Houwtje Pledge Butter Boy, who is also among the first lot to be tested by Mr. Archibald. She has 23.20 lbs.

Cherry Grove's Lula, another mature cow, has recently made 24.23 lbs. She is got by Mutual Friend Paul De Kol, and in experienced hands should greatly increase her record.

**JNO. R. ARCHIBALD (T. Merrit Moore) SEAFORTH, ONTARIO**  
Auctioneer



**Only \$100  
and After Trial**

Keep the New Edison Amberola—Edison's great phonograph with the diamond stylus—and your choice of records, for only \$1.00. Pay balance at rate of only a few cents a day. Free trial in your own home before you decide. Nothing down. Write today for our New Edison Book and pictures free. F. K. BASSON, Edison Phonograph Distributors, 338 Portage Ave., Dept. 195, Winnipeg, Man.

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Unexcelled dining car service

Sleeping Cars on Night Trains and Parlor Cars on principal Day Trains.

Full information from any Grand Trunk Ticket Agents or C. E. Manning, District Passenger Agent, Toronto

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FARMING is a many-sided occupation. It calls for uncommon knowledge, technical skill and practical workmanship. It demands the best of methods and equipment. It is one of the great "overall" occupations.

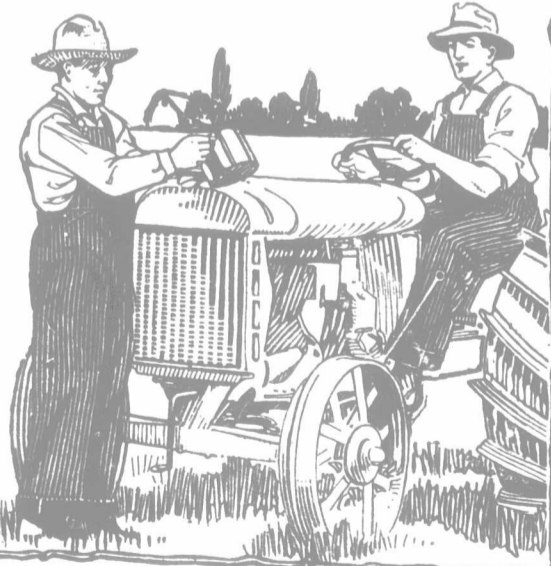
### KITCHEN'S "Railroad Signal" OVERALLS

are known to farmers because they bear a name famous for the finest of material, design and handiwork. Sewn like wire, they stand the heavy wear and tear like the stoutest corduroy. MADE ONLY BY

**The Kitchen Overall and Shirt Co. Ltd.**

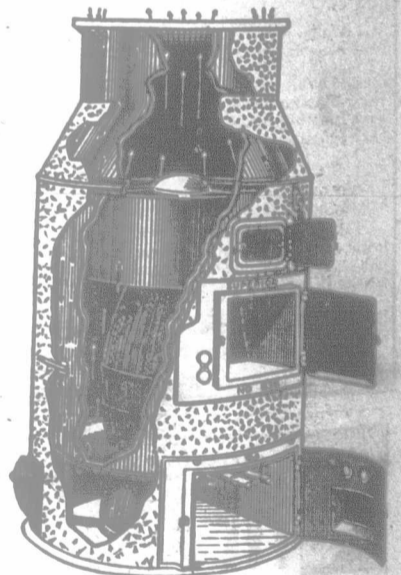
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No Remodelling of your House Necessary when installing  
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When the Pilot Superior is installed it is not necessary to employ high-priced carpenters and masons, because there are no expensive pipes to install and no walls or floors to be torn up. The average building in which the Pilot Superior is installed requires merely the cutting of one hole in the floor, to provide for the complete installation. There are however, a few types of buildings the construction of which makes advisable the use of a few auxiliaries to aid the circulation. In such cases a grill or ceiling register can be installed at small expense and trouble. A Pilot Superior Pipeless Furnace can be installed in six hours.

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**The Hall Zryd Foundry Company, Limited.**  
Hespeler, Ontario.

**Wanted—Jersey Bull**  
Registered. Must be young and gentle. Fit for service. Fancy priced animal not needed. I am in the market for one or two young Jersey cows.  
DALLAS, GASTMEIER :: WAKO, ONT.

MAY 13, 1920

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Angus, S... Choice bred... South... **ROBT. McEV**  
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Have a few ch... that would... headers... GBC... Erin, Ont.

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Present o... G. C. CHAN... Telephone—G.

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For sale. C... **ALEX McKIN**

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Two years ol... **Wm. Cottre**  
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Ottawa, for sale... Young bulls and... bred sire even if... Mgr. "Grape Gra

**Sunnyside**  
(Imp.), Champ... For sale: Thr... **MRS. M. H. C**  
R. R. 1

**BOG SPAVIN**

Cure the lameness and remove the bunch without scarring the horse the moment it comes.

**FLEMING'S SPAVIN CURE (Liquid)** is a special remedy for soft and semi-solid lameness—Bog Spavin, Thoroughpin, Splint, Curb, Capped Hock, &c. It is neither a liniment nor a simple blister, but a remedy unlike any other—doesn't irritate and can't be misapplied. Easy to use, only a little required, and your money back if it ever fails.

**Fleming's Vest-Pocket Veterinary Advisor** describes and illustrates all kinds of lamenesses, and gives you the information you ought to have before ordering or buying any kind of a remedy. Mailed free if you write.

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75 Church Street - Toronto, Ont.

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

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Exporters of all Breeds of Pedigree Live Stock  
Send for an illustrated catalogue and see what we can do for you. Whether you want show or breeding stock, buy direct from England and save money.

**Aberdeen - Angus**  
Meadowdale Farm  
Forest, Ontario

**Alonso Mathews** H. Fraleigh  
Manager Proprietor

**ALLOWAY LODGE STOCK FARM**  
Angus, Southdowns, Collies  
Choice bred heifers. Bulls 8 to 15 months. Southdown ewes in lamb.

**ROBT. McEWEN, R. 4, London, Ont.**

**The Glengore Herd of Aberdeen - Angus**  
Have a few choice Angus Bulls for quick sale that would make most desirable herd headers. Write for particulars.  
**GEO. DAVIS & SONS**  
Erin, Ont. - R. R. No. 1

**SUNNY ACRES**

**Aberdeen - Angus**  
Present offering—A few young bulls ready for service.

**G. C. CHANNON, - Oakwood, Ont.**  
Telephone—Oakwood. Railway—Lindsay.  
G. T. R. and C. P. R.

**BEAVER HILL ABERDEEN - ANGUS BULL**  
For sale. Choice animals at choice prices for three weeks.

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**Wanted - Aberdeen-Angus Bull**  
Two years old or over. State price wanted.

**Wm. Cottrell & Sons, Sundridge, Ont.**

**Aberdeen-Angus**—"Middlebrook Abbot 2nd," a prize winner at Toronto and Ottawa, for sale, as have had 5 years—price \$500. Young bulls and heifers \$175 and up. Get a pure-bred sire even if herd grades.—It pays. A. Dinsmore, Mgr. "Grange Farm, Clarksburg, Ont.

**SUNNY SIDE HEREFORDS**  
12 bulls, serviceable ages; 5 by breeding; size and individual merit are good enough to head any pure-bred herd. Females of different ages. Inspection invited. They are priced to sell.  
**Arthur F. O'Neil & Sons, Denfield, Ont., R. No. 2.**  
Phone 27-12 Granton

**Sunnyside Herefords**—Herd headed by (Imp.), Champion at London and Guelph, 1919. For sale: Three bulls, 10 to 15 months old.  
**MRS. M. H. O'NEIL & SONS, Denfield, Ont.**  
R. R. No. 4. Phone Ilderton.

**Questions and Answers. Miscellaneous.**

**Buying a Farm.**

A bought a farm from B, but paid no money down or had papers signed. He was allowed to do some seeding, and then B changed his mind and refused to sell the farm. Can A collect anything for the work done?  
H. H.

Ans.—An agreement is not binding unless signed by the parties interested. A should have taken the precaution to have this attended to. However, B should reimburse him for the work put on the place, as he was at fault in allowing him to proceed with the work when he did not intend to stay by his agreement.

**Purchase of Heifer.**

A bought a heifer from B. A not having the money writes to ask B if he will let him have the heifer and he will pay him as soon as he gets the money. B says he will keep the heifer, and when A gets the money for him to come and get the heifer. A gets the money in four weeks and goes after her. When A gets there B is away, A takes the heifer and leaves the money with B's housekeeper. When B returns he writes for A to bring the heifer back that he will not sell her. A writes back for him to come after her if he wants her back, as it is a long distance and the going very bad. Then B writes for ten dollars more; A having paid the full price that B asked for her.

1. Can B take the heifer back?
2. Can he make A pay more for her?
3. Can he make any trouble for A?

C. A. W.

Ans.—1. No.  
2. No.  
3. He is not legally in a position to do so.

**Silo Construction.**

1. Would a 10-foot or 12-foot be best for a person with not over 10 head, and often only 6 or 8?

2. If a 10-foot is preferred how much gravel and cement are required for one 35 ft. high, and if a 12-foot, how high should it be to contain the same quantity as a 10 x 35? What proportions should gravel and cement be made? The silo is to be used for summer feeding. Some people claim I will have more good silage in a 12-foot silo than a 10, but I think it is too large for my stock.  
J. K.

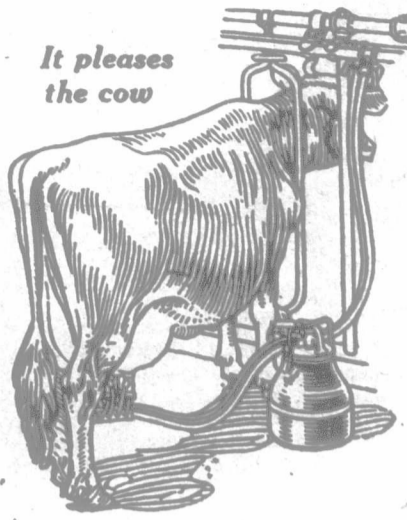
Ans.—1. For a small herd a 10-foot silo should hold sufficient silage. Especially during the summer a certain depth must be taken off each day to prevent spoiling. It is doubtful if ten head would take enough daily form a twelve-foot. Of course, it is well to look to the future. If there is a possibility of the size of herd being increased, then build the twelve-foot silo.  
2. Building an eight-inch wall and using one part cement to eight parts gravel, a 10 by 35-foot silo would require approximately 27 cubic yards of gravel and 23 barrels of cement. A twelve-foot silo 25 feet high would hold about the same quantity as a 10 by 35.

**Onions—Material for House.**

1. I planted my onion seed on April 18. When should I roll them?  
2. When should the onions be pulled?  
3. My house is 24 feet long, 16 feet wide. I want to put a cellar under half of it, 6 feet high and 8 inches thick. How many yards of gravel and sacks of cement will be required to do this work? How much material will it take to put a 3-foot wall under the other half?  
W. C.

Ans.—1. When planting onion seed, it is customary to firm the soil at time of planting. If the seed is sown with the garden drill, a small roller at the rear will firm the soil sufficiently to give a good germination. Throughout the season cultivation is important. The weeds must be kept in check.  
2. When the majority of the tops have died down, the time has arrived for lifting the onions. The crop should be pulled and left on the ground. The bulbs will absorb the substance from the tops and the latter die away. A week or more of dry weather will pretty well cure them, but if growing a large acreage it is important that one have a covered curing-room or storage place.

3. To put a wall under the half of the cellar will require approximately 7 cubic yards of gravel and 5 barrels, or 20 sacks, of cement. The other half, with a 3-foot wall, will require about 3 cubic yards of gravel and 10 bags of cement.



It pleases the cow

**The DE LAVAL MILKER**

The Name Insures Satisfaction

The De Laval Milker is sold with full knowledge of the fact that more is expected of the De Laval than of any other milker. For over forty years the name DE LAVAL on dairy machinery has stood for highest value and service to the user.

The De Laval Milker is a distinctly different type of machine. The Udder Pulsator, with its alternating action and positive, uniform pulsation, pleases the cow and induces milk secretion. The simple and sanitary design of all parts with which the milk comes in contact, and the special quality of the rubber used, make practical sterilization easily possible.

The De Laval Milker has been in daily use for over three years on cows of every breed and has given universal satisfaction.

The De Laval Company's well-known facilities and reputation for service are an assurance of lasting satisfaction to users of De Laval Milkers.

Write to nearest De Laval office for Milker Catalog mentioning number of cows milked

**THE DE LAVAL COMPANY, Ltd.**

MONTREAL PETERBORO WINNIPEG EDMONTON VANCOUVER

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A vast new land of promise and freedom now open for settlement to returned soldiers and sailors FREE; to others, 18 years and over, 50 cents per acre. 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 particulars as to terms, regulations, and settlers' rates, write

**H. A. MACDONELL,** Director of Colonization.  
**HON. MANNING DOHERTY,** Minister of Agriculture,  
PARLIAMENT BUILDINGS, TORONTO.

**No More Blackleg**

Calves once vaccinated with Continental Germ Free Blackleg Filtrate are safe from Blackleg for life.

Write for Booklet, which contains valuable information on Animal Diseases, Breeding Tables, Horn Training, Branding, and Marking Appliances, and other stock subjects. It is free.

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223 Church Street - Toronto, Ontario  
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**ABERDEEN - ANGUS CATTLE, SHROPSHIRE and SOUTHDOWN SHEEP**  
CORRESPONDENCE and INSPECTION INVITED  
(Mention Farmer's Advocate)

**BROOKDALE HEREFORD FARM**

Young stuff for sale at all times. Visitors always welcome and met any time.  
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**Earn and Save**—You can do it by securing NEW SUBSCRIBERS to THE FARMER'S ADVOCATE AND HOME MAGAZINE. You can work in your spare time or give all your time to the work. Write for instructions.  
**THE WILLIAM WELD CO., LIMITED, LONDON, ONTARIO**

It puts the grain in the sack—does not waste it in the stack



Supplied by the best threshing machine manufacturers Demanded by the best farmers and threshermen

**All the Grain Is Coming to You**

Every kernel of the grain you have raised is yours. Then why let any of it go into the straw stack? You don't have to any more. The Grain-Saving Stacker returns to the separator and into the sack or wagon the grain that is blown to the

**The Grain-Saving Stacker Delivers It**

stack in the ordinary process. Demand the Grain-Saving Stacker on the machine for your next job. See that above trade-mark (in colors) is on each side. Write to any of the list below for full information about this sterling profit-saver.

**LIST OF MANUFACTURERS**

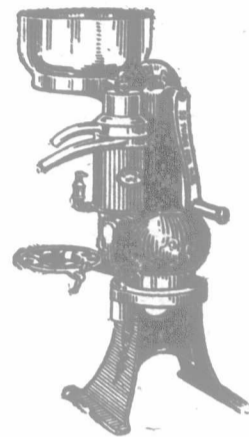
- | Canada  | United States                                       |
|---|---|
| Robt. Bell Engine & Threshing Co., Ltd., Seaforth, Ont. | Aultman & Taylor Machinery Co., Mansfield, Ohio     |
| Huber Manufacturing Co., Marion, Ohio                   | Huber Manufacturing Co., Marion, Ohio               |
| Dominion Thresher Co., Ltd., New Hamburg, Ont.          | Avery Company, Peoria, Ill.                         |
| J. B. Dore & Fils., Ltd., Lepprie, Que.                 | A. D. Baker Company, Swanton, O.                    |
| Ernst Bros. Co., Ltd., Mt. Forest, Ont.                 | Banting Manufacturing Co., Toledo, Ohio             |
| John Goodison Thresher Co., Ltd., Sarnia, Ont.          | Batavia Machine Co., Batavia, N. Y.                 |
| Hergott Bros., Ltd., Mildmay, Ont.                      | Cape Mfg. Co., Cape Girardeau, Mo.                  |
| MacDonald Thresher Co., Ltd., Stratford, Ont.           | J. I. Case Threshing Machine Co., Racine, Wis.      |
| Sawyer-Massey Co., Ltd., Hamilton, Ont.                 | Clark Machine Co., St. Johnsville, N. Y.            |
| Stewart Sheaf Leader Co., Ltd., Winnipeg, Man.          | Ellis Keystone Agricultural Works, Pottstown, Pa.   |
| Wallace Machine Works, Ltd., Sussex, N. B.              | Emerson-Brantingham Co., Rockford, Ill.             |
| Waterloo Manufacturing Co., Ltd., Waterloo, Ont.        | Farmers Independent Thresher Co., Springfield, Ill. |
| R. Watt Machine Works, Ltd., Ridgetown, Ont.            | A. B. Farquhar Co., York, Pa.                       |
| George White & Sons Co., Ltd., London, Ont.             | Ferdinand Machine Works, Ferdinand, Ind.            |
|   | Frick Company, Waynesboro, Pa.                      |
|   | Harrison Machine Works, Belleville, Ill.            |
|   | The Westinghouse Company, Schenectady, N. Y.        |

The Grain-Saving Stacker Originated With the Indiana Manufacturing Company, Indianapolis, Ind., Who Also Originated the Wind Stacker.

**CLOSEST SKIMMING**

is only one of the many merits of the SIMPLEX Cream Separator, but it's one that tells the real value of a Cream Separator. Cream lost in the skim-milk is money thrown away, it's just like losing a few pounds of butter every week. All this loss is eliminated when you use

**Simplex Cream Separator (LINK BLADE)**



Just think what this saving will mean to you over a period of months or a period of years. The Simplex is saving money for you at every operation by close skimming, it's just like added interest to your savings account.

The large capacity, ease of running, ease of cleaning, simplicity, self-balancing bowl, interchangeable spindle point, low-down supply can and general pleasing appearance of the SIMPLEX make it a favorite with all dairymen.

Write us to-day and let us explain how you can get rid of all your Separator troubles.

**D. Derbyshire Company, Limited**  
BROCKVILLE, ONTARIO

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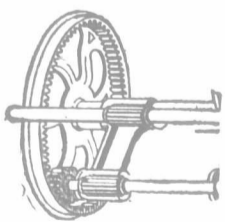
A money making machine for a money making crop.

With feedstuffs climbing in price you can't afford to take chances with your hay crop. Scrap that old mower and get real efficiency with a



**Frost & Wood Mower**

The longer you own one, the heavier the crop you put it at and the rougher and more hilly your land, the more enthusiastic you will become over the many splendid merits of the Frost and Wood Mower. Its high quality roller bearings ensure light draft. Its cutter bar strength and superior cutting mechanism guarantee long service, good service and service when you want it. All levers easy of control and handy to reach. Thousands of farmers have good reason to swear by the F. & W. Mower.



**F. & W. "Internal Drive" gear means real efficiency**

Look for this Frost and Wood feature. The pinion which takes the operating power from the big drive wheel, "runs on the inside." The two wheels turn in the same direction. No tendency to fly apart, become rattly and break cogs. Always ready for work and a quick start into a heavy crop doesn't bother this gear at all. The knives keep on cutting when bar is raised to clear obstructions, saving time—and crop.

We don't want you to judge the Frost and Wood Mower by this meagre description. Write us today for special Mower Pamphlet. See the Mower, and the rest of our big, complete line at our nearest Agents.

**The Frost & Wood Co. Limited**  
SMITHS FALLS, ONT.  
Montreal

Sold in Western Ontario and Western Canada by

**Cockshutt Plow Co. Limited**  
BRANTFORD, ONT.

**Maple Shade SHORTHORNS**

A dozen young bulls imported and my own breeding at moderate prices.

**W. A. DRYDEN**  
Brooklin - - Ontario

**English Dual Purpose Shorthorns**

Begin the pasture season by the purchase of a sire which will add value to your calves—For milk and beef—From imported stock of choice breeding. We have a fine choice of bull calves and bulls.

Also English Large Black Pigs—A thrifty breed—Write or call.

**LYNNORE STOCK FARM**  
F. W. Cockshutt, - Brantford, Ont.

**SCOTCH-TOPPED SHORTHORNS**

Three young bulls (red), for sale; thick, happy fellows; also 6 thick heifers, 2 years old, bred to a Scotch Clementina bull. These will be priced right. Come and see, or address:

**HENRY FISCHER,**  
Bell 'Phone R. No. 2, Mitchell, Ont.

**Young Shorthorn Bulls**

Seven choice young bulls from 12 to 14 months old, and two young cows; all in good condition and of good type and breeding; sired by Jilt Monarch (110500); he by Roan Chief Imp., a bull that headed James Douglas' herd for many years; red and roan in color. Their dams are good dual-purpose cows. Price for bulls, \$150 each; cows, \$200 each.

**F. W. RAMSEY, R.R. No. 9, Dunnville, Ont.**

**SPRUCE LODGE STOCK FARM**  
Shorthorns and Leicesters For Sale  
Two choice young bulls, 6 and 11 months old, also one and two-year-old heifers, all got by Roan Chief Imp. = 60865 =.  
**W. A. DOUGLAS,**  
Caledonia, - Ontario

Please mention Advocate.



**Questions and Answers.**  
Miscellaneous.

**Master and Man.**

Is a man hired by the year entitled to full pay should he be laid off by sickness during his term of engagement?  
Ontario. B. S.

Ans.—Yes, provided the sickness is merely temporary and not of any considerable duration.

**Exemption From Assessment.**

According to the amendments of the Assessment Act of 1919, what amount of income derived from investments, such as bonds, mortgages, notes, etc., is exempt from municipal assessment?  
Ontario. A. J. R.

Ans.—All of same provided it does not exceed \$800 and the person's whole income if not over \$1,500.

**Lost Lumber.**

A takes logs to sawmill to be sawn into lumber. A marks logs while B is present and saws the logs. Two days later A goes back for the lumber and the lumber has been removed. B claims he knows nothing of the missing lumber, although he acknowledges sawing the lumber.

1. Who is responsible for the lumber?
2. What proceedings should A take to recover lumber?
3. If lumber cannot be secured, does A have to pay for the sawing of the lumber?

Ans.—1. We think that B is.  
2. He should bring a replevin action.  
3. Under the circumstances we should say no.

**Miscellaneous.**

Would it pay to sell oats at \$1.10 per bushel and buy bran at \$60 per ton?

2. What is the comparative value of the different millfeeds, including oats?

3. What is a good formula for feeding cows for milk?

4. Does it increase the feeding value of peas, oats and vetches to put them in the silo, or would it pay to make them into hay?

5. How many tons would a silo 10 by 25 feet contain?

6. How do you estimate the number of bushels of oats in a bin? W. M. L.

Ans.—1. Considering the quality of bran which is secured at the present time, we would prefer oats at \$1.10 per bushel.

2. Oats are almost a balanced ration in themselves, but it is advisable to feed some other concentrates with them for high production. From the protein standpoint, oats contain a little less than the bran, but are a little higher in nitrogen, free extract, and practically the same in fat. Gluten meal contains approximately 35 per cent. protein and oats 12. For milk production, it is the protein content which must be considered. In order to maintain body flesh and get the highest returns in milk, a person might mix a little corn with the oats and then feed a little oil cake or cotton-seed meal. The kind of concentrates will depend somewhat on the roughage fed. One would need to feed more of the protein-rich feeds with timothy hay than with clover hay.

3. The amount to feed depends somewhat upon the size of cow and milk yield. Clover hay, silage and roots may form the basis of the meal ration made up of 5 parts oats, 2 parts corn and one part oil cake gluten, cottonseed or other nitrogenous feeds. A safe rule is to feed one pound of concentrates to 4 pounds of milk given.

4. By putting oats, peas and vetch in the silo, a person would have a succulent feed for the stock on in the winter. These crops are grown for silage purposes in districts where corn does not do well.

5. A silo of the dimensions given would hold approximately 45 tons.

6. In order to estimate the number of bushels in a bin, one finds the cubical contents and takes eight-tenths of it. A cubic foot contains 1,728 cubic inches, and a bushel contains 2,150 cubic inches, or there is practically .8 of a bushel in a cubic foot.

EDITOR "THE FARMER'S ADVOCATE":  
I might say in reference to your paper that it is the leading farm magazine. I would not be without it. I was unable to get new subscribers as everybody takes it around here.  
Russell Co., Ont. R. BROWN.



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NO building can escape deterioration unless it is well painted. No building can be fully and surely protected unless a paint of quality is used for the job. You cannot honestly search for a quality paint without discovering the very marked superiority of

**B-H PAINT** "ENGLISH" 70% Pure White Lead  
(Dunbar's Genuine E.B.)  
30% Pure White Zinc  
100% Pure Paint

The kind guaranteed by its makers to possess as its basis the above strictly-correct formula. That formula stamped on every can is your insurance of value. It is because of that formula that you'll find true economy in using B-H Paint. It

covers so thoroughly and so fills up the pores that the painting job done this summer is done for years to come. Try this paint that you can so thoroughly depend on for a beautiful finish and lasting service.

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The B-H Sign hangs outside his door.

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MONTREAL HALIFAX ST. JOHN TORONTO WINNIPEG  
MEDICINE HAT CALGARY EDMONTON VANCOUVER

**Grand River Dual-Purpose Shorthorns**

Herd headed by Prince Lavender 104449—dam gave 16,596 lbs. milk as 4-year-old. Present offering: Five good young bulls. Some good bull calves coming on—dams now running in R. O. P. A few females to spare.

HUGH A. SCOTT :: CALEDONIA, ONTARIO

**Reyburn Milking Shorthorns**

ANNUAL INTERNATIONAL SALE  
JUNE 9th, 1920, AT EUCLID, MINNESOTA, U.S.A.

Sixty head of choice milking Shorthorn cows and heifers, and five outstanding bulls  
Address all correspondence to Palmer Farm, Euclid, Minn.

R. R. WHEATON :: :: A. E. PALMER

**MILKING SHORTHORNS**

BERKSHIRE PIGS Young stock from R.O.P. cows by imported sires. Choicely bred sows and boars, all ages. Can supply pairs not akin.

J. B. PEARSON, Manager - Credit Grange Farm - Meadowvale, Ont.

**DUAL-PURPOSE SHORTHORNS**

Herd headed by Dominator 106224, whose two nearest dams average 12,112 pounds of milk in a year. Bulls from 1 to 6 months old for sale, also a cow or two. Inspection of herd solicited.

WELLDWOOD FARM - Farmer's Advocate - LONDON, ONT.

**SHORTHORNS**

Present offering: Six young bulls, Reds and Roans, also a number of females. They have size, quality and breeding from good milking dams. Prices moderate. Satisfaction guaranteed.

CHAS. GRAHAM - Port Perry, Ontario

**Mardella Dual-Purpose Shorthorns**

8 choice young bulls; 30 females, cows and heifers. All of good size, type and breeding. Herd headed by The Duke; dam gave 13,599 lbs. milk, 474 lbs. butter-fat. He is one of the greatest living combinations of beef, milk and Shorthorn character. All priced to sell. Write, call or 'phone.

THOMAS GRAHAM, Port Perry, R.R.3, Ont.

**Dual-Purpose Shorthorns**—Herd sire, Darlington Major Maude = 101212 =, by Darlington Major = 91279 = (imp.); dam Lady Maude = 104585 = (imp.). For sale, 6 bulls, ages 6 to 13 months. R. H. & W. S. SCOTT, Box 231, Tillsonburg, Ont.

**Dual-Purpose Shorthorns and Dorset Horned Sheep**

Present offering: A number of 2-year-old heifers and some young bulls. Write, or come and see.

VALMER BARTLETT, Canfield, Ont.

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IMPLEX  
real value  
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**limited**

**Shade**

**THORNS**

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**RYDEN**

Ontario

**ual Purpose**

**horns**

season by the pur-  
h will add value to  
ilk and beef—From  
choice breeding. We  
bull calves and bulls.

Large Black Pigs—A  
or call.

**TOCK FARM**

Brantford, Ont.

**TOPPED**

**THORNS**

, for sale; thick, suppy  
rs, 2 years old, bred to  
These will be priced  
address:

ISCHER,  
No. 2, Mitchell, Ont.

**thorn Bulls**

from 12 to 14 months old,  
in good condition and of  
sired by Jilt Monarch  
chief Imp., a bull that  
rd for many years; red  
r dams are good dual-  
bulls, \$150 each; cows,

No. 9, Dunnville, Ont.

**STOCK FARM**

icesters For Sale  
and 11 months old, also  
ifers, all got by Roan  
W. A. DOUGLAS,  
Ontario

**on Advocate.**

## The Rise of Maxwell is Due To Its Metals

Fine soil makes fine wheat; fine feathers make a fine bird; and fine metals have made the Maxwell. They have given it:

1—A life of 100,000 miles. 2—Thriftiness.

For its metals are light in weight. Therein comes thriftiness.

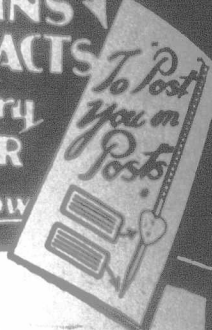
But these metals are of extra strength. Therein comes long life.

Metallurgists—those who have made the study of metals a science—will tell you that such metals are costly, but they guarantee quality in a car and their generous employment in a Maxwell is by far the best evidence anyone may need to determine its quality.

They are almost alone responsible for the rapid rise of Maxwell, for the fact that nearly 400,000 now have been built, for that ever-growing friendliness to Maxwell the world over.

MAXWELL MOTOR CO. of Canada, Limited, Windsor, Ont.

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Write for our Folder "To Post You on Posts." It throws light on the fence question—points the way to true economy in fence building. Tells all about

### PRESTON STEEL POSTS

the kind that cannot rot, break, burn, or buckle. You may have a durable, fire-proof, lightning-protection fence at reasonable cost. No holes to dig—no up-keep expense—the Post for true economy.

METAL SHINGLE & SIDING COMPANY, LIMITED  
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### BOOST YOUR TOWN By Organizing a Band

We will gladly supply you free of charge with full information as to the formation of a good band

Complete Suits Suggested for Bands.

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When writing please mention Advocate

## Burnbrae Shorthorns

Eighty-three years without change, we have been breeding Scotch Shorthorns. The foundations of many of the best herds in America were laid from our farms.

I am in a position to furnish you with the best in either sex that can be found. High-class young bulls for the breeder and the farmer. Cows and heifers of the finest breeding to start you right, and you cannot afford to start wrong. Every animal that I have sold in two years has been satisfactory, the most of them sold by letter. I can satisfy you with the best in what you want at a price that will give you a chance, and I will pay the freight or express to your station. Augusta Sultan = 93092 = one of the greatest living sires at the head of my herd. Write and if possible come and see, it is worth while. Post Office, Telegraph, Telephone and Station is Stouffville, Ont. 30 miles from Toronto.

ROBERT MILLER :: Stouffville, Ont.

## A NEW IMPORTATION OF 40 SCOTCH SHORTHORNS

arrived home Dec. 17th. From our herd of 125 head we can offer a large selection in choicely-bred bulls and females. Anyone in need of foundation stock may find it to their advantage to look over our offering before making any purchases.

J. A. & H. M. PETTIT :: FREEMAN, ONTARIO  
Burlington Jct., G.T.R., only half mile from farm.

**Pear Lawn Shorthorns, Hackneys and Yorkshires**—One imported in dam Miss Secret bull, 12 months, imp. sire and dam; one Golden Rose bull, 6 months, imp. sire and dam; one bull, a Flatery, 12 months, imp. sire. A few young cows with calves at foot. One imported Hackney stallion, A 1; two Hackney stallions rising one year; one registered Clyde mare; also Yorkshires at weaning time. HERBERT J. MILLER, Keene P.O., Ont. Stations—Keene G.T.R., Indian River C.P.R., Peterborough County.

### PUSLINCH PLAINS SHORTHORNS

Five bulls for sale by Burnbrae Sultan = 80325 =.

A. G. AULD, R. R. 2, GUELPH, ONT.

**Spring Valley Shorthorns**—Herd headed by Sea Gem's Pride 96365. We have a number of good bulls for sale, including the Champion Ivanhoe 122760, and his full brother also, an extra well bred Rosewood, and others. Write for particulars. Telephone and telegraph by Ayr.

KYLE BROS., Drumbo, Ont.

### Roan Bull—Calved April 23rd, 1919

Sire, Chief Orator = 122385 = (Imp.). Dam, Spring Beauty = 138815 = (Imp.). Good enough individually and in breeding to head a good herd. Could spare a few females.

J. T. GIBSON, Denfield, Ont.

**20 Bulls—SPRUCE LAWN—100 Females**—Clydesdales, Shorthorns, Yorkshires. Herd headed by Imported Golden Challenger 122294, a Rubyhill, bred by Earl of Northbrook, by Ascott Challenger, bred by L. De Rothchild. Special bargains in farmer's bulls. Cows and heifers in calf, yearling and heifer calves. Yorkshires either sex. J. L. and T. W. McCAMUS, Cavan, C.P.R., Millbrook, G.T.R. and P.O., Ont.

**Minster Farms**—Holstein bulls fit for service for sale. Son of a 14,763-lb. 2-year-old dam, with 650 lbs. butter (in test again at 3 years old, milking higher and tested 4.4% butter-fat). Also a pair of bulls from untested sisters of our 18,864-lb. milk and 777.5-lb. butter, 4 year-old heifer (Marie Calamity Payne). Dam of their sire has 19,500 lbs. They are choice bulls and priced right. For full particulars, write R. HONEY & SONS, Dartford, Ont. (Hastings Station).

**Cedar Dale Farm**—The Home of Lakeview Johanna Lestrang, the \$15,000 sire—He is the son of the 38,06-lb. cow, Lakeview Lestrang, and is our chief sire in service. We are offering a few females bred to him, and also have a few bull calves sired by him at right prices. Other older bulls, sired by our former herd sire, Prince Segis Walker, son of King Segis Walker. A. J. TAMBLYN, Cedar Dale Holsteins, (C.N.R. station one mile), Orono, Ont.

**Shorthorn Herd** Sires Selling Quick—I have several young bulls left that must go out quick. All are of serviceable age—three are by Gainford King, a grandson of Gainford Marquis (imp.), and two others are Nonpareils. One of these is got by a same sire that sired the \$3,100 junior champion heifer, sold in the Dryden-Miller sale. Write quick if you want them.

GEO. E. MORDEN, Oakville, Ontario

**Newcastle Herd of Shorthorns and Tamworths for Sale** 3 nice bulls, 11 to 13 months old, and several yearling heifers and cows with calves at foot, both sexes, all splendid milking strain. Several Tamworth sows due to farrow in May, June, July. Young stock, both sexes, at weaning up to six months old. All from prize-winning stock. A. A. COLWILL, (Long-Distance Phone) R. R. No. 2, Newcastle

## BLAIRGOWRIE SHORTHORNS

3 Imported bulls. 10 Imported females in calf or calf by side. 2 Scotch bred bulls. 5 Scotch bred cows with calves by side. JNO. MILLER (Myrtle C.P.R. and G.T.R.) ASHBURN, ONT.

**Glengow Shorthorns and Clydesdales**—Recently advertised bulls have all been sold. Sultan = 100339 =, and all bred to a Golden Drop Bull; also several others somewhat younger. A real good yearling stallion, and mares all ages, in foal, will be priced right. WM. SMITH, Columbus, Ont. Stations: Oshawa, C.N.R.; Myrtle, C.P.R.; Brooklin, G.T.R.

### SPRUCE GLEN SHORTHORNS

We have a few choice, well bred, thick, deep level, mellow young bulls of breeding age for sale; also heifers in calf to a right good sire. Write for particulars. JAMES McPHERSON & SONS Dundalk, Ontario

**Imported Scotch Shorthorns** For Sale—Three imported bulls, one yearling, one two-year-old and our three-year-old herd sire; also a choice two-year-old Orange Blossom of our own breeding, and three well-bred bull calves about a year old. Would consider exchanging an imported bull for Scotch females. R. M. MITCHELL, R.R. No. 1, Freeman, Ont.

**R.O.P. Shorthorns** At Evergreen Hill Farm. One yearling bull by St. Clare = 84578 =, also a few yearling heifers. S. W. JACKSON, Woodstock, Ont. **Scotch Shorthorns**—Herd headed by Master Marquis = 123326 =, by Gainford Marquis. Stock of either sex for sale. Also Oxford Down ewes. GEO. D. FLETCHER, Erin, R.R. 1, Ont.

Sh... That's profit... over... ch... imple... ning... Protec...

Do pre... protect... Send u... Agents

Hamil... Our his... 30.38 lb... therefo... have st... with re...

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Senior sire is

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Summe... 84-lb. dam. C...

"Premier"... 110 lbs. of mil... brother to Ma...

If you want 3... also have low... solicited.

W... Th... Sale at farm... JOSEPH KI...

HOLST... and sired by... and our entir...

Am all sold o... sir...

ARCHIE M... Sylvius... appreciate th... if you want a...

Cedar Br... Pontiac Sylvi... dale Pontiac... going to sell...

I am offering

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That very fact, that Shinn-Flat Protects Property, means profitable business for dealers. This year property owners—and particularly farmers—can't afford to take chances on lightning. Lumber, labor, grain, stock and implements are all too valuable to carelessly risk a lightning stroke. It's a splendid time to sell Shinn-Flat Protection.

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Do prevent lightning losses, as demonstrated on thousands of Shinn-protected buildings throughout the Dominion and the United States. Send us a card for Prof. Day's book and our proposition to Retail Agents.

SHINN MFG. CO. OF CANADA, LIMITED  
Prof. W. H. DAY, Secretary and General Manager.  
Manufacturers of Shinn-Flat Lightning Rods

110 Woolwich St.,  
Guelph, Ont.

"The Kind That  
Are Guaranteed."



## Hamilton House Holstein Herd Sires

Our highest record bull for sale at present is a 4 months' calf from Lulu Darkness, 30.38 lbs., and sired by a son of Lulu Keyes, 36.56 lbs. His two nearest dams, therefore, average 33.44 lbs., and both have over 100 lbs. of milk per day. We have several older bulls by the same sire and from two and three-year-old heifers with records up to 27.24 lbs. All are priced to sell.

D. B. TRACY, Hamilton House, Cobourg, Ontario

## Hospital for the Insane, Hamilton, Ont.

### HOLSTEIN BULLS, ONLY, FOR SALE

Senior sire is from one of the best sons of King Segis Alcartra Spofford. Junior is grandson of the noted May Echo Sylvia, by Champion Echo Sylvia Pontiac.

Write to the Superintendent for prices, etc.

## HOLSTEIN HERD AVERAGES 18,812 LBS. MILK

A herd of 13 pure-bred Holsteins last year averaged 18,812 lbs. milk and 638.57 lbs. fat. Do you realize the money there is in such cows? It is estimated that the average annual yield of all cows in this country is under 4,000 lbs. These 13 cows produce as much milk as 62 cows of the 4,000-lb. class.

Why feed, milk and shelter any more cows than you need to produce the milk you require? If interested in HOLSTEIN CATTLE send for booklets—valuable information they contain much

### HOLSTEIN-FRIESIAN ASSOCIATION OF CANADA

W. A. CLEMONS, Secretary. ST. GEORGE, ONT.

## Raymondale Holstein-Friesians

A herd sire of our breeding will improve your herd. We have sons of our present sire, Pontiac Korndyke of Het Loo (sire of \$12,750 Het Loo Pieterje), and also sons of our former sire, Avondale Pontiac Echo. Several of these are of serviceable age, and all are from good record dams. Quality considered, our prices are lower than anywhere else on the continent. Their youngsters should not remain long. Write to-day.

RAYMONDALE FARM, Vaudreuil, Que. D. RAYMOND, Owner, Queen's Hotel, Montreal

**Cloverlea Dairy Farms** Herd headed by King Pontiac Rauwerd who combines the blood of Canada's greatest sires and dams. His offspring are a choice lot. We have stock for sale, both male and female, 75 head to choose from. Consult us before buying elsewhere. Could book a few more cows for service to "King."  
GRIESBACH BROS., L.-D. phone Collingwood, Ont.

**Summer Hill Holsteins**—We have the best bunch of Holstein bulls ever offered at our farm. Their dams have records up to over 34 lbs. of butter in 7 days. All are sired by a bull with a Grand Champion bull at Toronto this year. Prices reasonable.  
34-lb. dam. One is a full brother to the Grand Champion bull at Toronto this year. Prices reasonable.  
D. C. FLATT & SON, R.R. No. 2, Hamilton, Ont.

**"Premier" Holstein Bulls** Ready for Service—I have several young bulls from dams with 7-day records up to 32.66 lbs. of butter, 755.9 lbs. of milk, with 110 lbs. of milk in one day—over 3,000 lbs. in 30 days. All are sired by present herd sire, which is a brother to May Echo Sylvia. Step lively if you want these calves.  
H. H. BAILEY, Oak Park Farm, Paris, Ont.

**HOLSTEIN BULLS FROM 30-lb. DAMS**  
If you want 30-lb. bulls—good individuals—and priced right—you should see my present offering. I also have lower priced bulls and am offering females bred to Ormsby Jane Burke. Correspondence solicited.  
R. M. HOLTBY, Manchester G.T.R.; Myrtle C.P.R.; PORT PERRY, ONT.

**WAIT FOR CANADA'S GREATEST HOLSTEIN DISPERSAL**  
**The Sunnybrook Farm Herd**  
Sale at farm, North Toronto, Ontario, Wednesday, June 9, 1920  
JOSEPH KILGOUR, Prop. NORTH TORONTO, ONT.

**HOLSTEIN HERD SIRES**—I have at present several young show calves nearly ready for service; all of which are from tested dams and sired by my 30-lb. sire, Gypsy Pontiac Cornucopia. This bull is a grandson of May Echo Sylvia, and our entire offering in females are bred to him. Prices right.  
JOSEPH PEEL, Port Perry, Ontario

**ELDERSLIE HOLSTEIN-FRIESIANS**  
Am all sold out of heifers, just have three bull calves left, from four to six months old. They are sired by Judge Hengerveld De Kol 8th, a 32.92-lb. bull. The dam of one is a 20.225-lb. cow. Write for prices and come and see them.  
SCARBORO' P.O., ONT.

**ARCHIE MUIR, Elderslie Farm.** is the sire of the majority of our young bulls now listed. If you see these calves you will appreciate them. Their dams are mostly daughters of King Segis Pontiac Duplicate. Don't delay if you want a good bull at a right price. We are also offering females.  
R. W. WALKER & SONS, Port Perry, Ont.

**Cedar Brook Farm Holsteins**—(Farm one-half mile from Inglewood Station, C.P.R., G.T.R.)—We are offering two young sons of Highland Pontiac Sylvia (his two nearest dams average 36.51 lbs. of butter, 786.4 lbs. of milk), a son of Avondale Pontiac Echo—the \$50,000 son of May Echo Sylvia. We guarantee these calves, and we are going to sell them quick. Write, or call and see them—don't delay.  
CEDAR BROOK FARM (B. Misener, Manager) INGLEWOOD, ONT.

**WALNUT GROVE HOLSTEINS**  
I am offering a choice lot of bull calves sired by May Echo Champion, who is a full brother of world's champion, May Echo Sylvia; also a few cows just fresh.  
(Take Radial Car from Toronto to Thornhill). C. R. JAMES, Richmond Hill, R.R. No. 1, Ont.

## O. A. C. Examination Results.

There was an unprecedented attendance at the O. A. C. the past year. All classes were filled to overflowing. However, the number failing in certain subjects are fewer than usual, considering the number of students writing. This is creditable to the boys. There are at every college a few students who evidently cannot adapt themselves to the work, and as a result are unable to secure a pass. The following are the results of the final examinations:

### FIRST YEAR—MAXIMUM 2700.

- Riddell, 2217; Kenny, 2199; Balch, 2162; Hutt, 2128; Ruhke, 2092; White, F. H., 2058; Mutrie, 2010; Davidson, 1987; Cockburn, 1970; Williamson, A. E., 1958; Thompson, A., 1958; Upshell, 1954; Summers, 1945; Elliott, 1938; Werner, 1935; Present, 1927; McKenzie, W., 1910; Kinchular, 1895; Wallace, 1882; McDermid, 1882; Richmond, R. G., 1878; McGiffin, 1875; Burke, 1845; Carbin, 1845; Miller, W. H., 1838; Miller, E. A., 1836; Huntsman, 1836; Ratz, 1833; Burton, 1823; Hinchley, 1822; Cohoon, 1796; Williamson, W. H., 1794; McLeod, 1792; Bowman, 1792; Richmond, 1789; Manning, 1786; McLellan, 1785; Burwash, 1785; Turner, 1781; Graham, A. J., 1777; Laughlin, 1773; Sorley, 1769; Davey, 1764; Synott, 1759; Lloyd, 1752; Rutherford, 1744; Kirk, J. R., 1741; Scott, G. A., 1740; Howard, H. R., 1730; Clutton, 1729; McKenzie, R. M., 1725; Breckon, 1725; Campbell, C. G., 1720; Hellyer, 1719; Fricker, 1714; Thomas, N. J., 1706; Hull, 1698; Stanley, 1685; McCallan, 1682; MacBeth, 1676; Martson, E. H., 1669; Sneyd, 1669; Strothers, 1669; Blaney, 1661; Mahoney, 1659; Dickson, 1656; Winch, 1654; McCreary, 1649; Beattie, A. G., 1649; Adams, 1648; Baron, 1646; Van Harlem, 1636; Hinrichs, 1630; Wilson, J., 1628; Bratt, 1623; Kirk, A. R., 1618; Schell, 1596; Beattie, D. M., 1596; North, 1595; \*20; Hill, 1593; Mills, A. T., 1588; Arnold, 1586; Nicholson, 1586; Ferguson, 1577; Wilson, G. C., 1569; Ficht, 1563; Taylor, 1563; \*19, 20; Smith, C. E. S., 1558; Snyder, 1557; Boucher, 1555; Riley, 1552; Eddy, 1540; Wood, T. J., 1536; \*9; Hillier, 1531; Young, 1531; Blow, 1528; Dyce, 1522; Crowe, 1511; Nixon, 1510; \*12; Lothian, 1507; McClelland, 1507; Hawkins, R., 1502; Armstrong, 1501; Constable, 1488; Penny, 1487; \*9; Dalgligh, 1483; Speers, 1481, \*20; Watt, 1452; \*13; Buchanan, 1446; \*9; Edgar, 1446; Horne, 1437, \*12, 13; Ward, B. A., 1432; \*8; Cheney, 1424; Vignale, 1419, \*1, 14; Shearer, 1417, \*12; Smith, C. A. S., 1416, \*12; Rogers, 1415, \*2; Smith, J. B., 1412, \*12; Squire, 1409, \*12; Dawson, 1408; Buckland, 1384; Sager, 1381, \*12; Howard, J. W., 1379, \*21; Graham, F. H., 1377; MacLaren, 1367, \*15; Rowat, 1359; Nichol, 1355, \*12; Campbell, D. G., 1352; Gilbert, 1348; Fraser, B. C., 1346, \*10; Calder, 1344, \*21; Cole, S., 1336, \*9; Bales, 1332; Booth, 1332; McLean, 1315, \*12; Jackson, 1315, \*12; Murray, 1312, \*12, 21; Dobie, 1309; Buckley, 1299, \*9, 21; Marston, A. R., 1296, \*15, 20; Ziegler, 1293, \*8, 12; Cliphsham, 1273, \*2; Ballantyne, 1259, \*10, 13; Nelles, 1256, \*1, 2; Crossgrove, 1243, \*8, 12; Bright, 1234, \*10, 13; Goodwin, 1229, \*12; Macdonald, M. R., 1222, \*8, 20; Ward, N.A., 1221, \*9, 13; Chisholm, 1213, \*9, 10; McRae, 1205, \*9; Nelson, 1200, \*20, 21; Bohn, 1181, \*10, 11; Shier, 1177, \*9, 21; Phillips, 1173; Joss, 1146, \*14.

### LIST OF SUBJECTS.

- 1, English Literature; 2, Composition; 3, Elementary Drainage; 4, Arithmetic; 5, Hydrostatics; 6, Soil Physics; 7, Mechanics; 8, Manual Training; 9, Chemistry; 10, Geology; 11, Botany; 12, Zoology; 13, Horticulture; 14, Field Husbandry; 15, Animal Husbandry; 16, Dairy; 17, Poultry; 18, Apiculture; 19, Veterinary Anatomy; 20, Veterinary Materia Medica; 21, Farm Management.

### SECOND YEAR—MAXIMUM 3300.

- Hart, 2529; Shaw, 2509; Leaver, 2476; Thompson, 2402; Hartley, 2368; Wyatt, 2355; Claus, 2336; Reed, 2321; Raithby, 2317; Whiteside, 2312; Graham, J. K., 2312; White, 2302; Matheson, 2283;

Continued on page 949.

The Hit of the Season For the Farmer's Boy

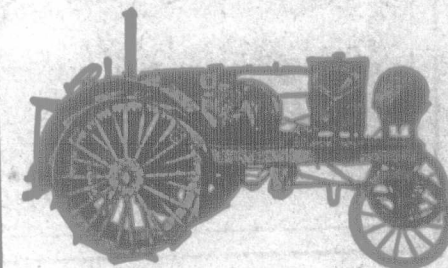


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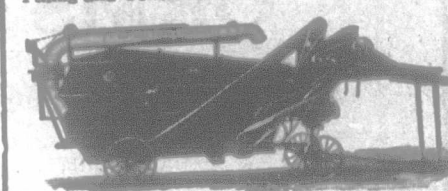
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Also Steam Tractors and large size Threshers.

## Young Holstein Bull FOR SALE

An exceptionally good individual with good backing. His dam is "Lady Pieterje Elgin," a 23.83-lb. three-year-old. His sire's dam is a 26-lb. cow as a three-year-old, and a full sister to Homestead Susie Colantha, who won championship at Toronto and London in 1919; later sold to John A. Bell, Jr., for \$7,500, and made 35 lbs. butter in seven days. This bull was calved February, 1919 (nearly white); has the best of breeding in him; is an extra good individual and will make good wherever he goes.  
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R.R. No. 4 Meaford, Ont.

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HUNTINGDON, QUE.



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that every macadamized road should have at least one coat of Tarvia every year and if this is done, I am sure that the road would last at least one-third longer."

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Preserves Roads-Prevents Dust

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Halifax, N. S. LIMITED Winnipeg Vancouver  
Sydney, N. S.

**100 Sophie Tormentor Jerseys 100**  
At Auction, June 3, 1920

Register of Merit Cows, Bred Heifers, Heifer Calves, Bulls Ready for Service and Bull Calves.

Descendants of the World's Champion Long-distance cow, Sophie 19th of Hood Farm; Hood Farm Pogs 9th, the champion sire, sire of 79 R.O.M. cows and 31 producing sons; Hood Farm Toronto, sire of 73 and 24 sons; Pogs 99th of Hood Farm, sire of 70 and 10 sons. The champion producing blood of the breed. Herd tested by U. S. Dept. of Agriculture Veterinarians. Shipment to Canada without quarantine. The catalogue tells the story—free on request to

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THE LARGEST JERSEY HERD IN THE BRITISH EMPIRE

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B. H. BULL & SONS :: Brampton, Ontario

**Laurentian Producing Jerseys**—The oldest bull we have at present is a year old youngster, bred by our herd sire, Broadview Bright Villa, No. 5630, and from Brampton Astoria, one of the best imported cows in the herd. We also have others younger of similar breeding, as well as a few bred heifers for sale. FREDERICK G. TODD, Owner, 801 New Birks Bldg., Montreal, P.Q. Farm at Morin Heights - F. J. WATSON, Manager

Woodview Farm JERSEYS The Herd headed by Imported Champion Rower, winner of first prize with five of his daughters on the Island of Jersey, 1914, second in 1916, and again first in 1917. We are now offering for sale some very choice bull calves, ready for service, sired by imported bulls and from Record of Performance imported prize-winning cows. Also some cows and heifers. Prices right. We work our show cows and show our work cows.

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\$17,000 offered in prizes

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Neil Sangster, President W. G. McGerrigle, Sec. Treas.

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Disbrow, 2265; 2251; Shore, 2246; burn, 2229; Twinn; Hancock, 2210; 2191; Moore, 2173; Toner, 2161; Ho; F. S. B., 2148; 2127; Jamieson; Greaney, 2109; 2104; Chamberlain; Disher, 2089; We; Brown, 2069; (Er; Rogers, 2033; V; 2024; Wildman, 2; Stewart, C. H.; Hamilton, F. W.; St. John, 1982; A; Painter, 1975 \*1; 1963; Ripley, 19; Armstrong, A.; Purdy, 1936; Ka; Heming, Miss, 19; Bratt, 1916; Alp; \*10; MacKay, 187; \*15; Jackson, 187; Griffiths, 1851 \*2; 1828 \*13, 18; Brou; 1810; Tolton, 180; Cooke, 1796; Bac; 1780 \*4, 16; \*F; 1768; Osborne, 1734; Brennan; 1717 \*4, 13; Gra; Mills, 1700 \*11; Halpenny, 1677; \*21, 22; \*Start; Sheppard, W. V; Riley, 1629 \*11; Lathey, 1603 \*4; \* Below 60% \* Subjects on examinations mu

List of  
1, English Lite  
3, Public Speak  
Thesis; 6, Surve  
Agr. Engineering  
Mechanics; 10,  
Soil Chemistry;  
13, Bacteriology  
Horticulture; 16  
Economic Botan  
19, Field Husba  
bandry (Xmas);  
ment; 22, Prin  
Judging Live S  
25, Dairying; 26,  
Pathology; 28, V  
Forestry; 30, Fa

Jukes, 88.3; Le  
84.0; McArthur  
Lewis, 79.9; E  
78.3; Grant, 77.6  
74.3; Nelson, 72.  
72.3; Deneau, 7  
field, 71.9; Ellio  
Foreman, 70.8;  
70.4; Brown, 7  
McCague, 68.9;  
Irvine, 68.7; At  
Lee, 68.1; Long,  
man, 66.6; Arsen  
MacAdam, 66.0  
Ireton, 65.4; 1  
64.7 \*20; Morris  
Watt, 63.0; Mo  
62.7 \*15; Ziegler  
61.0; Kay, 60.9  
60.3 \*16; Edv  
59.5 \*11; Howa  
58.4; Clark, 58  
Shoemaker, 57  
57.8 \*16; DuTo  
\*16; Stirrett; 56  
Thompson, G.  
54.8 \*13; Mitche  
54.4 \*12; Cairn  
53.9 \*12, 16; S  
W. Y., 52.6; S  
Crews, 51.8; Sib  
51.7; Stott, 51.  
20; White, S., 5  
\*14; Goodier, 4  
\*11, 19.  
Failed in sub

LIST  
1, Eng. Liter  
3, Economics;  
Meterology; 7,  
Chemistry; 9,  
10, Qual. Chem  
tive Chemistry  
13, Geology; 14  
Physiology; 16  
Econ. Entomol  
Farm Managem  
21, Field Hus  
bandry.

MAY 13, 1920

Disbrowe, 2265; Davidson, 2265; Cline, 2251; Shore, 2246; Oldfield, 2236; Cockburn, 2229; Twinn, 2223; Chesley, 2216; Hancock, 2210; Fidler, 2195; Hastings, 2191; Smith, G. D. C., 2173; Hickling, 2173; Moore, 2164; Hammersley, 2161; Toner, 2161; Hocking, 2161; Thomas, F. S. B., 2148; Welland, 2131; Shields, 2127; Jamieson, 2123; Whitelock, 2123; Greaney, 2109; Nelles, 2108; Chilcott, 2104; Chamberlain, 2099; Fraser, 2094; Disher, 2089; Western, 2085; Page, 2083; Brown, 2069; Elmhurst, 2038; Cole, 2034; Rogers, 2033; Wilcox, 2028; Marritt, 2024; Wildman, 2017; Pearsall, 2009 \*16; Stewart, C. H., 2005; Cody, 2002; Hamilton, F. W., 1987; Ellsworth, 1984; St. John, 1982; Armstrong, T. M., 1976; Painter, 1975 \*10; Cassie, 1975; Ross, 1963; Ripley, 1953; McLennan, 1959; Armstrong, A., 1949; Waugh, 1943; Purdy, 1936; Karn, 1935; Shutt, 1934; Heming, Miss, 1932 \*8, 13; Munro, 1917; Bratt, 1916; Alp, 1907; Renwick, 1902 \*10; MacKay, 1893 \*15; Hadden, 1877 \*15; Jackson, 1874; McMullen, 1859 \*11; Griffiths, 1851 \*2; Fleming, 1829; Bichan, 1828 \*13, 18; Broughton, 1813 \*2; Watson, 1810; Tolton, 1807 \*4; Harley, 1798 \*2; Cooke, 1796; Bach, 1783 \*13; MacMillan, 1780 \*4, 16; Fulton, 1778 \*4; Dyer, 1768; Osborne, 1753 \*11, 15; Bernal, 1734; Brennan, 1728 \*1; Baldwin, 1717 \*4, 13; Gray, J. A., 1714 \*2, 15; Mills, 1700 \*11, 17; Sanders, 1685 \*2; Halpenny, 1677 \*11, 15; Burrows, 1671 \*21, 22; Start, D. E., 1658 \*8, 15; Sheppard, W. W., 1630 \*8, 10, 13, 18; Riley, 1629 \*11, 15; Allmen, 1609 \*4; Lathey, 1603 \*4, 28.

‡ Below 60% in English.

\* Subjects on which supplementary examinations must be written.

LIST OF SUBJECTS.

1, English Literature; 2, Composition; 3, Public Speaking; 4, Economics; 5, Thesis; 6, Surveying and Drainage; 7, Agr. Engineering; 8, Electricity; 9, Farm Mechanics; 10, Organic Chemistry; 11, Soil Chemistry; 12, Animal Chemistry; 13, Bacteriology; 14, Entomology; 15, Horticulture; 16, Botany (Xmas); 17, Economic Botany; 18, Plant Physiology; 19, Field Husbandry; 20, Animal Husbandry (Xmas); 21, Feeding and Management; 22, Principles of Breeding; 23, Judging Live Stock; 24, Horse Judging; 25, Dairying; 26, Poultry; 27, Veterinary Pathology; 28, Veterinary Obstetrics; 29, Forestry; 30, Farm Management.

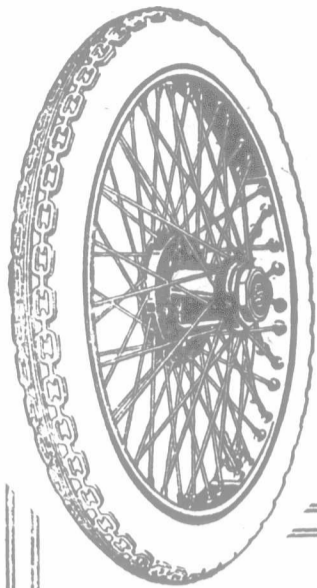
THIRD YEAR.

Jukes, 88.3; Leggatt, 86.6; Wood, F. L., 84.0; McArthur, 81.9; Waterman, 80.4; Lewis, 79.9; Eidt, 78.6; McCrimmon, 78.3; Grant, 77.6; Trueman, 76.8; Maybee, 74.3; Nelson, 72.9; Callister, 72.5; Dewan, 72.3; Deneau, 72.2; Jarvis, 71.9; Smallfield, 71.9; Elliott, 71.5; Ferguson, 70.9; Foreman, 70.8; Frey, 70.7; Williams, 70.4; Brown, 70.1; Christensen, 69.7; McCague, 68.9; Stock, 68.8; McKay, 68.7; Irvine, 68.7; Atkin, 68.3; Fulton, 68.3; Lee, 68.1; Long, 67.1; Pegg, 66.9; Chapman, 66.6; Arsenaull, 66.1; Semple, 66.1; MacAdam, 66.0; Thompson, D., 65.8; Ireton, 65.4; McIntyre, 65.3; Davis, 64.7 \*20; Morrison, 64.6; Clemens, 64.3; Watt, 63.0; Morton, 62.8; Wadsworth, 62.7 \*15; Ziegler, 62.5; Riley, 61.6; Arnold, 61.0; Kay, 60.9; Goudie, 60.6; Pineau, 60.3 \*16; Edwards, 60.0; Rowlands, 59.5 \*11; Howarth, 59.3 \*16; Whillans, 58.4; Clark, 58.4 \*12; Stoddart, 58.0; Shoemaker, 57.8 \*11, 20; Sutherland, 57.8 \*16; DuToit, 56.9; Matthews, 56.8 \*16; Stirrett, 56.5 \*16; Keillor, 56.0 \*20; Thompson, G. J., 55.1 \*11, 16; Ogilvie, 54.8 \*13; Mitchell, 54.6 \*20; Cuthbertson, 54.4 \*12; Cairnie, 54.2 \*11, 13; Lowrie, 53.9 \*12, 16; Sippel, 53.6 \*20; Wood, W. Y., 52.6 \*14; Snyder, 52.6 \*20; Crews, 51.8; Sibbitt, 51.7 \*12; McPharlin, 51.7; Stott, 51.5 \*14; Wasson, 51.3 \*13, 20; White, S., 50.0 \*12, 20; Lindala, 50.0 \*14; Goodier, 49.8 \*11, 19; Taylor, 48.4 \*11, 19.

Failed in subjects marked \*.

LIST OF SUBJECTS.

1, Eng. Literature; 2, Public Speaking; 3, Economics; 4, French; 5, Heat; 6, Meteorology; 7, Cold Storage; 8, Inorganic Chemistry; 9, Qual. Chem. (Written); 10, Qual. Chem. (Practical); 11, Quantitative Chemistry; 12, Organic Chemistry; 13, Geology; 14, Crypt. Botany; 15, Plant Physiology; 16, Syst. Entomology; 17, Econ. Entomology; 18, Bacteriology; 19, Farm Management; 20, Sc. of Education; 21, Field Husbandry; 22, Animal Husbandry.



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A choice lot of gilts bred for June and July farrow, Young boars from 50 pounds up.

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I can supply select breeding stock, all ages. 2 boars and 4 sows, 4 months old, from registered stock.

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Rams, also imported two-shear Ram and a number of Yearling and two-shear Ewes, also Ram and Ewe lambs.

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Shropshire Yearling Ewes bred to Bibby's 84 (imp.) ram and ewe lambs sired by him. Two Shorthorn bulls.

Shropshire Yearling Ewes bred to Bibby's 84 (imp.) ram and ewe lambs sired by him. Two Shorthorn bulls.

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A Show and Sale of Ewes, Ewe Lambs, Ram Lambs, Shearling and older Rams

Wednesday, July 28th, 1920

A Show and Sale of Ram Lambs

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These sales will offer a unique opportunity to Colonial and Foreign buyers to supply their requirements for the forthcoming season.

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If you want brood sows of any age, stock boars of any age, or young pigs, write me. All bred from prize-winners for generations back.

Shropshire Yearling Ewes bred to Bibby's 84 (imp.) ram and ewe lambs sired by him. Two Shorthorn bulls.

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STRENGTH  
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MAPLE BUDS  
I just love them"**

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Chocolate

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**Aim.**—To interest the pupils in the sizes, shapes, and colors of the seeds of some common garden plants, and the uses of seeds to the plant and to people.

**Materials.**—Seeds of the parsnip, carrot, bean, pea, nasturtium or other garden plants.

**Method.**—1. Give a specimen of each kind of seed to each pupil. What part of the plant are these objects? What part of the plant produces them? How many circles has a flower? In which circles are seeds borne? How can we tell by the appearance of the flower when the seeds are ripe? How do seeds differ in shape, size, and color, and of what use are they?

2. Notice the different shapes. Describe the shape of each kind. Is there one very flat and thin? What is the name of it? What color is a parsnip seed? How big is it? Is it smooth or rough? Blow on it? How could it be carried easily? Smell the parsnip seed and then taste it. Has it any smell or taste? Look for the "meat" in it. Find a round, smooth seed. What color is it? What plant produces it? How big is it? Taste it. Does it taste good? What use is made of peas at home? Find another smooth seed. How does it differ in shape from the pea? What is its name? Has it any odor? What use is made of beans at home? Do you like cooked beans? Find a round, rough seed, and find another rough seed, which is small and narrow? How can you tell them apart? Smell each. Taste each. Which is a beet and which is a carrot seed? Are these seeds ever used for food? Look for a seed shaped like a beet seed but lighter in color? What is its name. Discuss the uses of seeds in the garden and in the house.

3. Compare the different seeds as to size, color, roughness, smell, taste and shape. Which seeds are smooth? Tough? Thin? Round? Which one has the strongest odor?

4. What part of the plant produces seeds? Of what use are they? Why do we plant seeds in the garden? How can we tell the different kinds of seeds apart?

5. Mix the different kinds of seeds and pick out each kind when named. Mix several of each kind with several of another kind and then sort the different kinds. At home plant some seeds in the garden, or in boxes or pots, water them, and watch for the appearance of little plants.

6. Count the number of seeds of each kind. Try to count all the seeds on the desk. Draw each seed.

We have learned that a plant is made up of different parts such as—the root, stem, leaves, and flowers; and that a flower has many parts, some of which are brightly-colored and sweetly-perfumed, and others small and not very pretty. It is the small inner part of a flower, however, that makes the seeds. That yellow dust called pollen must be in every flower before seeds can be produced. Bees and other insects help to carry the pollen from one flower to another. At the bottom of the flower, usually in a pod or vessel of some sort, the seeds grow and become ripe. When the flower has lost its beauty and color, and the parts have fallen off, we know that the seeds are nearly ripe. By making and scattering many seeds the mother-plant hopes to have many children when the seeds grow. We can help by planting and caring for the seeds and the young plants in a garden. Seeds differ from each other in many ways. Some are very small and others are quite large; some are rough and some are smooth; some have a pleasant odor and taste; some have a bad odor or taste; some are flat and thin; some round like a ball; some long and narrow, and others of different shapes. A pea seed is round, very smooth, nearly white or yellow in color, and has a pleasant odor and taste. A beet seed is about the size of a pea seed, has a very rough, dark coat and is not good to eat. A bean seed is smooth like a pea seed, but much larger, and shaped like a saddle on one side. Like the pea, however, it is good to eat. A parsnip seed is very thin and flat and has an odor. Carrot seeds

also have an odor; they are smaller than a beet seed, yellowish in color, rough, and longer than wide. Nasturtium seeds look like beet seeds but are lighter in color, smoother, and a little longer. Radish seeds are very small, smooth, and reddish in color. Lettuce seeds are nearly white, very small, and much longer than wide.

The above lesson is from from "Nature Study Lessons," by D. W. Hamilton.

**School Oratory.**

BY AL PEA.

Reading is not likely ever to be disturbed from its position among the fundamental three R's of common school education. In the first place, it is the open sesame to the world's knowledge as expressed in language, and also to the pleasures of literature. Then, oral reading is a training in the world-wide medium of communication—speech. If young people of the farm are in due course, to share effectually in the affairs of the community and state it follows that they must be qualified to express themselves publicly with cogency. Vocal reading, should, therefore, be carefully cultivated in the school courses, and to the extent of declamation upon special occasions, which should not be infrequent if a keen interest on the part of parents and friends in the local place of learning is to be maintained. An excellent typical example of such an event occurred recently when pupils of the Belmont, Ont., continuation school took part in the third annual oratory contest.

There were other features in the entertainment, the proceeds of which went toward the school piano fund. Six boys competed for the honors of the occasion, which included a gold medal for the first prize winner (John Campbell), with a camera for the second (Wm. Moore), donated by public spirited friends of the school. The Elgin County Public School Inspector and two outside ministers acted as judges, voting by points. The subjects (chosen by the competitors themselves) of the two farm boys who won were respectively, The Farmer in Politics and The Natural Resources of Canada as Contributing to the Making of a Great Nation, both of which were handled with commendable ability. As showing the interest manifested in the affair, the large auditorium of one of the village churches was crowded to the aisles by people, including ex-students, from the village and surrounding country, which the school serves so that it might well be described as one of the events of the year. Belmont village is part of a union rural section, and "without fuss or feathers" has developed a successful combination public school and continuation school, at present under the general direction of Principal Oliver McKillop with one assistant in the higher department, which carries the students on to junior matriculation and Normal School entrance work, and three teachers in the lower public school grades. There is an attendance of approximately 110 pupils in the public school-rooms, and about 60 in the continuation school. Any public school pupils attending from outside the section pay a fee of 50 cents per month, and the continuation school pupils, whether resident in the section or non-resident, pay a uniform fee of \$10 each per year. By means of these fees and the Government grants the levy upon the ratepayers of the section is stated by the secretary-treasurer to be very little more than that of an ordinary rural public school section in adjoining districts. A school garden is carried on and pupils take an active share in autumn school fair work. It might be added that pupils of the continuation department have for several years in succession taken a remarkably high standing compared with similar educational institutions, doing the high school type of work. It illustrates very aptly what a local village and rural community can jointly accomplish, achieving substantially the consolidated school idea without the name and, of course, without conveyances. Some of the continuation pupils drive themselves in a distance of about four miles. Incidentally, they often act as messengers to and fro, the village being a considerable business centre for farmers.

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Oratory.

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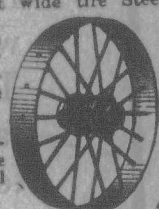
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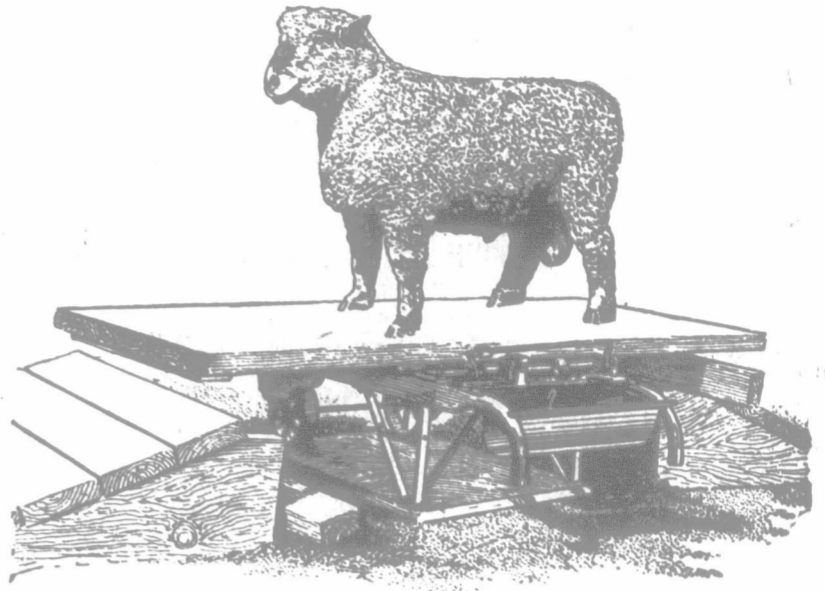
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