

PUBLISHED EVERY WEEK. \$1.50 PER YEAR.

THE FARMER'S ADVOCATE

AND HOME MAGAZINE

PERSEVERE SUCCEED

FOUNDED 1875

Director: Central Exp. Farm, Dec. 31, 1915

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

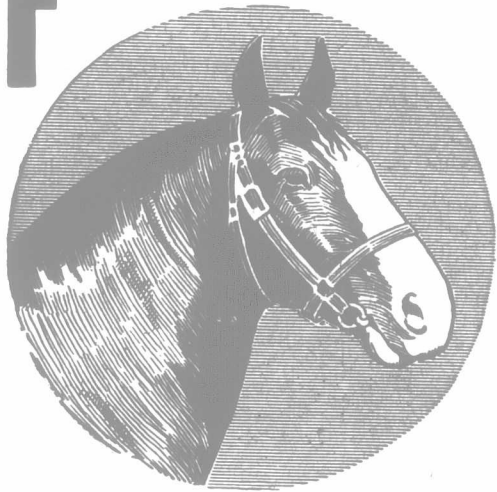
VOL. LI.

LONDON, ONTARIO, MARCH 2, 1916.

No 1223

FREE

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



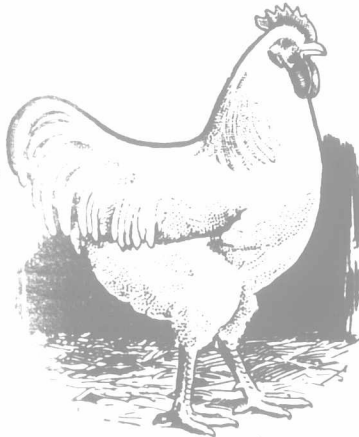
Royal Purple Stock Specific

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

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

Royal Purple Poultry Specific

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



Put up in 25c. and 50c. packages, \$1.50 and \$5.00 tins. A 50c. package will last 25 hens 70 days. A \$5.00 tin will last 200 hens for over four months.

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

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

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

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

Royal Purple Cough Cure

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

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

Barrie, April 28th.

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

Respectfully yours, H. H. OTTON & SON.

Royal Purple Roup Specific

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

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

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

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

Royal Purple Calf Meal

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

"Straffordville, Ont., Sept. 28, 1915.

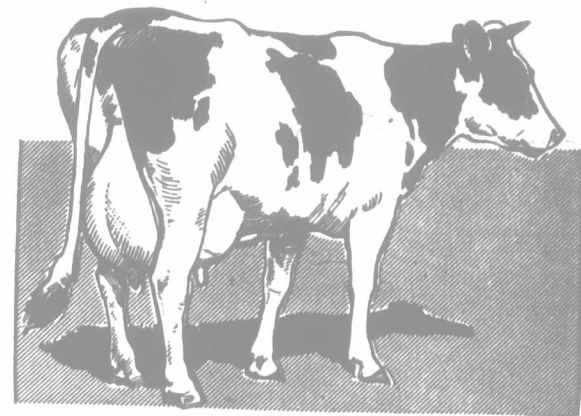
"The W. A. Jenkins Mfg. Co., London, Ont.: Dear Sirs,— Replying to your letter of Sept. 18th, my bull's name is Funderline King May Fayne. I am having printed now an extended pedigree of him, which I will be pleased to forward you, along with his photograph, as soon as completed."

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

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

"Yours truly, L. H. LIPSIT."

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



Peace River Crossing, Alta., Oct. 4, 1915.

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

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

We also manufacture:

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

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

Royal Purple Disinfectant—25c., 50c. and \$1. Royal Purple Worm Powder—25c. tins; 30c. by mail.

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

Royal Purple Linseed Meal.

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

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

Made in Canada by Canadian capital and labor.

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



**"PINE TREE"
TIMOTHY
SEED**

An extra re-cleaned and pure seed at moderate cost.

ASK YOUR DEALER.

If he cannot furnish you, write the

ALBERT DICKINSONS CO.
Seed Merchants. CHICAGO, ILL.

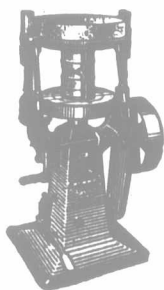
SEEDS

I have a nice stock of Ontario-grown seeds, as follows:

- Red Clover
- Alsike Timothy
- Alfalfa (limited quantity)
- Hungarian Millet
- Seed Corn

All seeds Government Standard. Samples and prices gladly furnished. Ask for them.

S. G. VANCE
Wholesale and Retail
TILLSONBURG ONTARIO



**"London" Cement
Drain Tile Machine**

Makes all sizes of tile from 3 to 18 inches. Cement Drain Tiles are here to stay. Large profits in the business. If interested, send for catalogue No. 2.

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

Corn That Will Grow

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

J. O. DUKE, RUTHVEN, ONT.

CUT THIS OUT



Farmer's Advocate Pen Coupon. Value 4c.

Send this coupon with remittance of only \$1.52, direct to the Fleet Pen Co., 119 Fleet Street, London, England. In return you will receive by registered post, free, a splendid British-made 14ct. gold-nibbed, self-filling, Fleet Fountain Pen, value \$4 (16s.6d.). Further coupons, up to 13, will each count as 4c. off the price, so you may send 14 coupons and only \$1. Say whether you require a fine, medium or broad nib. This great offer is made to introduce the famous Fleet Pen to Canada. Over 100,000 have been sold in England. Agents Wanted. Liberal Terms.

HYLO SILAGE IS "CANNED SUNSHINE"

It Puts Your Cows on June Pastures in January

The GILSON HYLO¹SILLO insures perfect ensilage, down to the last forkful—sweet, fresh and nutritious.

The HYLO SILLO is the result of immense resources and facilities focussed in a steady effort toward perfection. It is not an ordinary silo—it is different.

The material used—Imported, Long Leaf Southern Yellow Pine—is naturally impregnated with preservatives, and is the one wood endowed by nature with all the requisites of silo service. This wood costs us twice as much as the material generally used in other silos, but it is our policy to use only the best, regardless of cost.

The HYLO SILLO is purchased by the modern farmer, the man who farms on a business basis. He buys his silo for the money it will make him. He knows that a cheap, inferior silo is a waster and a continuous loss.

Some of the many advantages of the HYLO SILLO are as follows:

- Self-adjusting hoops, which automatically take up all expansion and contraction—single length and two-piece staves used exclusively—all staves tongued, grooved and bevelled on both sides and ends, making perfect self-draining, spliced joints—interchangeable, perfect fitting doors with patent lock—reinforced door frame of special construction, rigid anchoring system, etc.
- A HYLO SILLO will last indefinitely—is air-tight, leak-proof and storm-proof. It will pay for itself in profits earned the first six months you use it, and thereafter will continue to make money for you, year after year, at no additional expense.

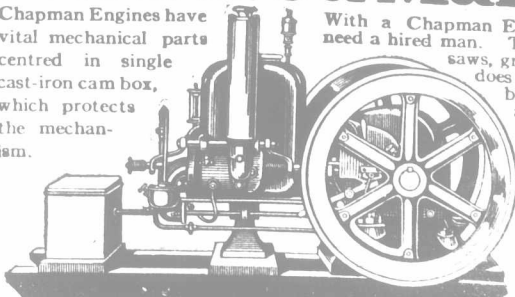
The HYLO SILLO is the Advance Guard of Progress—the Watch Tower of Prosperity. It will pay YOU the biggest dividends of any investment you can make.

Write for FREE Silo Book to-day.

Gilson Mfg. Co., Ltd.
109 York Street
GUELPH CANADA

The Hired Man with No Pay Day

Chapman Engines have vital mechanical parts centred in single cast-iron cam box, which protects the mechanism.



With a Chapman Engine, you don't need a hired man. This engine pumps, saws, grinds, cuts silage—does the hard laborious back-breaking labor around the house and barn. We sell the grinders, saws, pump jacks, etc., as well as the Engine.

Pay Day

Send to-day for our Engine Book—showing how to solve power problems on the farm.

Ontario Wind Engine & Pump Co. Ltd., Atlantic Ave. Toronto Branches: Montreal, Windsor, St. Catharines, Regina

CLOVER SEED

Our Alsike Timothy, Red Clover, etc., will compare favorably with anything on the Canadian market. Send for price list.

S. F. M. O'CONNOR & SON, Shelburne, Ont.

O. A. C. No. 720 Oats

Our O. A. C. No. 720 Oats are the best in the world. Send for price list.

S. F. M. O'CONNOR & SON, Shelburne, Ont.

GILSON

**POWER plus SERVICE
After 9 years of Service**

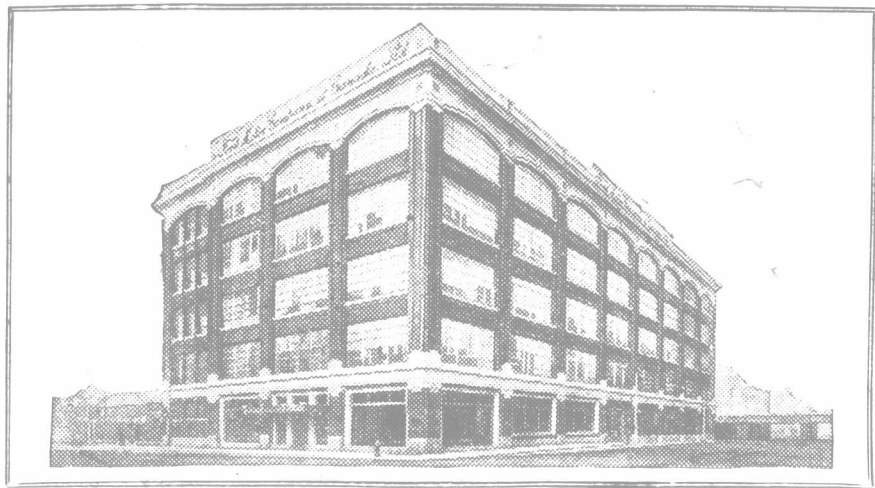
Mr. H. TUTTON, of Branchton, Ont., writes:

Gentlemen:—As my 6 h.p. Engine has been such a big saving to me during the 9 years I have had it, I thought I would write you. I have 175 acres, keep a lot of stock, and do all my own chopping, feed cutting, wood sawing, etc. My engine is as good as new now, and compared with other makes around me, I am perfectly satisfied with its superior fuel economy, power and reliability.

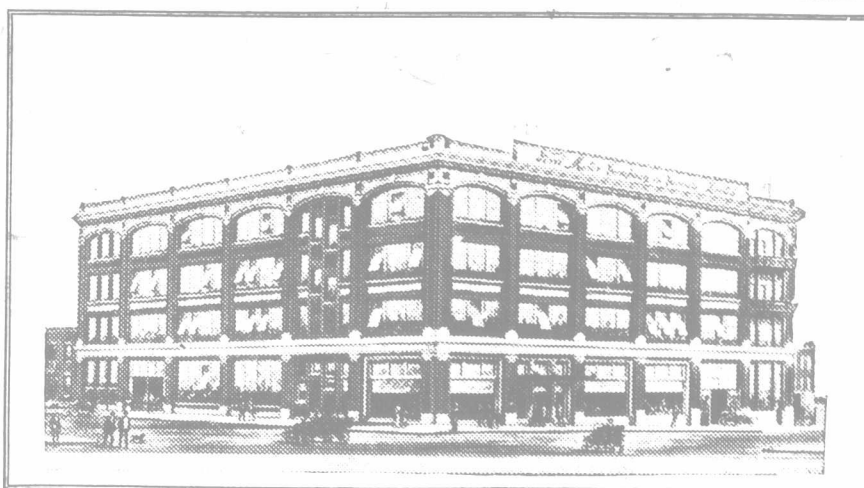
Write for FREE catalogue and prices.
—ALL SIZES—

**Gilson Mfg. Co. Ltd., 59 York St.
Guelph, Canada**

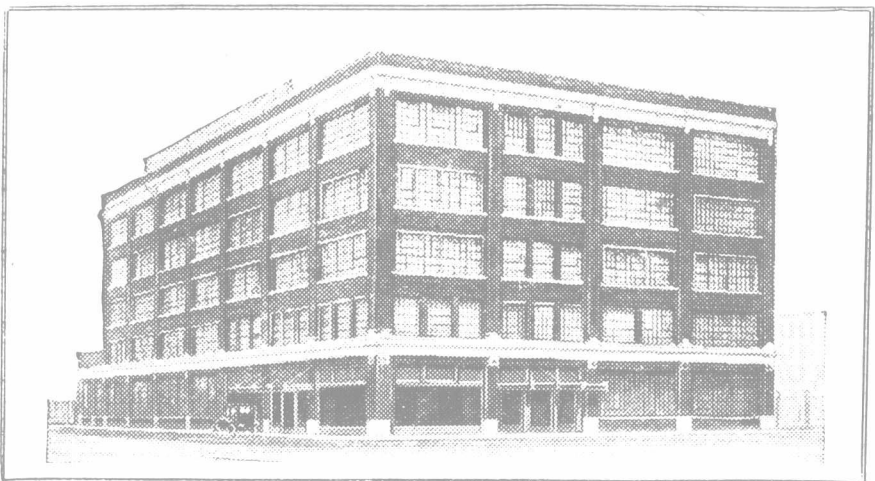
Strawberries, seed potatoes, etc.—50 standard varieties strawberries, including Fall-bearing, St. George's, Ever-bearing and other raspberries, Blackberries, currants, gooseberries, grapes, asparagus, Cobblers and Green Mountain potatoes, catalogue free. **H. E. McCONNELL & SON, Port Burwell, Ont.**



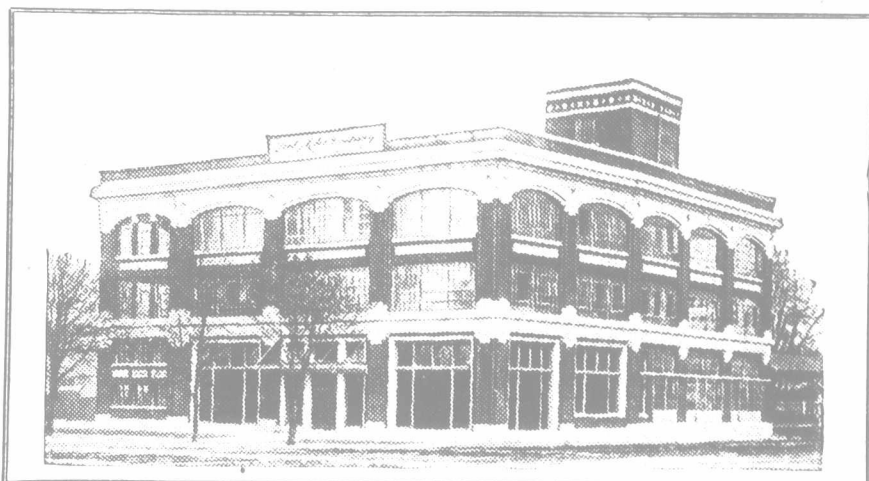
Toronto Branch
Area 133,000 sq. ft. Cost \$328,000



Montreal Branch
Area 124,000 sq. ft. Cost \$333,000



Winnipeg Branch
Area 123,000 sq. ft. Cost \$250,000



London, Ont. Branch
Area 49,872 sq. ft. Cost \$161,000

One Million Seven Hundred and Twenty-four Thousand Dollars for New Buildings in Canada Since War Began

WHY?

Is Canada prosperous?

Are we justified in having the courage and confidence to put on full speed ahead in our business activities?

The experience of the Canadian Ford Company since that never-to-be-forgotten Aug. 1, 1914, indicates that courage and confidence should be away above par, that we are fully justified in casting aside anxiety and putting our full energy into an aggressive and progressive business policy.

It was some time before the outbreak of war that the Ford Canadian Company decided on an extremely broad policy of expansion.

If the demand for Ford cars should increase in the way that it had every indication of doing, then new buildings would have to be started at once to enable the company to meet this demand.

When war came the Ford Canadian executives saw no reason to change their plans—their confidence in Canada's prosperity never wavered.

So work was begun on a new building at Ford City costing \$452,000. This is used as an addition to the office building and to the main factory building. It adds 130,000 square feet of floor space to the Ford Plant bringing the total up to more than 9 acres.

Then followed a new machine shop costing \$90,000.

The power plant was also enlarged at a cost of \$110,000.

In four leading Canadian cities, handsome new buildings were erected as branch assembly plants, sales and service stations. Each one is as large as many automobile factories. All are of similar construction, being modern fire-proof buildings of brick and reinforced concrete trimmed with mat glazed terra cotta. The bases are of granite. The interiors are finished and fitted in accordance with the very best modern practice.

One of the branch buildings is located at Montreal, 119-139 Laurier Ave., East. It is a four story building containing 124,000 square feet of floor space and costing \$333,000. Over 100 people are employed here.

The Ford branch at Toronto, 672-682 Dupont St., is a five-story

building containing 132,000 square feet of floor space. The number of employees is about 150.

The third new branch building is at London, Ontario at 680-690 Waterloo Street. It is a three story structure having 49,872 square feet of floor space and was erected at a cost of \$161,000.

The immensely increasing demand for Ford cars in Western Canada made it necessary to build a fourth new branch at Winnipeg. This is a handsome five-story building located at the corner of Portage Avenue and Wall Street. A quarter of a million dollars was put into its construction.

The total cost of these new buildings erected by the Ford Canadian Company since war began is \$1,724,000. Additional to this are thousands of dollars spent to equip these buildings.

Why has this been done?

First, to provide Ford owners with greater service facilities. Each of these branches is so completely equipped with parts and machinery as to be able to build a Ford car complete. Also they act as a base for the hundreds of Ford dealers in their part of the country, each of whose place of business is a well equipped Ford service station, in giving more rapid and more efficient service to Ford owners.

The second reason for this great amount of development work is to be found in the attitude of the Ford Canadian executives. If these men had followed the policy of many Canadian manufacturers they, with seeming good judgment, might have held up these plans for such enormously expensive construction work.

But such was not their attitude. They were convinced that progress and prosperity were assured in Canada.

This decision was of vast benefit to Canadian industries, Canadian merchants and Canadian workmen in such a critical time as this. Practically all the material for these buildings was purchased in Canada. Canadian workmen were employed in their construction. And after the construction work was over, the whole community benefited from the enthusiastic, successful, wealth producing and distributing activities of these big establishments.

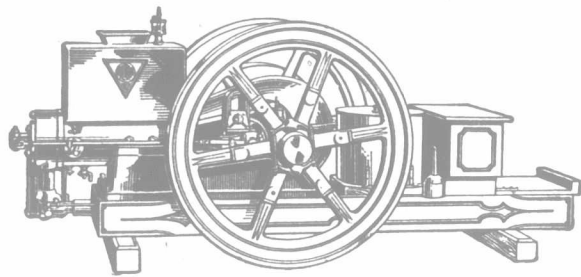
Ford Motor Company of Canada, Limited, Ford, Ont.

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



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

... has been
... 9 years I
... you. I have
... to all my own
... ng, etc. My
... nd compared
... in perfectly
... any, power
... d prices.
... rk St.



You Get the Biggest Engine Value For Your Money When You Buy an Alpha Gas Engine

YOU should measure the value you receive for the money you pay for a gas engine by what the engine will do for you.

Possibly you can buy an engine for less money than you can an Alpha, but you cannot buy an equal amount of good service in any other engine for as little money.

In the Alpha you get for your money more years of service, the lowest fuel cost, exceptional freedom from the need of repairs and the easiest engine to operate and care for.

The Alpha is a simple engine, with plenty of power, perfectly controlled by a governor that keeps it running steadily and smoothly under light, heavy or varying loads. This engine has no complicated, delicate parts to require constant attention—not even batteries. It starts and operates on a single low speed magneto. You can use either kerosene or gasoline for fuel.

You need a gas engine on your farm. In a very short time the saving resulting through its use would pay for an Alpha. Buy an Alpha now. That is the quickest and best way to save the money that is to pay for the engine. Ask for a copy of the Alpha Engine catalogue. It contains a lot of valuable information about engines.

Made in eleven sizes, 2 to 28 H. P. Each furnished in stationary, semi-portable or portable style, and with hopper or tank cooled cylinder.

DE LAVAL DAIRY SUPPLY CO., Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA. Sole distributors in Canada of the famous De Laval Cream Separators and Alpha Gas Engines. Manufacturers of Ideal Green Feed Silos.

Catalogue of any of our lines mailed upon request.

MONTREAL PETERBORO WINNIPEG VANCOUVER
50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

Kirstin ONE-MAN STUMP PULLER

Makes Land Clearing Easy, Economical, Practical

You can't realize the wonderful strength, speed and power of the new Double Leverage Model Kirstin until you see one at work. Compound leverage gives any man the strength of a giant—enables him to quickly pull biggest stumps with ease. The Kirstin way is quickest, easiest and cheapest way to clear stump land. No heavy cumbersome machines to pull around, tip over or get stuck in boggy places. No sweeps to break, no horses to risk, no dynamite, no danger. With a Kirstin you simply walk into your stump field and "clean it up" in no time at all. You can

Try The KIRSTIN For Ten Days

Prove to yourself that it clears your land cheaper. Let the Kirstin's superior features demonstrate their value right on your own farm. Less weight—greater strength—lower cost—greater speed—all these valuable qualities are made possible by the Kirstin Quick-Detachable Connections, Auto Release, Non-Twisting Cable and other Kirstin patented features.

Write Today For The Big New Kirstin Catalog

which gives you full details about the Improved Double Leverage—Kirstin One-Man Stump Puller, Kirstin Service, Free Information Bureau, Time Payment Plans, etc. Agents Wanted.

Used Anywhere—Hills, Swamps, Rough Ground or Thick Timber.



A. J. Kirstin Canadian Co., 5105 Dennis St., Sault Ste Marie, Ont.

Planet Jr. Tools

Farm and Garden

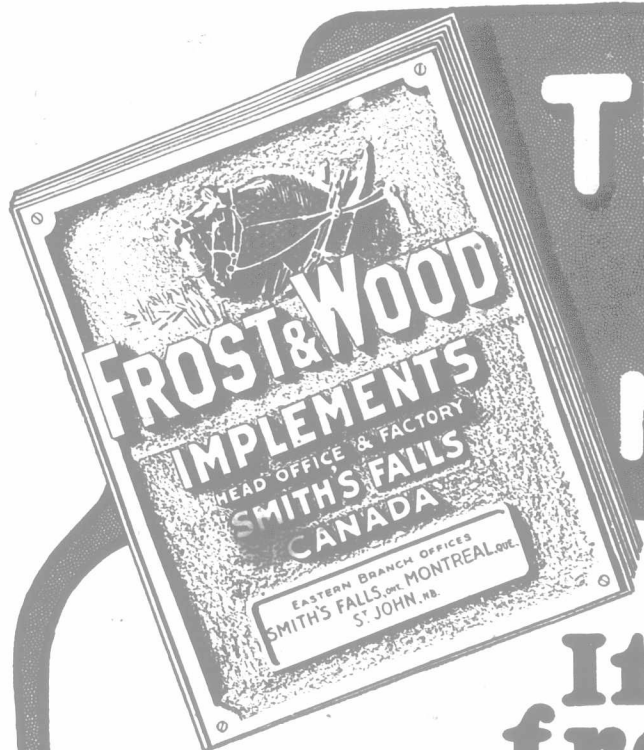
They do more thorough cultivation, quicker, cheaper, with less labor and bigger results than any similar tools. Fully guaranteed. 72-page Catalog (184 illustrations) free

describes over 70 tools, including 12 entirely new ones, and improvements to our Seeders, Wheel-Hoes, Horse Hoes, Harrows, Orchard, Beet- and Pivot-wheel Riding-Cultivators. Write for name of nearest Agency.

S. L. Allen & Co. Box 1108F Philadelphia No. 8

No. 8 Planet Jr Horse Hoe and Cultivator is stronger, better-made and capable of a greater variety of work than any other cultivator made. Non-clogging steel wheel. Depth regulator and extra-long frame make it run steady. Adjustable for both depth and width. 15 other styles—various prices.

No. 4 Planet Jr Combined Hill and Drill Seeder, Wheel-Hoe, Cultivator and Plow sows all garden seeds (in drills or hills), plows, opens furrows and covers them, hoes and cultivates thoroughly and easily all through the season.



This is new

It's free

This new Frost & Wood catalogue is just off the press

We have a copy ready for YOU—send for it to-day. Doing this puts you under no obligation whatever.

- Binders
- Mowers
- Hay Loaders
- Rakes and Tedders
- Manure Spreaders
- Field and Corn Cultivators
- Seed Drills
- Fertilizer Drills
- Rollers
- Drag Harrows
- Disc Harrows
- Walking Plows
- Gang Plows
- Sulky* Plows
- Disc Plows
- Weeders and Scufflers
- Corn Planters
- Potato Diggers
- Pulpers and Slicers
- Engines and Grinders

From cover to cover it is full of helpful information. It describes and illustrates the Frost & Wood Line, and these descriptions alone are vitally useful as they tell what you can expect and GET from Frost & Wood quality implements.

Every Frost & Wood implement is worthy of your complete confidence. Every one has been designed by experts, improved by experts in actual use, and every implement is guaranteed to have passed our own tests which are far more severe than actual use.

Implements that last—that help the farmer make more money, get bigger crops and better crops, with more and more of the human-labour element left out—that's the Frost & Wood aim.

Send for the new Catalogue to-day. Use the Coupon below. Address our nearest Branch or Head Office.

The FROST & WOOD Co., Ltd., Smith's Falls, Ont.

Sold in Western Ontario by THE COCKSHUTT PLOW CO., Ltd., Brantford.

Dear Sirs,

Please send me your new Catalogue as advertised above:

Name

Full Address

(Tear out, fill in and mail this Coupon to-day to our nearest Branch or Head Office. You get the Catalogue by return mail).

Dept. 107

The Bissell Steel Roller

With Three Drums and Strong Rigid Steel Frame.

Some improvements are: Heavy Steel Axle.

Thick, Heavy Steel Plate, Drums Riveted,

up to stand any strain, Roller Bearings

Runs like a bird. Full particulars free

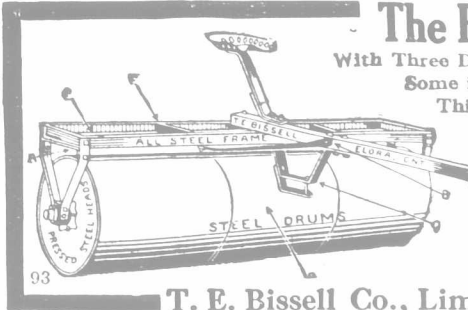
by mail, or ask your dealer. None

genuine without the name "BISSELL."

Look out for it. This Roller will

stand hard work and lots of it.

Write Dept. W for free catalogue



T. E. Bissell Co., Limited, Elora, Ont.

When writing advertisers, will you kindly mention "The Farmer's Advocate."

LET US HELP YOU FIND THE RIGHT OIL

THE right oil in the right place usually costs less because none of it is wasted. Also it saves money by making your machine work more smoothly and last longer.

The Imperial Oil Company makes a special oil exactly suited to every part of every farm machine.

STANDARD GAS ENGINE OIL

Recommended by leading builders for all types of internal combustion engines, whether tractor or stationary, gasoline or kerosene. It keeps its body at high temperature, is practically free from carbon, and is absolutely uniform in quality.

PRAIRIE HARVESTER OIL

An excellent all-round lubricant for exposed bearings of harvesters and other farm machinery. Stays on the bearings; will not gum or corrode.

CAPITOL CYLINDER OIL

The most effective and economical lubricant for steam engine cylinders; proven superior in practical competition with other cylinder oils.

ELDORADO CASTOR OIL

A high-grade, thick-bodied oil for lubricating the loose bearings of farm machinery, sawmills and factory shafting.

THRESHER HARD OIL

Keeps the cool bearing *cool*. Does not depend on heat or friction to cause it to lubricate.

STEEL BARRELS—All our oils can be obtained in 28-gallon and 45-gallon steel barrels. These barrels save their cost by eliminating leakage. You use every drop you pay for. Clean and convenient.

Our experts will be pleased to advise you regarding the proper lubricants for your particular needs.

THE IMPERIAL OIL COMPANY

Limited

BRANCHES IN ALL CITIES



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full of
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Wood
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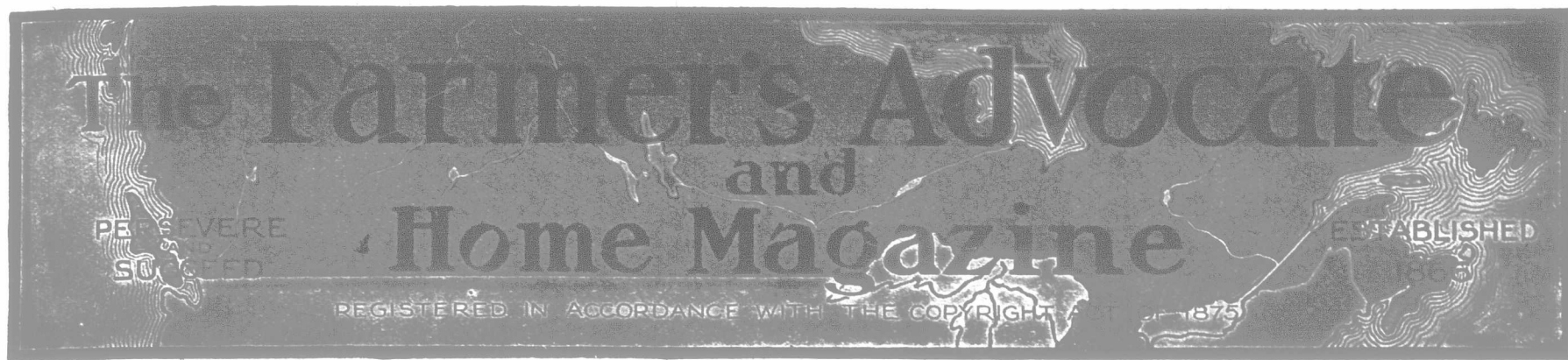
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L.I.

LONDON, ONTARIO, MARCH 2, 1916.

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EDITORIAL.

At the rate the Allies are going they will have Turkey for Easter.

Perhaps the garden is being moved to a new corner. There will be a suitable layout published in these columns, March 9th.

Spring on the Calendar does not always mean spring on the farm, but seasonable seeding weather usually comes before some are ready for it.

The High Cost of Living Commission have turned in their lengthy report, but still the public are paying their money and taking their choice.

Do you know the best varieties of garden vegetables and how much seed to sow per length of row? THE FARMER'S ADVOCATE will tell you next week.

The chilly reception given some of the Ottawa Budget speech taxation proposals by mouthpieces of big interests will be reassuring to the common people of the land.

Thousands of dollars were lost in 1915 through farmers neglecting to treat their seed grain for smut. Such loss must be avoided in 1916. Treatment will be outlined in these columns.

Good farmers are beginning to talk over the various methods of cultivation practised. You can speak to thousands through these columns and they are anxious to know about your own practical methods and results.

The war is turning the few fertile parts of Africa not held by the British and French at the beginning of the conflict into their hands. A map showing the British possessions on that continent shows practically a British continent.

It is time to be getting the farm motive power prepared for the work which soon must be done, and when spring comes have everything ready to get the most out of the horses and still keep them in good condition. Read how in this issue.

Farmers' Institute speakers who require above from one half to three-quarters of an hour to present a practical topic have something yet to attain in the more effectual use of language. There are not many spellbinders who can hold a crowd for a full hour.

No farmer can afford to be without a good garden. He owes this much to his own family, to his own stomach, to the happiness, comfort and prosperity of the home. Watch for next week's issue, which will tell the practical man just what he wants to know about a farm garden.

Mr. Dairyman, did you ever calculate in cold cash how much it costs you to raise a dairy cow? If you didn't, look up the Dairy Department of this issue and find out. If you did, look up the article mentioned, anyway, and write and tell us whether or not the figures given correspond with your own findings.

We recently attended two live-stock sales, each of which netted over \$9,000 to the owner of the stock. One was a dispersal of a herd of Holsteins built up from a first beginning, in eight years. The other was a surplus stock sale of Shorthorn cattle raised or recently purchased. There is money in good pure-bred live stock.

Is Liquor Tying the Empire's Hands?

Since the outbreak of the war the attention of thinking people has been turned toward the liquor business, and much criticism has been heard regarding it in many of the belligerent countries, as well as in neutral nations. The Czar of Russia, with one stroke of his pen, practically wiped the business out of that nation, and in one year from the time vodka was abolished savings' bank accounts of the peasants increased \$900,000,000, notwithstanding the fact that heavy calls were made upon them in the way of taxes to foot the war bills. In that time also five thousand new banks were started in that country. Early in the war France limited the liquor traffic, and of all the enemies which the British Empire is called upon to fight, Lloyd George says the liquor traffic is the strongest and most dangerous. It would seem that in time of crisis, as an economic necessity, the liquor traffic should go. We may lay aside all moral reasons, and get down to economics. In 1914 Canada's drink bill was \$103,049,128, or \$12.76 per head of population. This money, if turned to the equipment and maintenance of the Canadian Army, would go a considerable distance toward making it and keeping it efficient. The London Spectator has been promoting a movement under the slogan, "Down Glasses During the War," stating that "We must fight the Germans with both hands, and not with one hand grasping a glass of beer or spirits." The suggestion is: Temporary Abstinence. The New York Independent, commenting on the slogan, suggests that the "Down Glasses" program should be permanent rather than temporary.

A recent Conference including representatives of twelve of the leading Christian denominations in England and Wales, went on record as favoring unremitting and united endeavor on the part of the churches to remove strong drink, with its grave and hurtful evils. The Archbishop of Canterbury said that never before was there such wide recognition of the urgent need for temperance, and, in his belief, the churches, with the excellent example of the King before them, could accomplish much. At this same Conference the Editor of the Spectator stated that in his opinion the sale of intoxicants for the duration of the war should be prohibited.

It should not be necessary to go further into this subject. Readers should weigh the matter carefully, and, after considering what Prohibition has done for Russia, what restricted legislation has accomplished in France, together with the statements of such men as David Lloyd-George, the Archbishop of Canterbury, John St. Loe Strachey, Editor of the London Spectator, and also considering that Canada consumes over eight gallons of intoxicants per head at a cost of \$12.76, each year, totalling over \$100,000,000, as previously stated, and considering also that the consumption of liquor is greater per capita in the Old Land, there would seem to be no argument in favor of continuing to tie the Empire's hands to liquor, when they are needed to fight Germany. Drink has been the worst menace to and the greatest hindrance in the manufacture of munitions of war; and munitions have in the past been the greatest need of the Allied Army. Whether the liquor traffic is driven out of existence by legislation, or by popular opinion due to education, matters not, so long as it goes. We believe the quickest way in Canada would be an expression of the opinion of the people, followed up by Government action. It is a question worthy of the thought of all people interested in the welfare of the nation, and we are inclined to agree with the Editor of the New York Independent when he says: "If a man needs two hands to fight with, successfully, how can he get along effectively with fewer to work with? If a nation at war cannot spare a hand to hold the liquor glass, how can a people at peace?"

Farm Efficiency.

The twentieth century business-man reads a great deal about office and business efficiency. Men like E. E. Purinton are devoting their lives to studying office efficiency and to directing service departments in the work of promoting it. It might be well for many of our farmers to take a leaf out of the city business man's book, and do a little thinking on his own behalf, with regard to farm efficiency. Many men who are industrious, steady, hard workers are such poor managers that they never make the success which they should of their farming operations. There is no system in their efforts. They work hard, but not to advantage. Their farms may be poorly laid out, and their buildings unhandy, necessitating many useless steps, and consequently the loss of much time. They do not know what branch of their business pays them best, and many times certain branches lose them money each year, but, with no system of cost-accounting they cannot ascertain what pays and what does not. As has often been stated through these columns, no business but farming could be operated, and the owner still keep his head above water, with so little bookkeeping and intimate knowledge of the financial affairs connected with each branch of the business. In this issue we publish a short outline of one man's bookkeeping system, and some hints as to his method of farm management. The system may be too elaborate for the average small farmer, but it contains ideas, and, of course, these may be modified to suit the conditions on the 100-or-200-acre farm. The best and surest way to reduce expenses and to boost returns is to keep accounts and find out just what each branch of the farming operations is returning in dollars and cents. The dairyman tests his cows that he may have evidence against the poorer ones to discard them and testimony in favor of the good cows which ensures their place in the herd. Why not put the test to every department of the farm work by keeping books. A system of farm bookkeeping will show the leaks and the farm efficiency which will follow should successfully stop them.

Team Work Needed.

We are pleased to note that some recognition is at last being given to the fact that it requires some men to farm the farms of this country, if production is not to dwindle far below the average. Some of our military men are now suggesting that recruits from the rural districts be allowed to return to the farms, to help with the seeding and harvest; and others are suggesting that all retired farmers living in the villages and towns return to the land, that more of the young men may be released for military service. We are pleased to note that military men are beginning to think of these things, but we should like to point out that, valuable as will be the help of any recruits who may be allowed to return during seeding and harvest, farming is an all-year-round busy season for the man forced to work 100 acres alone, or with the help of only one man. True, seeding and harvest are very busy seasons, and the number of soldiers available would be of great service on the land where farming is carried on as it is on the prairie; but things are different in Ontario. The successful farmer here is engaged in mixed farming, including dairying and fruit growing, which requires men during the entire season. We believe that it is a good move to allow soldiers to help with the seeding and harvest, and we also believe that many retired farmers will be found doing their bit in the fields this year; but, as a general thing, retired farmers have been working on the farms more or less during the summer season, helping their sons who are now on the farms, or assisting neighbors over the busiest of the summer's work. We would not expect a very great increase in the supply of labor for the farm from the suggestion that retired

The Farmer's Advocate AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN THE
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farmers offer their services, because, as previously stated, those of them able to work have in the past been doing considerable. One thing seems certain, that if Western Canada has a heavy crop next year, as was the case in 1915, men will have to come from somewhere to take off the crop and prevent loss. Ontario, too will have difficulties. If all the able-bodied office men, and clerks in the city, would plan to spend their holidays this year helping some friend who is on the farm, and who needs help, it would make some difference. This will not solve the problem, but every possible aid should be brought into play to ensure heavy production and men to handle it in 1916, which promises to be, from a labor viewpoint, the most difficult year the Canadian farmer has had to face. All Canadians must realize that they are in the war. We must fight or pay. We must also do a little of what the Editor of Industrial Canada calls "Nationalized Team-work." Of course, he means by this that some form of universal enrolment should be adopted by our Government. It does not seem that the Government is very anxious to make such a move, but Canadians can do a little team-work on their own account, if they will. Let all farmers cooperate one with another to the greatest possible extent, and let all those city men who can, aid in this work because it is necessary that production be kept up to the maximum if our national efficiency is going to be maintained at top-notch.

Many good farmers are poor managers. Farm management is a subject greatly neglected and a difficult one to teach and study. What one man finds profitable for his conditions may not be so good for another to adopt. Nevertheless there are good points in all schemes, which, with slight modifications, may be applied to other conditions with success. You may get a valuable idea from the system of bookkeeping and farm management presented in this issue.

Accounting is not a bad idea for spring is here.

Empire, Kingdom, Principality, Power.

Empire, Kingdom, Principality, Power—the greedy desire on the part of individuals, classes, peoples, nations, or groups of nations for these four has woven the warp and the woof of all history, and has written these words across the historical pages of past centuries in blood, and, when the history of our own century is written, these four will indelibly blot its pages in the deepest scarlet. Extensive and supreme political dominion, controlling influence, sovereignty, pre-eminence, authority, rule—the desire for these has divided peoples, nations and alliances; has caused riots, rebellions and wars; has spilled the life blood of the world. In a recent advertisement of one of the greatest histories of the world, referring particularly to the Napoleonic wars, this statement is made: "All the underlying causes of this conflict, the racial antipathies, the commercial rivalries, the sting of past defeats, the vaulting ambitions for world Empire may be discerned from the pages of history."

Instinctive antagonism was common in the early days, and is still alive in certain peoples. The sting of past defeats is sharpest where possessions are wrested from the rightful owners without cause, and where the conqueror exercises tyrannical power over the people to be subjected. World peace can never prevail so long as territorial aggrandizement and tyranny are uppermost in the minds of the leaders of any strong nation. Commercial rivalries are stronger than ever before in the history of the world, and by many are believed to be one of the underlying causes of the present conflict. And the uncurbed ambition to dominate the world will surely bring the Kaiser to grief as it did Napoleon, and will do any future Kaiser or Napoleon who seeks to deprive others of their just rights and privileges.

We have been thinking of the State. Let us bring the question home to the individual. The State is the public—the sum total of the individuals in the country. The State is very much as its people are. There is little use of the people arraigning the Government when they themselves are the Government. People who enjoy responsible government elect whom they will. The heads of such a nation represent the will of the people of that nation. What use, then, to grumble when the man, or the party elected, does not always walk the straight and narrow way? Even the absolute monarch, in this age, must have the backing of his people. We are inclined to think that graft and various forms of political corruption were learned by some of those elected before they entered the political field. In short, we are living so fast in this twentieth century, and the greed for gold is so rampant, that too many private individuals are besmirched by it; then what can be expected of them when they become public men with larger opportunities and greater desires for Empire, Kingdom, Principality and Power, in so far as these may be exercised by the individual? These become predominant. The Dollar occupies the centre of the stage in the lives of most men and women. The supreme desire for more dollars is the underlying cause of all manner of war-order scandals—of graft of many kinds and descriptions. While the fate of nations trembles in the balance, people composing them wax fat financially, at the expense of the country they wave the flag for, and shout loudly in favor of, from every public rostrum. And why do they desire money? Simply that they may have a little more of Empire, Kingdom, Principality, Power. And over whom? Their fellowmen. "Our Scottish Letter," in last week's issue gave some idea of how the money-making mania is affecting people in the British Isles. Munitions workers are getting higher pay than they did in ordinary times, and, consequently, do not have (to live) to work a full day six days of the week, although the needs of the country demand that they should. They are exercising a little of the power of increased wealth. The wives of ploughmen and stockmen refuse to milk the cows as they did because their husbands are now making more money and they do not have to do it. More power from money, exercised when the British farmer needs help badly! To use "Scotland Yet's" own phrase, shipowners and transportation companies "are lining their pockets." This will give them more power. Manufacturers of munitions in this country have been accused of making big profits. The money will be used to build a more powerful wall around the manufacturing business. Britain stands for freedom and justice; the Allies fight for fair play for everyone. They stand for no territorial aggrandizement, for no tyranny, for no Kaiserism, for no "Kultur."

It is time the ideals of the people changed to be more compatible with those for which our armies are fighting. Right must prevail, but before it does greed and money-grabbing by foul means must vanish. The world's freedom and liberty hang in the balance. The desire for Empire, Kingdom, Principality, Power—Money—must be made subservient to other desires more in keeping with the ideals for which our country stands. Our nation is not in this war for more territory, but for freedom. Why should individuals, composing the nation, use the war as a means to unjustly grab more money, which they hope to use to get them more power?

The Cost of Living Report.

The Royal Commission, consisting of John McDougald, Commissioner, of Customs, C. C. James, Agricultural Commissioner, R.H. Coats, Chief Statistician Dept. of Labor, and J. U. Vincent, Deputy Minister of Inland Revenue, appointed Dec. 20, 1913, to investigate the increased cost of living in Canada, have handed the House of Commons their report of two big volumes of over 2,000 pages. It deals with the fifteen years prior to the outbreak of the war, and the increase in the cost of living was found to be practically 50 per cent. Summarized, the causes assigned were:

1. The increase in the gold supply, which reduces the purchasing power of money.
2. Manifold forms of extravagance and wastage, public and private, individual and social.
3. Restricted supply following upon disproportionate urban development as compared with rural development.
4. Uneconomic methods of distribution and marketing of products.
5. Higher standards of living by both rich and poor.
6. Inefficient service and lack of vocational training.
7. The gospel of ease which has permeated the national life of the Anglo-Saxon race.
8. Too uneconomical household expenditures.
9. The effect of mergers and trusts and combines.
10. Dearth of farm labor at reasonable price.
11. Over speculation and undue increases in the price of land.

The Commissioners do not regard the custom's tariff as the cause of the main advances in prices during the 15 years following 1897, and they skate very gingerly around the thin ice of the protective fiscal system, leaving that subject to the "controversialists."

The Commission is none too severe upon waste and extravagance—waste in marketing, waste through purchase in small quantities, through looking for flavor or tenderness instead of nutrition, the waste of cooked foods; poor storage facilities in the kitchenettes of modern apartment houses, buying new articles when old ones could be repaired, paying too much for foods in packages instead of bulk, waste in telephoning small orders to stores, thus necessitating frequent expensive deliveries. The recommendation is made that all packages containing food be required by law to be labelled distinctively, giving the net contents by weight or measure. Special attention is directed to the appalling wastes by fire, due largely to wooden buildings, poor construction and carelessness.

Coming to remedies, the report advocates public ownership of all utilities in cities and towns, such as water, gas, electric light and street cars. Public markets and abattoirs with cold storage at large centres, and a union stock yard at the railway terminal under independent management are recommended; also mixed farming and land settlement with farm life made more attractive; standardization and improvement of the quality of farm products, and co-operation in their distribution; extension of the parcel's post system; good roads; cheaper and more accessible working capital, especially for Western farmers; comprehensive system of vocational training, and a better understanding of the fundamental principles of production, marketing and purchase.

Under the head of "Production" the report lays emphasis on the fact that in case of many agricultural products Canada has not, by any means, kept pace with the increase in population. How could it do so, the reader of this report may well ask, when the policies of the country have been depleting the rural population, and concentrating it in the cities and towns? Right here is the crux of the whole matter.

Nature's Diary.

A. B. KLUGH, M.A.

A visitor from the north which is with us at the present time is the Northern Shrike. This species is from nine to ten inches in length, clear bluish ash above, becoming paler on the rump and the feathers of the back over-lie the upper part of the wings. Beneath it is white with wavy transverse lines of blackish. There is a black bar along each side of the head. The wings and tail are black, the former with a large white spot near the edge of the outer quills, and the latter with most of the feathers tipped with white.

The Northern Shrike breeds regularly from Labrador to the Mackenzie River region, only very occasionally nesting as far south as Central Ontario and Southern Quebec. In the winter it comes down into Southern Canada and goes as far south as the middle States.

This species has the bill of a bird of prey and the feet of a sparrow. "In winter its food consists of birds,

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and small mammals, among the latter the Meadow Mouse being its most frequent victim. Of birds it has been known to kill the following species: Chickadee, House Sparrow, Tree Sparrow, Snowflake, Downy Woodpecker, Junco, Golden-crowned Kinglet, Field Sparrow, American Goldfinch, Pine Siskin, Myrtle Warbler, Mourning Dove, Cardinal, Longspur, and Shore Lark. Of these the Junco, Tree Sparrow and House Sparrow are most frequently taken. In capturing its prey it strikes with bill, and not with its feet after the manner of the birds of prey. Mr. R. G. Price writing of this species in Quebec says: "I have seen a Shrike dart into an evergreen tree, where there were several Juncos, seize one and crush its skull with its powerful beak, start off across a field with it and when in midair drop it from its beak and catch it with its feet without any apparent effort." Mr. William Brewster, the well-known ornithologist of Cambridge, Mass., states that he saw a Shrike seize a large Meadow Mouse by the back, drag it across the snow and then drop it. The mouse, instead of trying to escape, sprang at the Shrike and drove it back several feet. Finally the bird, by several well-aimed passes, succeeded in intimidating the mouse, and then as the latter turned to run away, caught it by the neck and worried it to death as a terrier would a rat. The mouse was afterwards borne off in the Shrike's claws and fixed in the fork of a tree. As may be seen from the above notes the Northern Shrike does both harm and good—harm by its killing of valuable weed-seed eating birds, and good by its destruction of Meadow Mice and House Sparrows. It seems probable that on the whole it does more good than harm, particularly as in the summer it feeds largely on injurious insects.

The nest of the Northern Shrike is placed in a bush or low tree and is composed of sticks, strips of bark, moss and grass, and lined with fine grass and hair. The eggs are from four to six in number, greenish-gray, thickly marked with purple and reddish-brown. Another winter visitor that is now present is the Tree Sparrow. This species may be distinguished from other sparrows by having a chestnut crown and a plain, gray breast with a dusky blotch in the centre. This bird renders good service to the farmer by destroying the seeds of noxious weeds, as during the winter its food consists entirely of grass seed and weed seed. The Tree Sparrow breeds in Labrador, around Hudson Bay and in the Athabaska-Mackenzie region. In its winter migration it goes as far south as the Carolinas, Kentucky and Kansas.

During the winter the Tree Sparrow utters only its tinkling call-notes, but in early spring the males break into a very sweet song. They usually leave for the north early in April, though in some years I have seen them in Ontario in early May.

Other northern species which have been seen in Ontario recently are the Snowflake, Redpoll, Evening Grosbeak and Pine Grosbeak. All these birds belong to the Family Fringillidae—the Finch Family—and all are very erratic in their movements, being very abundant in some localities during some winters and scarce or entirely absent in other winters. Most of our winter visitors belong to this family, the reason being that the finches are seed-eaters, and are thus able to find food under conditions when an insect-eating bird would starve to death.

The other day my friend, Mr. H. C. White, found three Meadow Larks in a marsh near Kingston. This species does not usually winter as far north as this, though I have records of it wintering at Guelph. The Meadow Lark feeds on seeds as well as insects and is thus able to find food here during the winter.

From Toronto comes the report that a Song Sparrow was seen on December 21st. This is another bird which usually winters to the south of Ontario, and only occasional individuals are seen here in winter. I remember one which spent the winter at a place known as "The Rocks" in the valley of the Speed River near Guelph. Here it fed of the seeds of the Maple-leaved Goosefoot which was abundant in a little clearing.

THE HORSE.

Lameness In Horses XI.

SPRAIN OF THE FLEXOR TENDONS.

Sprain of the flexor tendons, (usually called sprain of the back sinews) is a frequent cause of lameness in both fore and hind limbs. These tendons extend from the knee to the foot in the fore, and from the hock to the foot in the hind limbs, on the posterior aspect of the limb. The lameness is more frequently seen in horses used for drawing heavy loads, but it is not by any means unknown in light horses.

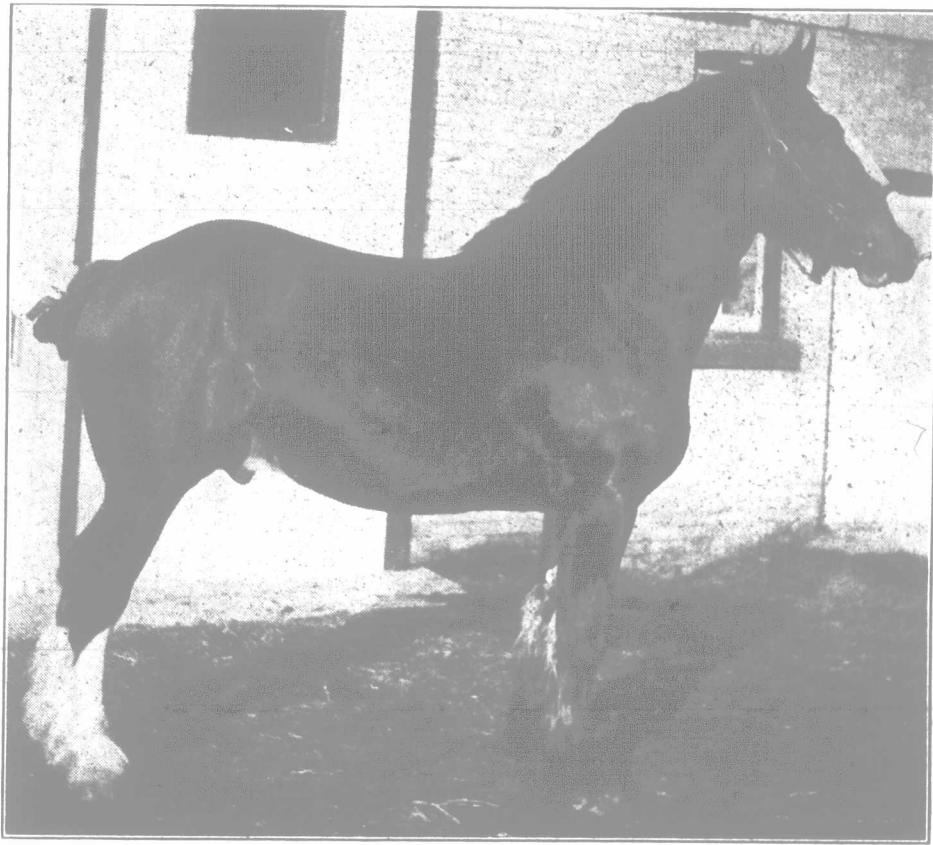
Symptoms.—The symptoms of the lesion are easily recognized. Lameness, more or less severe, according to the severity of the lesion will be noticed, the patient going practically on the toe, not wanting to allow the heel to touch the ground in severe cases. Examination reveals the tendons swollen, hot and tender to pressure in part between the knee or hock and foot. In very severe cases the tendons are swollen throughout their whole length. Pressure upon the swollen parts causes well-marked pain, manifested by the patient quickly lifting the foot, and, if pressure be continued, he will rear on his hind legs if the trouble be in front.

Treatment consists in shoeing with a high-heeled shoe, so as to throw the tendons in a position of partial repose. Give rest and low diet; bathe the parts several times daily with hot water, and, after bathing, apply an anodyne liniment, as one composed of 2 oz. laudanum, 1 oz. chloroform, 1 oz. acetate of lead and water to

make a pint. When the acute soreness and inflammation have subsided, change to cold water and a stimulant liniment, as one composed of 2 oz. oil of turpentine, 2 oz. tincture of arnica, 4 ox. alcohol, and water to make a pint, and, in an hour after applying the liniment, apply a bandage that has been soaked in cold water, (commonly called a cold-water bandage) to be left on until time for the next bathing. If a thickening of the tendons remains, or lameness continues for longer than two or three weeks, a blister should be applied. In some cases repeated blisterings are necessary, but unless the lesion has been very severe the case is likely to yield to ordinary treatment.

SPRAIN OF THE SUSPENSORY LIGAMENT.

This is a ligament that extends on the posterior surface of each cannon bone, in front of the flexor tendons, and close to the bone, from the knee or hock to the pastern. It is attached superiorly to the bones of the knee or hock, is flat and thin, passes down close to the flat, posterior surface of the bone to near the fetlock joint, where it divides into two portions, one of which passes outwards and downwards, and the other inwards and downwards to the anterior surface of the limb, where they join the extensor tendon of the limb about the pastern joint. The edges of the ligament can be readily felt in the healthy limb, and in highly-bred, clean-limbed horses can be readily seen. Severe sprain of this ligament, with rupture of its fibres is often seen in race horses, and is called "breaking down." In these cases lameness is very acute, the fetlock pad descends, sometimes to the ground, and the toe of the foot turns upwards when the animal works. Horses that have suffered from this severe lesion will make a partial recovery, but a thickening of the part is always permanent, and the patient never again able to stand training, but may be used for slow work. It is not of this severe lesion that we wish to write, but of ordinary sprain of the ligament. This may occur in any horse from slipping, heavy drawing, driving over rough roads, etc.



Willow King [17115].

This good two-year-old, by King Thomas (Imp.) (9254) [12625], and out of Jean (Imp.) [25238] and weighing 1540 lbs. is for sale by T. J. Berry, Hensall, Ont.

Symptoms.—The symptoms are not as easily noticed as in sprain of the tendons, as a sprained ligament does not present well-marked swelling. The lameness will be more or less severe, according to the extent of the lesion. When standing the patient will point the foot, and during progression will stub the toe, and avoid, as far as possible, allowing his weight to rest upon the heel. Careful manipulation with thumb and finger will locate the seat of the trouble. The course of the ligament from knee or hock to the fetlock joint should be carefully followed, and gentle pressure exerted all the way down. When the sprained part is reached, the horse will evince pain in the usual way. It will be plainly noticed that there is almost an entire absence of local heat and swelling, such as are noticed in sprain of either muscular or tendinous tissue, but the sensitiveness to pressure is well marked.

Treatment.—In ordinary cases, the same treatment adopted for sprain of the tendons will suffice, but it is often noticed that the lameness is more persistent, does not so readily respond to treatment, and is more liable to recur, hence, in most cases, a longer rest is necessary. In severe cases, where there is rupture of a part or the whole of the ligament, with a greater or less descent of the fetlock pad, it is necessary to place the patient in slings, pad between the hoof and fetlock joint behind with batting, and, apply a bandage to retain the padding, in order to support, as well as possible, and to some extent, prevent descent. Soothing treatment, as in other

cases, should be adopted first, followed by cold, and stimulant liniment, and this followed by repeated blisters. A rest of several months is necessary. WHIP

Some Great Sales of Horses in England.

EDITOR THE FARMER'S ADVOCATE:

Shire horses are selling extremely well in England. A few dispersals of existing studs have been held, and in other cases drafts of young stock have been made. That we are in for a Shire boom we all recognize, and breeders are getting ready. For instance, one astute man who is a lawyer by profession and a horse breeder for a hobby this time last year only had half a dozen stallions. To-day he has 15 or 16—he is still buying—and he has found a little gold mine in possessing them, and hiring them out to breeding societies at fees running up from \$1,000 to \$2,500 a breeding season. One stallion, King of Tandridge, has been let for £1,100; roughly \$5,500. This stallion does not belong to the legal gentleman here mentioned, but he is in the hands of a Yorkshire breeder, who will soon get back the £2,000 he paid for him at the Norbury sale. Our governmental scheme of aiding horse-raising is going apace and doing good—real good. It is so simple in its working. The Government devotes sums of money to areas where farmers show a desire to improve their stock. A community of agriculturists put their heads together, form a horse-breeding society and then apply to the Government for financial aid. This is readily given them and they go out and either buy a sound stallion outright for themselves or they hire one each season from a rich man who has a lot to hire out. All stallions used under this scheme must have the Board of Agriculture's certificate of soundness. They must pass a critical examination in wind, limb, feet and joints. They must be top hole or they are condemned to a solitary and useless existence. Some valuable blood and some peer-

less stock (judged on the scores of make and shape) have been made into geldings because they have failed to pass this searching test. That is exactly how things should be.

Shire horse-breeding is riding on the wave-crest of good fortune—internally the export trade is virtually nil. The Shire Horse Society doesn't seem to bother much about Colonial trade, which is a wrong policy, but no business of ours. It seems quite satisfied with its own "internal" trade, which, as I have said, is good. The motor has not killed the heavy haulage horse for our narrow streets and our difficult farm work, and it never will. If a motor plant on a farm breaks down, the whole business is flung out of gear till it is patched up again. If a horse breaks down, there are many other ways out of the difficulty. Let me tell you about the successful Shire sales that have been held this week, as I write. At Peterboro' 162 head

were sold at prices ranging from \$2,150 to \$250. Top figure \$2,150 was paid for Harboro Charming King, a 1909 son of Tatton Friar. Young stallions made around \$1,100 and many dozens of young fillies fetched \$500 to \$650 apiece. These are to be the future breeding stock for the "call" that Europe will make upon England when the war is over. Again, at Peterboro' the fine young stallion Rickford Coming King, the property of Robt. Heath, went to the bid of Thomas Forshaw for \$4,000. Many head of the King's stock bred at Sandringham were sold and made \$22,370, or an average of \$605 apiece for the 37. Lord Middleton paid \$1,900 for a three-year-old, Blackmoor. Autumn Berry, a three-year-old filly, made \$1,000, and at \$1,000 also Truman's Pioneer Stud Farm, Illinois, got the two-year-old stallion, Slogan At Dunsmore, Tom Ewart's three-year-old stallion, Dunsmore Morning Star, by Tatton Morning Star, made \$3,050, and was bought by Davis Brothers, a young firm of Welsh breeders who are going ahead in the Shire game. The Duke of Westminster paid \$2,050 for the four-year-old stallion, Dunsmore Coming Star, a half brother to the other and Ewart's lot aggregated \$20,975 or \$655 apiece. J. E. Atterbury sold his lot at an average of \$500 each. I figure it out that from four studs alone stock worth \$63,650 have changed hands within two days.

Even the Clydesdale has been selling well in England! Three pedigree horses of that type sold at a small

farm sale made goodly prices. A mare and her two produce realized \$3,615, or an average of \$1,205 each.

Col. Fairfax Rhodes, the Gloucestershire Shorthorn breeder, has a rare pedigree cow in Brigstock Spicy Actress, which has produced no fewer than seven calves in very little more than 33 months. On April 6, 1913, she had twins; on March 8, 1914, a cow calf; on Feb. 18, 1915, a cow calf; and on January 22, 1916, triplets—three cow calves. All three calves in the last consignment are doing well; indeed, every one of her offspring is being reared. The twin bull calves of 1913 were sold at the Royal Show at Nottingham for \$800 and \$350, respectively. This cow combines quality with quantity surely!

The belief that a heifer twin with a bull is uncertain, if not useless for breeding purposes, has received fresh confirmation at a meeting of the English Shorthorn Society. A member of the Society applied for an export certificate for such a heifer, which he thought was in calf. The Council took the safe course of informing that member that a certificate could not be granted until it was absolutely certain that the heifer was in calf, or had calved.

S. F. Edge, the old motorist, whose pig herd I once described in these columns, has a large black sow, which is a real moneymaker. On January 7th, 1915, she farrowed eight piglets and five of the youngsters were sold for \$200, three gilts being retained. She

farrowed again on July 12th, 1915, and had 12 youngsters. Ten were sold for \$240 and two were retained. Thus those sold made \$500, and he has left five perfect gilts he estimates worth \$250. Few animals on the farm give such a good return for such a small expenditure.

South American buyers are taking Aberdeen-Angus bulls out of the country in shiploads. South African buyers are after Sussex cattle and are paying over \$350 apiece for bulls of that type. They are fine beef makers. The Old Country has still a good kick left in her.

The R. A. S. E. Allies' Relief Fund now stands at \$250,000. It is soaring rapidly.

ALBION

Getting the Most Out of Farm Horses.

Labor has become one of the most important factors in farm management, or farm economy. Many land-owners will this season attempt to manage all their work without extra labor, and thus keep down the expenses of operation. At the same time they will probably be maintaining five horses on 100 acres, at a total annual expense of \$500 or \$550. The problem confronting the farmer is to get as many hours of work out of these horses as possible, in order to reduce the cost of their labor. The average employer of farm labor will consider long and hard how much he can afford to pay for manual labor, but, at the same time, he will give little consideration to the cost of the power with which he operates his machinery. The item of horse labor is a larger factor than that of manual labor, but it is more under the control of the employer. The price of hay and grain, type of buildings, and value of the animals, all determine the cost of keep. To some extent these items can be controlled, and expenses can be regulated, but an employer bids on an open market for manual labor, the price of which is determined by the law of supply and demand. A study of the whole matter relating to the getting of all possible horse-hours out of the teams, may influence the farmer to some extent in engaging men to handle those horses. At any rate there must be a certain amount of system governing the operations where horses are used. The aim should be to increase the number of hours which each horse works, for this will decrease the cost per hour. Calculations cannot be confined to the period from the first of April to the first of December. During the winter months, the animals are consuming hay worth from \$12 to \$16 per ton, and perhaps a certain amount of grain. All these items must be considered, and they all help to make the cost of horse labor per hour higher than the average farmer would expect.

What does it cost to keep a horse one year? No two individuals owning farms, or using horses in other lines, will answer this question exactly alike. They may feed differently, one type of horses will require a superior man to care for them, while another class of animals can be cared for by a common laborer. Again, the buildings and equipment may be vastly different, and this will lead to a variation in interest charges. There should also be an interest charge on the valuation of the animals. In these items lies the possibility of variation in cost of keep. Every owner of horses can make his own calculations, according to circumstances under which he operates.

THE COST OF A HORSE-HOUR.

A very complete record of the cost of keeping horses and the work they perform is kept by P. E. Angle, Superintendent of the Lynndale Farms, in Norfolk County. The records of one year's work show that 29 horses performed 45,503 hours of labor, which means 1,569 hours per horse, or an average of about 157 days per horse per year. A feeder is employed constantly in the barns, feeding and caring for the horses. A foreman is also engaged in directing the operations of the teams and teamsters. The 29 horses were valued at \$5,935. The following statement will give the reader some idea of the items entering into these records:

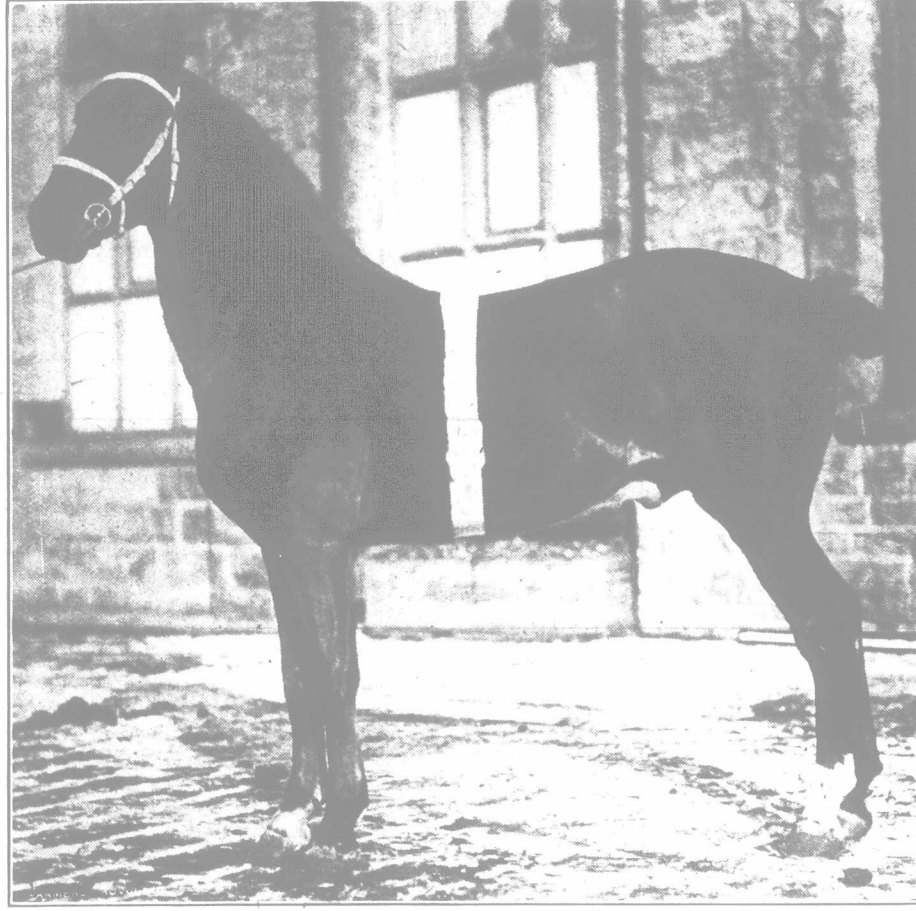
Interest on value of horses	\$ 356 10
Oats and other concentrates, including molasses meal	2,374 59
Hay and labor of drawing	978 90
Labor of feeder and foreman	1,153 02
Horse-feeding bill	155 15
Depreciation on horses	255 00
Veterinary bill	25 00
Total	\$5,297 76

During the twelve months covered by this statement, the horses worked, as stated, 45,503 hours. Consequently the average cost per hour would be 11.64 cents. This is a very low figure, but the actual cost. Very complete records are kept of every hour a team works. The cost of the feed is the largest expense. It will be seen that the winter months are considered in

this statement of expenses. Only recently a representative of "The Farmer's Advocate" visited Lynndale Farms, and studied the system under which the horses are managed.

There are approximately thirty horses stabled on the farm the year round. About four teams were being kept each day in harness; the remainder were doing little work and receiving a very small grain allowance. They were fed good clean hay, and a little molasses meal each day. No doubt the animals could be kept in better fit if the teams were worked day about. However, the expense of keeping the horses shod, Mr. Angle asserts, would more than nullify other advantages.

Possibly many farmers could strike a lower rate for the horse-hour than 11.64 cents. Those who can are probably making use of their teams in winter to haul manure, wood, gravel, ice, and do those sundry jobs so common on every farm. Yet in summer, where a thorough system is not in vogue, the chances are that horses will enjoy many idle hours and several idle days. Under the same system and



Oscar.

Two year-old Hackney Stallion. Second in his class at Guelph and Ottawa Winter Fairs For sale by W. W. Hogg, Thamesford.

similar management, it would be possible to get more hours of work out of horses on the average farm, than it is on Lynndale Farms. The latter is a big proposition, comprising hundreds of acres, and set largely to fruit trees. Commonly, there would not be the same demands upon teams in winter on a fruit farm, as on a holding where mixed farming is practiced. The almost constant cultivation required by an orchard, during the growing season, might increase the requirements for horse labor on the fruit plantation in summer; however, on the farm mentioned the teams work only 10 hours daily, and this they should do on any well-regulated farm producing the ordinary crops. It would seem quite within the range of possibility for the average farmer to provide his horse labor at a cost of 11.64 cents, but the writer is of the opinion that it is seldom done. Twelve cents and 12 1/2 cents have been stated as the actual costs of a horse-hour on other farms where records have revealed the facts. No one has yet declared his own figures as definite and conclusive. The costs printed herein show only what has been found to be true under the circumstances, and system peculiar to each farm. It is opportune at this time to consider a few phases of horse management, which would tend to reduce the cost of the horse-hour.

INCREASED EFFICIENCY IN MAN AND TEAM.

Assuming that we have horses in proper condition to work, the next thing in order is to have such a system as will insure the greatest efficiency on the part of the team, and also on the part of the man who drives them. Working two horses abreast is a long-established practice in this country, but with horses cheap, and labor costly, there seems no alternative but to work three or four horses in the one team controlled by one man. This has not been uncommon in agricultural districts east of the Great Lakes during recent years, and on the Prairies the practice was adopted almost from the first, for conditions there demand it. We have now come to an era in Eastern Canada where larger implements and more horses should be directed by one man. While, as previously stated, this practice is not uncommon, it should be extended, and under conditions as they now exist, it should be made as nearly universal as circumstances will permit. This applies more particularly to the farmer alone on 100 or 150 acres.

Even if there are two men, one is often kept busy at work not requiring horses, while the other one does the team work.

One modification of this principle is suggested by a practice adopted on Lynndale Farms. It is the custom there to work some heavy implements, such as the double-cut-away disc, with two horses, in the forenoon, and replace that team with another in the afternoon. A good team of horses will keep the harrow moving busily for half a day, but it would not be feasible to use the same team all day; the labor would be too severe. This is the custom in the orchards, and under similar conditions on that farm.

Three-horse and four-horse eveners can be made at only a slight expense. These should be prepared and ready to be attached to any implement or wagon as soon as the occasion arises in the spring. Straps and reins should be procured and made ready to attach to the ordinary double harness with which to rein

any size of team desired. It would also be wise to provide such straps and buckles as usually, or are most liable to give way, during the heavy teaming and rush of spring work.

Many idle hours on the part of the teams can be prevented if the implements receive the proper oversight. Machinery should be carefully inspected, and everything made right before the horses are hitched to it. As a safeguard it would also be well to have a tool-box containing the proper wrenches go to the field with these implements. Standard-sized nuts and bolts should be a part of the equipment, as should other incidentals, such as wire, leather, and anything likely to be used in making temporary or permanent repairs. A walk across 100 acres to the buildings for such as these in time of mishap is all waste time, both to the man and to the team.

A great many farmers do not appreciate the value of oil on their machinery. Not only does it prolong the life of the implement in use, but it prolongs the life of the beast that draws it. Where hard lubricants can be utilized they should be applied when the implements are drawn up to the shed, and when the horses are feeding or resting. Then is also the proper time to tighten nuts and make what appear like insignificant repairs, but which are really of con-

considerable importance. More could be written about the management and care of farm machinery and its relation to the efficiency of the team, but suffice to say that more system, care, and oversight could be applied to farm implements generally with very satisfactory results.

FITTING FOR THE SPRING WORK.

Owing to months of enforced idleness, many horses are altogether unfit to cope with the demands made upon them when the busy season starts. Through the lack of exercise, and on account of diminished allowances of grain, numbers of horses lose muscular, nervous and respiratory tone. It is poor management indeed to simply maintain work horses until the land is fit to till, and then put them suddenly at hard labor. The result too often is sore shoulders, and illness that may incapacitate the animal for some time. It requires four to six weeks, and in some cases more, to fit a horse lacking in tone and energy, to a condition suitable for good, hard, steady, spring work. Where grain has been fed sparingly, the ration should be increased slightly, but only slightly at first. Rough fodders should be replaced gradually by good hay. Along with this gradual building up of suitable rations, exercise should be provided. With quiet horses a man can ride one and lead two more, and thus give them a gradually increasing amount of exercise each day, until their muscles and systems are hardened and improved so they are capable of performing 10 hours of steady work. A complete change in feed can, with reasonable safety, be made in a week or ten days, but it requires a longer period to properly fit a horse for regular work. One should not consider the time wasted in conditioning the animals. After the land shows signs of becoming dry, seeding is rushed forward with the greatest possible expedition. Soft, or ill-conditioned horses provide unsatisfactory power for performing strenuous labor in a limited time. Roughly-wintered horses are likely to be clad with a long, coarse coat of hair. A perspiring horse will become very uncomfortable in such a coat. After the season becomes warm enough and work starts it is good practice to clip and give the animal proper attention, as to protection from chills and colds.

THE NUMBER OF HORSES REQUIRED.

The character of the farming carried on will influence to a large extent the number of acres worked over by one horse. With mixed farming there is a diversity of crops, and a certain amount of order or succession about seeding and harvesting. One horse will usually accomplish more on a large farm than on a small one, due, perhaps, to the fact that greater intensity of cultivation is practiced where the acres are few. At the convention of horticulturists and fruitmen, held some weeks ago in Rochester, N. Y., one grower said that a team of horses would operate 30 acres of land on this plantation. On Lynndale Farms, mentioned early in this article, one team operates over approximately 34 acres of land, and the Superintendent, who has given the matter of horse labor considerable study and attention, now believes in a reserve of horse power for the farm, large or small. He believes five horses necessary on the average farm, and says six would be better. The labor would probably be crowded into a shorter period on a fruit farm than on a holding where mixed farming is the order. Warren, in his book on Farm Management, has compiled records taken from 586 farms operated by owners. On a holding containing from 101 to 150 acres, one horse on the average is kept on 37 acres. Where 151 to 200 acres comprise the farm, the average is 41 acres to each horse, and for a farm over 200 acres in size, 49 acres per horse is the average. These figures appear high, and were probably taken where a system of farming unlike our own is in vogue. In this country four horses on a 100-acre or 150-acre farm are not sufficient. During the greater part of the year four horses would be ample, but adequate horse power during seeding and spring work is a prime requisite. There is such a thing, of course, as horses becoming a burden, but the more horses there are, the greater is the need of a system regulating their labor. Farm management is one great scheme of so utilizing labor and capital that they may work to the advantage of each other. All farm operations should be so planned as to use the labor to the very best purpose.

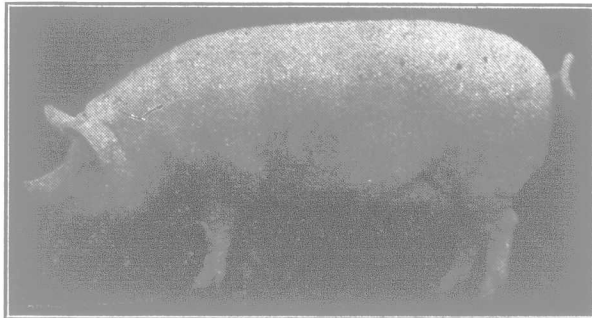
LIVE STOCK.

How You Can Smoke Your Summer Meat.

The custom of putting up a summer supply of meat in the spring appears to have gone out of vogue. There may be several reasons for this: The beef-rings in many localities furnishes a supply of fresh meat every week, while in other districts a butcher's wagon from the nearby town calls at the farm two or three times weekly, with a variety of fresh meats. Many people prefer fresh meat to that which has been cured, and when it can be secured so conveniently, it is natural for them to use it. However, there is the economical side to be considered. Two or three profits are added to the price of the animal from the time it leaves the farm until it is returned piecemeal by the butcher. These profits may largely be retained by the farmer, if a portion at least of the summer supply is cured in the spring and held in readiness for use. While the average person

does not relish salty pork, there are but few people who do not enjoy eating sweet-cured, smoked ham or bacon.

Smoking a summer's supply of meat is not a difficult undertaking. A small, inexpensive building, in which to smoke the meat, proves satisfactory. A building six feet square and eight or nine feet high is large enough to smoke the meat required by the average family, and, when properly built, will also do for a storage house, if sufficient ventilation is arranged. On account of danger from fire, cement, brick, or metal walls are preferable to those built of wood. Lumber may be used for the roof, as there is not supposed to be much flame. The firebox may be built in the centre of the floor, but, if possible, it should be placed so that the meat will not hang directly over the fire, for fear of too much heat frying out the fat and injuring the flavor. Possibly the most modern method is to have the firebox built outside and the smoke permitted to enter the building through a flue. If there is only a small amount of



The Right Kind of Yorkshire.

meat, a barrel may be used as a substitute for a smoke-house. Both ends of the barrel are knocked out, and it is placed on supports half over a pit. The meat is suspended from sticks placed across the top of the barrel. The fire is built in the pit and the smoke fills the barrel, over which is placed boards and sacks to retain the smoke.

Various kinds of wood are used for smoking meat but the most preferable are hickory, maple, or birch, and when these are well seasoned and set on fire, they smoulder away and hold fire without causing too great a heat. If a blaze breaks out, it should be smothered out, as only smoke is wanted. Corn cobs are used, by a good many people, in preference to wood for smoking meat, the claim being made that a more desirable flavor is secured. However, that may be only a matter of taste. Resinous woods, like pine, hemlock, or cedar, are not suitable; the smoke gives the meat a disagreeable flavor.

The meat to be smoked is the better of being rubbed a couple of times with salt, then placed in a brine for three or four weeks. The brine should be strong enough to float a fresh egg. If a small quantity of molasses is added to the brine, a sweet flavor is imparted to the meat. A mixture that has been recommended is 9 lbs. salt; 3 lbs. sugar; one pint molasses;



Clan Alpine 2nd.

This Claret-bred, four-year-old Shorthorn bull at the head of the herd of Geo. Ferguson, Salem, Ont., sired by Proud Monarch, and out of an imported cow, is for sale. See ad. this issue.

3 ozs. saltpetre; 1 oz. baking soda, and five or six gallons of water. This is heated slowly until the salt is dissolved, then boiled and skimmed. The solution must be thoroughly cooled before the meat is put into it. Meat is left four or five weeks in the mixture, then taken out and allowed to drain for a day or two before being placed in the smokehouse, where it may be suspended from cross-bars by means of wire hooks. Care should be taken not to allow two pieces of meat to touch when being smoked. The meat is warmed up gradually and then a uniform smoke supplied. If the fire is kept going and an even temperature maintained, the smoking process should be completed in two or three days. When the fire is kept up during the day, and allowed to go out at night, six or seven days are required to properly smoke the meat.

If the smoke-house is properly built, the meat may be left in it until used, or may be put in sacks and hung up in a cool, dry, dark room in the dwelling-house. Sometimes the meat is wrapped in sheeting and then

dipped in thick, whitewash containing glue. Still another method of keeping smoked meat through the summer is to pack it in barrels with oats. Meat cured in the manner mentioned, is always ready for use, and has a flavor that is more appetizing to most people than the salt-cured pork. Large or small quantities of meat may be cured as outlined at very little cost.

The Relation of Live Stock to Farming.

A number of advocates for more live stock on the farms in Canada have based their arguments on the profits derived from feeding roughage and grain to cattle, sheep and swine. This contention is fair and right so far as it goes, but there is a stronger argument still why a farmer should stock up with cloven-footed animals. The fact of the matter is, that live-stock must be kept even when the crop of the farm can be marketed at a higher price per bushel or ton than when fed in the stable or feed-lot. The farmer who has some thought for the future of his farm or his estate, he who wishes to continue in business on a fertile farm and leave the soil in such a condition that a son or heir can continue to make a living on it has only one course left open to him—live stock he must keep. Many land owners are now suffering from the results of those so-called prosperous days when barley sold for one dollar or more and grain moved easily. It looked like easy money to sell the grain, pay the interest and enjoy the balance. But that balance gradually diminished and disappeared; it became more difficult to pay the interest; the soil would no longer produce. Markets veered—they are always subject to change—and it was necessary to feed the product of the fields. There are many farmers in Ontario not yet arrived at that age where ambition ceases to influence them in their work, who have labored under both systems. Day by day they realize the folly of the grain-selling plan, but they still suffer from the results of that principle or doctrine which at one time appeared orthodox to them. With a few cattle, sheep, and swine they are enjoying greater prosperity than was theirs in other days. This is due chiefly to the fact that the soil is more responsive and the yields are better. If a bushel of grain is worth ten cents more on the market than it is to feed, it does not refute the argument that live stock is necessary and profitable. If men who own and operate farms in Canada could realize before it is too late that their salvation and the salvation of the succeeding generations lies in a well-devised system of mixed or stock-farming they would be making a long stride toward greater prosperity.

An actual example will exemplify these statements. The case is an extreme one, but true. Twelve years ago a man and family left old Ontario and settled in the district of Timiskaming. He cleared his land and has since been growing crops similar, except corn perhaps to those produced in the district from whence he migrated. Last summer he told the writer that yields were only about half what they were shortly after the land was broken up. Hay and grain have been sold because there was a good demand for them in that

country and it was so cold in winter that the stock would not return the same price as could be procured for grain when sold on the market. If the same system is adhered to it will be interesting to all except the man who owns the farm to know the condition of things twelve years hence. Had live stock been maintained and fed on the place, the crops should have been as good in 1911 and they should be as good in 1920 as those borne on the virgin soil. The fact that a bushel of grain or a ton of hay or straw would have sold for more in the town of New Liskeard that could have been realized for it directly through live stock does not justify the selling

What about the decrease of one half in the yields? There is now less to sell in any way. That decrease in yields is a greater loss by far than would have been experienced through feeding.

To maintain farming on a profitable basis we must continue to get crops. We should get heavier crops than is the custom at present. How can it be done except by feeding all the produce of the farm on the farm and augmenting this with green manures and a proper rotation? Whether it is profitable or not to feed barley, oats or hay from the viewpoint of the feeding alone matters little. A man to farm and farm right must keep live stock.

Too many proven sires go to the butcher. We recently heard a prominent Shorthorn breeder remark that the best bull he ever owned he purchased from a butcher when the bull was on his way to the slaughterhouse. The good old sire will every time beat the calf in results.



The Grand Canyon.

Know the Variety Sown.

I have read with interest W. L. Martin's letter in the *ADVOCATE* of January 27th and the replies to it since. If the farmers of Ontario would sow either one of the varieties of oats mentioned, namely, O. A. C. 72 and Banner, they would not be going very far astray, and would be doing decidedly better than they are now doing.

While conducting an agricultural survey during 1915 on 100 farms in each of four counties in Ontario, it was found that a great many varieties were being grown. In Waterloo County 28 varieties were met with among 77 farmers who claimed to know what variety they were sowing; in Northumberland 18 among 56; and in Carleton 19 among 80. It is an undeniable fact that many of these varieties are far from the most suitable for the farms on which they are sown. Too many farmers hear of some new variety or read the wonderful description of it in a seed catalogue and straightway obtain seed of same without knowing the strength of the straw, percentage of hull, or its general suitability to their local conditions. There seems to be too much of a "millinery" idea of always wanting something different. There seems to me to be little cause for confusion in the minds of intelligent farmers who willfully realize that what is best for Prof. Grisdale, under Ottawa conditions, might possibly not be best for Prof. Zavitz, under Guelph conditions. The fact remains that the two varieties mentioned above are both top-notchers and the farmer is taking less risk by sowing either of them than some new variety boomed by some one who has said new variety for sale. It must also be borne in mind that at Ottawa and Guelph many varieties of cereals are being and have been tried out for years for the benefit of the farmers and those who pass up these varieties of proven value for something else are doing so at risk of considerable loss.

While we are considering this question of varieties, it may be interesting to note the fact that many farmers do not even know the names of the varieties which they are sowing. The following is from the report of the Agricultural Survey, conducted by the Commission of Conservation, which was mentioned above:

	Dundas	Waterloo	Northumberland	Carleton	Total Farms
Percentage of wheat	20	92	39	46	49.2
Percentage not knowing name of variety grown	16	70	20	37	35.7
Percentage not knowing name of variety sown	4	22	19	9	13.5
Percentage of oats	97	100	99	98	98.5
Percentage not knowing name of variety grown	41	77	56	80	63.5
Percentage not knowing name of variety sown	56	23	43	18	35
Percentage of barley	86	50	25	47	52
Percentage not knowing name of variety grown	11	40	9	14	18.5
Percentage not knowing name of variety sown	75	10	16	33	33.5
Percentage of any variety sown	47	11	8	14	20

Those who do not know what they are sowing will find it advisable to procure seed of the leading sort at either Ottawa or Guelph, select carefully each year from the best field or part of field enough seed for the following season and stick to it until something else has been proven better.

F. C. NUNNICK,
Conservation Commissioner.

A Visit to Yellowstone Park.

Editor "The Farmer's Advocate."

No apology to the readers of *THE FARMER'S ADVOCATE* is needed because the subject of the following sketch is situated not in our country, but in the United States.

The more elderly among us will remember reading in the school books of childhood days of the boiling, spouting springs of Iceland. What feelings of awe and wonder those stories excited! In those days people had to stay more at home and were not satiated with sights. Children's eyes were wonder-wide.

Those intermittent, spouting springs were called geysers. That was the Icelandic name for them, and the word is still applied to all such phenomena. At that time no other geysers were known, and there are only two other fields of geyser action of any account in the world known as yet. One of these is in New Zealand, and the other, and the most extensive of the three, is in Yellowstone Park. Hot Springs are found at Banff, B. C., and in many other parts of the world. These partake of the same characteristics as the geysers, but nowhere else than in the three places mentioned does the force of internal heat acting upon water exhibit such energy. All three regions are volcanic.

Yellowstone Park is situated in the northwestern corner of the State of Wyoming, though it takes in a little strip from Montana on the north and from Montana and Idaho on the west. It is straight south of the eastern part of Alberta. It is almost square and quite large, its area being rather over 3,300 square miles. It lies right in the line of the Rocky Mountains which here are spread wide. The great divide separating the headwaters of the Pacific from the Atlantic crosses the Park at an altitude of 8,500 feet. The major portion of the Park is an elevated plateau of an average altitude

minutes. We hurried to get a good place near. The opening is about six feet long and two feet wide in the centre, narrowing towards either end. It is on the summit of a low, conical mound, about 6 feet high and 150 feet in width. The mound is of rock built up by the geyser from the silica contained in solution in its waters. Immediately around the opening is something like a wall from two to three feet high. Quite a crowd had gathered and 25 or 30 had kodaks ready. Old Faithful steamed away, but that was all. After what seemed a long time, the waters rose to the top and a jet of two boiled over. A little longer and two or three spouts burst up about ten feet. Then the waters sank again, and even the steam seemed to fail considerably. Thus, for a time, until some thought that that was all the eruption there was to be. And then the burst came. With what seemed resistless power the great stream of boiling water and steam mounted straight up, pulsing like a living thing, but always higher and higher, until it reached 150 feet. It poured forth its flood to that height for two or more minutes, when it sank slowly, rather it continued to spout powerfully, but with decreasing energy, until in about four minutes it had withdrawn itself and a strong outpour of steam continued to blow off for a time. That play was over. It is estimated that 3,000 barrels of water are thrown out at each eruption.

There are about 84 prominent geysers in the Park, but if every little spouter and hot spring and steam vent worth noting were added, the number would be 3,000 or more. The geysers are mostly situated in three districts, miles apart, known as Upper, Lower and Norris basins. The largest now active is the "Giant," whose circular opening is 6 feet across and whose waters, when he does take the notion to blow off, are poured forth in mighty volume for an hour, reaching a height of 250 feet. After such an effort, he naturally rests awhile, from eight to twelve days. His date for business and ours for seeing him unfortunately did not coincide. His crater and cone seemed cool and innocent. Then there is the "Constant," which sends up sparkling jets from the centre of a shallow pool. It plays for half a minute to a height of fifteen or twenty feet, then rests half a minute, and so on, all the time. The others vary in size, time between eruptions, height and duration, and no two alike.

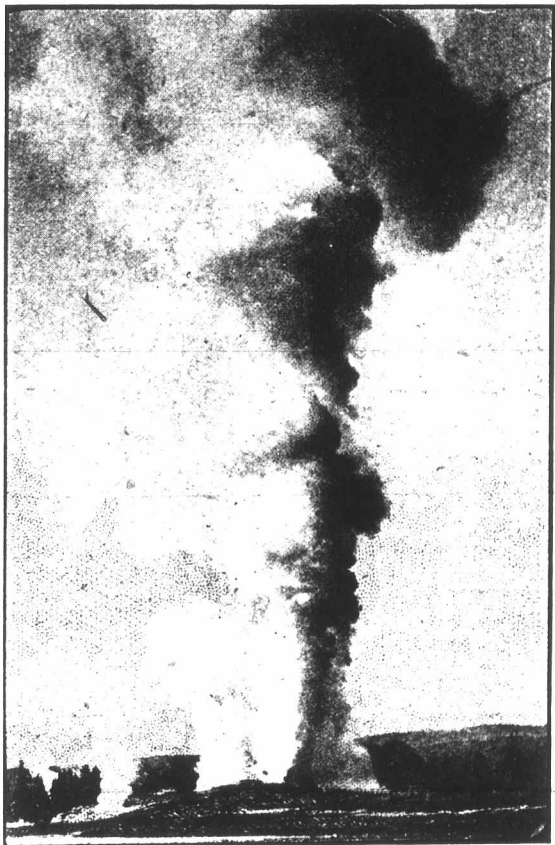
Besides the true geysers there are many openings from which steam alone constantly issues. One of these—"The Black Growler"—roars like the safety valve of a railway engine. On a hill face, which was covered with a dense growth of pine thirteen years ago, there suddenly broke out a great number of steam vents, which are steaming still. The forest was completely killed and the now bare hillside is known as the "Roaring Mountain."

As might be expected, there are many boiling springs and some not so hot. They range in size from tiny bubblers to lakes 300 feet in diameter. Many have most beautiful colorings. Most of them send forth hot water streams, but some do not overflow, simply boil. In contrast with these are the "Paint Pots," basins of boiling, bubbling clay, white or drab colored. Also the "Mud Geyser," a great bowl of thick mud from whose surface large bubbles of steam are constantly breaking, each as it breaks throwing upwards a chunk of mud as big as the fist. Many of these are thrown to the edge of the sunken bowl, where they keep piling up until, getting top-heavy, a mass breaks off and topples in.

In some places the rock seems honeycombed with tiny geyser tubes, which, without intermission shoot up a foot or two in height.

Fire-holes was the expressive name the early explorers of the region gave to the geysers. And the thought of fires underneath is what is borne in upon the mind of the tourist as he picks his way in some of the more shaky spots.

Besides these wonders, there are many other sights in the Park well worth seeing. Yellowstone Lake, fifteen miles across and lying at an altitude of 7,740 feet, is a beautiful sheet of the clearest water. The short-leaved pine forests, dense, fairly tall, prevailing wherever possible, are a sight of themselves. No green timber is allowed to be cut, though millions of feet are going to waste. There are also many beautiful ravines, cascades, waterfalls, rock eminences, but the two special features, in addition to the geysers for which the Park



The Giant Geyser.

of 8,000 feet, surrounded on all four sides by mountain ranges. Geologists tell us that at one time it was a rather depressed plain, but that such an abundant outflow of lava poured forth from two volcanoes as to fill the whole area to a depth of 2,000 feet, banking up the retaining mountains, and that breaking through a lower part in the southwest, this lava flowed for many miles across Idaho, filling up and levelling the great plain known as the Snake River Valley.

Entering the Park from the north, as we did, the "Mammoth Hot Springs" are the first of the special sights. The waters here are highly charged with lime, and, as they boil up from the manysprings, spread out, each on the flat terrace which it has built up, depositing lime as they cool. When they go over the edge of the terrace, they run down its perpendicular face leaving it in ridges resembling in form that of ice left on the side of a building where water has trickled down in winter. The terraces vary in size and height according to the volume of the spring which has formed them. The largest we estimated to be about three acres in extent. The colorings of the rock faces where the waters run down, due to algae, are truly wonderful. The same holds good throughout the park wherever hot waters are exposed to the air and are cooling. The colors on the rock below range from pale lemon and salmon tints through deepening shades to the darkest chocolate brown.

"Old Faithful" is the most noted geyser, though not the largest. It has received its name from the regularity of its eruptions. It can be depended on to play every 70 minutes or so. Never more than 85. So it has gone on for forty years at least, summer and winter, day and night. When our party reached the camp there we were told that she was due to spout in 15



A Wild Bear in Yellowstone Park.

s noted, are the Yellowstone Canyon and the protected wild animal life.

The whole district is policed by a cavalry force, who forbid the carrying of firearms, the cutting of a tree and even the picking up and carrying away of a piece of rock. Excellent and costly roads built and maintained by the United States Government lead to all points of interest. Until last summer transportation was limited to horse-drawn vehicles. The ordinary stage as provided by the different companies is drawn by four horses and holds eight to ten passengers. A fairly full trip occupies 5 1/2 days and excellent lodging and meals are provided in tents by the way. Those who wish can stay at high-class hotels. Our party travelled 135 miles on the tour. The total cost for such a trip is \$30.00 to \$50.00. Autos, having been allowed in for the first time last August, it is likely that in the near future the horse stages will be displaced, the time of trip shortened, and the cost lessened.

The Yellowstone river, as it leaves the Lake and for some miles below, is a free-flowing stream about one-fourth mile wide. Trout of various species with which the waters are kept stocked are easily seen from the roadway. By and by the river narrows, forms into rapids, then takes a clear leap of 109 feet. Continuing its turbulent way for a few hundred feet more it rushes over the ledge of Lower Falls, where the drop is 308 feet. From this point and for twenty miles down is the

famous canyon. From the edge as one looks down the 1,000 feet of its depth the river seems crowded and dwarfed to a mere brawling creek. But it is not so much the depth of the gorge as the character and coloring of its rock walls that attract attention. For the whole of the first three miles and from the bottom upward the rock, originally dark grey, has been disintegrated and changed in color by long continued action of steam and vapors rising from hot springs below. That is what authorities tell us, and that it took place ages ago before the river had cut its way down. To us, until better instructed, the rock seemed rather to have been burned in a furnace. It is shattered in such fashion as might be expected from tremendous heat. The prevailing color is sulphur yellow. But it varies from pure white through confused, irregular blendings of yellow, orange, purple and red to the original dark grey of lava. The walls are not perpendicular, but they are left by the falling away of looser material in fantastic shapes, scaurs, crags and turret peaks,

At one camp on the way some young fellows started chasing chipmunks for fun. They were promptly stopped by the manager. As might be expected, where wild life is protected, so rigidly, the creatures lose their fear to a great extent. In a region of such vast forests and hilly surface and only a few roads threading its great area it would be the easiest thing possible for every wild animal to keep itself unseen. Yet we saw nine deer, eight

bears, two antelopes, one elk, and woodchucks, chipmunks and camp gophers innumerable. We saw also a dozen buffalo which had been corralled from the wild herd. Some animals are shyer than others. There are said to be 60,000 elk in the Park and we saw but one. But the bears are tame. Evening after evening they come to root among the waste from hotel tables and can be seen by anyone. Fresh meat has to be carefully slung up out of their reach. Some become so friendly that they will eat out of the hand. A mother and two half-grown cubs up a fine tree seemed but little disturbed by the jabbering, excited knot of us below. One of the cubs, after looking at us for a time, stepped out on a limb, took hold of another over head with one front paw and unconcernedly began picking cones, or whatever he was after with the other.

Deer also become very gentle and unafraid. Two of us returning from a walk one morning saw a large fawn on the road in front. It waited until we came quite near and then lightly skipped up the steep bank at one side and stopped about 25 feet from the road. It stood until we came opposite and after watching us, quietly for a few minutes with its large, sensitive ears erect and its soft eyes studying us, as we studied it, it put down its head and began to eat grass. It was a beautiful creature with rows of spots along its sides. Animals and human beings as well, everywhere respond to kindness.

Middlesex Co., Ont.

T. B.

System in Farming or Farm Management.

Who has not heard of that seemingly abstract thing, "Farm Management"? It has been pretty well advocated for years, but no one has yet been able to enunciate a doctrine or formulate a plan that will apply to one and all alike. That is why it is seemingly abstract. We often hear of it and read about it being used and put into practice "somewhere in Canada," but that is about as near the concrete as it has been presented to the farming public. Nevertheless it is real and every farmer has his own style of farm management. Sometimes good and sometimes bad, but he can usually manage to get along. If every 100-acre farm were so arranged as to produce 50 acres of wheat, 25 acres of oats and 25 acres of grass, which would all be fed to 25 or 30 dairy cows, the milk from which would be sold at a cheese factory exactly two miles from the home in every case, there would be no trouble in adopting a system of farm management that would be universally suitable. Such conditions are so manifestly absurd that they need no explanation. They are mentioned only to show by contrast the difficulty in arriving at any one plan adaptable to the scores of different farming systems that comprise the great agricultural pursuit. Dairying, beef raising, fruit growing, gardening, grain growing and ranching are only a few of the most important lines in which farmers indulge. Add to these dozens of others, which, perhaps, are modifications of the ones enumerated, and all conducted under varying circumstances, conditions and environments, and the reader cannot fail to grasp how impossible it would be to recommend a system of management which all could adopt with profit. In spite of this condition of things, there is one grand principle applicable to all pursuits where labor and capital are involved. Inside the walls of the factory or store it is usually termed "system"; inside the line fences it is known as "farm management."

The writer will not attempt in this article to outline a scheme that will solve the labor problem or increase the revenue of the farm to any fabulous extent. Such articles as "Eighty Chickens and Independence," or "Five Acres Enough," are more suitable for urban readers who contemplate "throwing up" a \$5,000 position to end their days in ease, independence and prosperity in the country. We shall endeavor, however, to present suggestions which, if not useful to one, they may be to another. Efficiency is now sought in every line. Even nations can become efficient, but only as the individual works as a part of a great machine. Efficiency can be carried so far as to make life not worth living, but it appears possible to infuse a little more system into the farming business and still not destroy the social life of that occupation. The suggestions which follow may help to some extent in adopting more efficient methods of farming or in improving on the present system of farm management.

A 100-acre farm can not be run according to factory system. Certain things occur as a matter of course, and some events are inevitable. Home and farm are inseparably connected, and this is why, perhaps, that so few farms are operated by bachelors unless cared for and the home kept intact by the mother or sisters. The home is a part of the farm and entitled to the first calls upon it. The ordinary-sized farm depends upon one man. He must be buying agent, selling agent, laborer, manager, and employee. The proprietor can be "boss," but not superintendent, for the income of the business will not warrant one man directing and not working. Benjamin Franklin said:

"He who by the plow would thrive
Himself must either hold or drive."

The farmer who labors has not much time to deliberate and plan, yet a certain amount of forethought is necessary. The hours thus spent are spent profitably.

FARM ACCOUNTS.

There is no better aid to farm management than some form of books or accounting system. It is realized that farmers will not have the time or the inclination to keep an elaborate set of books, but if a notebook

were used in which to jot down the details, they could be copied to a more permanent volume by some member of the family or by the farmer himself on a certain night each week. Such a system would show where the money came from, where it went and where it produced the greatest results. Details about the farm work could also be noted that would be useful for reference.

As complete a system of farm accounts as we have yet seen is kept by P. E. Angle, Superintendent of Lynndale Farms in Norfolk County. It is a large estate which Mr. Angle directs, employing a large number of men who are engaged in all kinds of work about the farm. It is also desirable on the part of those in charge to know exactly what it costs to produce the different crops. This necessitates considerable accounting and makes the system rather elaborate. However, many farmers could obtain ideas from a knowledge of how the books are handled and how the different items are reduced to totals that convey the desired information.

Figure one illustrates a leaf taken from a small order book used on the farm. The leaves can be in duplicate or triplicate, such as a merchant uses on his counter. It can be carried in the pocket and used when it is necessary to record a transaction on the place or in town. For instance, 15 bushels of grain are chopped and put in the piggery to be fed to a bunch of shotes, regarding which records are being kept. The leaves are perforated and can be removed so all notes relative to one matter can be put into an envelope or tied with an elastic until they are copied or totaled up. This is a handy book, useful for many purposes, and one that would make farm bookkeeping practicable.

LYNNDALE FARMS SIMCOE, ONTARIO

M.....

IN ACCOUNT WITH
LYNNDALE FARMS
SIMCOE

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Teamster
Received by (Fig. 1)

Figure two shows a form used on which to record the time of one man. Not only is it a record of the time, but it is an analysis of the time as well. The men are employed by the hour and the labor is charged against the crop upon which the work is spent. Some of the spaces at the top are left blank, as can be seen from the form. If a man spent 5 hours at spraying

potatoes, the entry would be made similar to those already indicated. Books containing these leaflets are preserved, the week and year marked on the outside, and kept for reference. A similar form is used to record the horse work. The hours all the horses were employed during the week are inserted in the different columns on the same form.

The totals of man and horse hours are then copied into a 24-column journal, a part of which is illustrated in Figure 3. The man labor and horse labor are entered on different pages of this journal, and, by totalling them at the end of the year, it can be ascertained how many hours of manual labor and horse labor were expended on the different crops. The accounts kept also indicate the cost of the horse labor for the expenses connected with the horses divided by the number of hours they worked during the year indicates the cost of a horse hour.

Expenditures demand another form. For these a 12-column journal is used and outlays for spraying material, binder twine, fertilizers and other articles purchased are entered in their proper places. This form is similar to that used for receipts, such as illustrated in Figure 4, which largely explains itself. When all the receipts from a certain product or crop are in, the profit or loss of that crop can be determined. The cost of labor is indicated in the book illustrated in Figure 3. The other expenditure, connected with any crop are shown in the book kept for that purpose. The sum total of these two compared with the receipts conveys the desired information.

While this system is too elaborate and intricate for the ordinary farmer, he can make modifications and adapt parts of it to his own requirements. A book similar to that illustrated in Figure 1 would be extremely useful. A form could then be devised suitable for keeping an account of the labor. Another set to show the receipts and expenditures should complete the system on the ordinary farm. From the information contained in such records all deductions could be drawn and profits or losses determined.

When discussing the bookkeeping practiced on Lynndale Farms, it might be explained how the men are engaged. The hour system has been adopted, and the employees are responsible to the foreman, who can discharge them at any time if their services become unsatisfactory. On the other hand, merit is rewarded. A man who becomes proficient in his work, and is worth more to the system than he was at first, receives a higher wage. In addition to the homes already established on these farms before they were assembled into the large proposition, a few cottages have been built. It is the aim and purpose of the management to make the men and their families as comfortable as possible, for it is believed that employees who are enjoying life on the farm render greater service to the system than do those who are not.

THE PEAKS IN FARMING.

It is peculiar how closely farming resembles many of the great industries as regards the peaks. An electrical power plant has its peak load when the demands for electricity are greatest upon it. A departmental store has its peak upon certain days of the week and upon certain hours of that day. There are popular days for shopping, and popular hours during that day. This means that for a few hours on almost every day, but more particularly on one day, the clerks are exceedingly busy behind the counter. During the forenoons there is a lull, and the number of clerks required to handle the business during rush hours, would stand about doing almost nothing during the morning periods of the week. Railroads have their peaks, when almost every piece of rolling stock is called into service. So it is with farming. During some of the summer months the number of men, and number of horses required are in excess of the actual requirements during other months of the year. The aim should be in this connection, to so organize the disposal of the goods produced, that the matter of distribution will not interfere with pro-

Time Record of John Jones Week Ending July 24, 1915

At 16 1/2 Cts. Per Hour	MONTH	DAY	APPLES														Total for Day
			BEARING							YOUNG							
			Prun.	Spray.	Cultiv.	Thin.	Harv.	Cultiv.	Spray.	Prun.	Hoing Tobacco	Hoing Beans	Picking Cherries	Drawing Hay	Expenses	Develop.	
Monday	July	19														10	10
Tuesday	"	20														10	10
Wednesday	"	21														10	10
Thursday	"															10	10
Friday	"															10	10
Saturday	"	24														10	10
TOTAL HOURS																60	60
AMOUNT																9.90	9.90

(Fig. 2)

LABOR

1915 Week Ending	Name	Hoing Beans		Hoing Tobacco		Picking Cherries		Drawing Hay	
		Hrs.	\$	Hrs.	\$	Hrs.	\$	Hrs.	\$
July 24	John Jones	29 1/2	\$4.87	8	\$1.32	20	\$3.30	2 1/2	.41 1/4
July 24	S. Brown, etc.								
July 24	S. Green, etc.								
July 31	John Jones, etc.								

(Fig. 3)

RECEIPTS

1915	Date	Name	Total Receipts	Bank Deposit	Cabbage	Potatoes	Apples	Strawberries	Cherries	Corn
Dec. 14		J. Jones	\$5.50			\$5.50				
Dec. 14		T. Brown	21.9			9.60	\$2.00	\$8.95	\$1.35	
Dec. 15		Watts & Co.	752.72							
Dec. 16		Bank		780.12						

(Fig. 4)

ANALYSIS OF CORN

	Pro- teids	Mois- ture	Ash	Fat	Fibre	Carbo- hydrates
Drill-grown	5.71	6.22	4.81	2.73	22.12	58.41
Hill-grown	8.74	6.89	5.39	2.82	23.21	52.95

Protein, carbohydrates, fats, and ash are the chief ingredients of any feed stuff, from the feeding point of view. In this regard, it will be seen, there was little difference, pound for pound, in the two samples. In the aggregate, however, the drill-grown corn was slightly superior, for it contained 71.66 parts of these substances to 69.90 parts in the hill-grown product. A study of the analysis furthermore shows that both samples did acquire, or attain, to practically the same degree of maturity.

This was only one phase of the experiment. The corn was then ensiled in the usual manner, but the two crops were kept separate in the silo, and designated in such a way that the silage could not be mistaken. It was known exactly as the silage was fed on which part of the field the corn grew. The corn grown under both systems made excellent silage, and no difference was noted in the way it was eaten, or in the results upon the cattle consuming it.

Samples of the hill-grown and drill-grown silage were then sent to Professor Harcourt for laboratory analysis. The results of this test are revealed in the following table:

ANALYSIS OF SILAGE

	Mois- ture	Ash	Fat	Fib.	Albd. N.	Am- ides	Carbo- hydts.
Hill-grown	6.19	7.55	5.01	19.82	4.64	3.86	52.93
Drill-grown	5.36	5.20	5.05	19.92	4.83	3.86	55.78

The totals for protein, carbohydrates, fats and ash are practically equal in the two cases. Albuminoid nitrogen and amides together make up the protein. The first mentioned is the desirable form, but there is always a breaking down in the silo into the less valuable forms known as amides. Both in carbohydrates and albuminoid nitrogen the balance swings in favor of the drill-grown corn. In fact, the two analyses, that of the corn and this one of the silage, show figures that argue in favor of the corn grown in drills. It should be stated, however, that the sample of drill-grown silage happened to have a few pieces of cobs scattered through it. A little corn was produced on the stalks and it so happened that some pieces were in the sample. Yet that has no significance, for the corn grown in drills and sent away for laboratory test was entirely devoid of cobs. In spite of that, it analyzed quite as high in food constituents as did the well-cobbed corn grown in hills.

From our experience with the two methods of planting, we are led to believe that greater tonnage can be produced in drills than in hills, under conditions as they exist at Weldwood. The analysis also indicated that corn planted thickly in drills, so it cannot cob, will become just as mature as hill-grown corn, if allowed to stand the same number of days. The food constituents are stored in the leaf and stalk instead of in the cob. The outcome of the test has indicated that cobs are not necessarily the only evidence of maturity. Corn may be matured from the viewpoint of the character of its constituents, yet have no cobs whatever.

This is one year's test. It was a peculiar season. Other conditions might reveal something new. However, in the light of present-day knowledge regarding corn, we cannot see how the conditions which change from year to year, such as climate, could alter to any appreciable extent the relative analysis of the two samples. It might, of course, alter the yields.

There is an opportunity in this field to determine facts that will be valuable to farmers. Corn is an increasingly important crop and after all not too much is known regarding it.

Piles Manure to Heat in the Field.

EDITOR THE FARMER'S ADVOCATE:

There seems to be a keen interest in the question of spreading manure at this time, and it is certainly very interesting to note the difference of opinion expressed. No doubt, each writer expresses his convictions from personal practice and its results. But seeing there are so very many things to be considered, it is almost impossible for all to follow in the same train. Nevertheless, for those who are willing to learn, there still remains considerable useful teaching, and the many letters appearing in the FARMER'S ADVOCATE on this subject undoubtedly prove helpful to those who are ready to give a trial to what may be to them a new system. It would require too much space for me to give all my experience on this matter, but as briefly as possible I will state what I have observed, from at least three different methods, on fairly large farms, each farmer looking forward chiefly to his corn and roots, placing his manure after his own plan for these crops particularly. The first would leave his manure in the barn-yard till after harvest, then draw and spread on the old meadow that is to be the corn and root field and plow it deeply. The manure would be very rotten and heavy, and, in spite of the summer heat, his manure piles retain a splendid moisture and he almost always has a field of corn and roots that gives him much satisfaction and is certainly a credit to him. The second believes in spreading by hand on his corn field during the winter and plows the manure under in spring; but this plan, as I saw it, was far behind the preceding one and the results were not nearly so good. This man planted in hills; the other in drills. I may say that the first farmer uses a manure spreader, which

duction. It may be possible to institute certain lines of farming where the grain and fodder grown can be marketed through some class of live stock with considerable profit, over and above the market price of that product. However, the advantages which accrue from this system are not so great if the scheme makes such demands upon labor that production suffers. Production is the great essential in farming, but hand in hand with it goes the marketing of the product. The two should be so organized as to establish an equilibrium between production and distribution so neither will suffer. Everyone can not feed steers, but steer-feeding is an example of how labor should be distributed throughout the months of the year. During the summer crops are produced and the winter months are passed in feeding the product to the cattle and thus disposing of it.

BUYING AND SELLING.

The average agriculturist has not time to become a first-rate business man. Consequently, he should take advantage of every institution, co-operative or otherwise, through which to sell his product. If there is a co-operative society in the community, of good standing, and managed by a reliable man, it is usually advisable to distribute through that organization. Where a farmer has special markets of his own, it may be well to sell through them or to them, but here again too much time should not be wasted in catering to these markets. In other words, the production end of the business should not be neglected. Even if an organization in the community does procure for the farmer a slightly smaller price than could be obtained in some special market, if would be worth his while considering it. If, by the manager of the association, taking the responsibility as to the details connected with the transaction, time can be saved that may even up the price and make the profits as great as they otherwise would be. The same principle applies to the buying. Goods which are used in any quantity should be bought in a wholesale way.

IMPORTANT FACTORS ONLY MENTIONED.

Some system of filing, or preserving letters and accounts, will save time and annoyance. Use machines and mechanical devices where possible. Farm implements and machinery should be carefully inspected, oiled, nuts tightened, and repairs made, before going to the field. Each man should operate a large implement, drawn by three or four horses, wherever practicable. Provision should be made for some job during rainy days, or when something goes wrong. Distribute the labor as much as possible throughout the year; have something profitable to do in winter. Watch the leakage of manure so there will be no by-products going to the pigs, chickens and such prevent waste. Sell a good deal, but be careful about purchasing. Keep the man satisfied and interested in the work, and pay the man according to merit. Reduce the depreciation on equipment to a minimum.

More Analysis of Hill-Grown and Drill-Grown Corn.

Many readers interested in growing corn for silage purposes will probably remember an article which appeared in these columns in the issue of December 16, 1915, entitled "An Important Experiment With Corn." The subject matter of that article dealt chiefly with the growing of corn thickly in drills, versus planting it in hills. The analysis of the types of corn thus grown at Weldwood in 1915 was given, and a few remarks printed as to the cultural methods employed. Since that time the silage resulting from both the hill-grown and drill-grown corn has been fed, and the silage has been analyzed by Professor R. Harcourt, of the Ontario Agricultural College. A great number of readers evinced no small amount of interest in the test as previously reported. We herewith publish the results of further and final comparisons of these two samples of corn. The work was done both in a practical and scientific manner, namely in the chemical laboratory of the Agricultural College, at Guelph, and in the stable at Weldwood.

A brief resume of the former report may be of value here before stating final results. Corn was planted in the spring of 1915, in hills and in drills. The drills were three feet apart and 50 lbs. (almost a bushel of shelled corn) were sown per acre. The corn grew very thick in the rows, so thick in fact that it could not produce cobs of any size or in any quantity. The other part of the field produced hill-grown corn planted with the check-row planter in hills spaced 3 feet 6 inches by 3 feet 2 inches, or 42 by 38 inches apart. From three to five stalks were produced in each hill, and cobs developed which arrived at a fair degree of maturity for silage corn. On September 28 the corn was cut, both the hill-grown and drill-grown. Thus both samples grew for the same number of days, and had equal opportunity to mature. So far as fertilization and cultivation were concerned, both were treated alike. It was a poor season to work in corn on account of the excessive moisture, but one part of the field was kept as clean as the other, with the same expenditure of labor. No partiality was shown either crop in any way. The purpose was to ascertain, if possible, the most profitable way in which to grow silage corn, and learn whether it is necessary to produce cobs in order to get the same amount of feeding stuffs and maturity. The drill-grown corn far out-yielded that grown in hills. The latter was a good sample, as people generally look upon silage corn, but that grown in drills possessed very few cobs, and what did develop were small. The analysis of the green corn revealed the percentages of the principal constituents. This analysis was made by Professor Harcourt, and it is here reproduced.

meant a larger acreage covered more evenly, while the hand-spread manure was uneven and altogether too thick to allow any amount of the field to be fed. The third is the plan I have adopted, and am satisfied with results. I believe in fall plowing generally, more especially for corn and roots. For roots I prefer a good dressing of well-rotted manure to be plowed in in the fall, and plow again in spring, working until the manure is absolutely absorbed in the soil, giving the roots a good chance for development. This means a pile of manure must be held over, and if a pile is well built and in a low place, it will retain sufficient moisture to cause the desired effect, and in the fall season one may dig it out with a shovel, and it is fairly certain that no weed seeds survive this treatment. For corn I draw from the stable to the field and make piles of about fifteen loads in each, leaving it at the manure yard till I have this amount in order to make up the pile the same day, if possible. If I have not sufficient new manure to ensure a slow heat, a bag of fresh lime, scattered a little in the centre, after a few loads, will help in this way. I like it to heat enough not to freeze through. I place these piles conveniently, allowing about 10 loads (manure spreader) to the acre. There they remain till after the oats and barley are in. Should the land show signs of getting grassy, I at once disk it thoroughly and at the allotted time I have a good team on the spreader, and two men in about a week will spread the whole of the piles from 60 head of cattle and pigs. We keep it thoroughly disked close up, not allowing the manure to dry out and give a double-crossing with disk, and again with the drags, if necessary the cultivator as well. We then harrow down for a fine surface. This will, on ordinary land, prove sufficient to ensure a splendid seed bed, and it is my plan to drill three feet apart and cultivate as long as I can pass through without damaging the corn, the last time arranging the cultivator to pack up closely in order that when a shower comes, the manure yields the requirements to make strong, healthy corn. This plan gives us, usually, from ten to twelve tons per acre. I am convinced that manure well piled, loses very little of its strength, but that manure spread in winter, loses considerable plant food during the early spring thaw. There must necessarily be a "run off," and by watching the process one can easily be convinced of this fact.

Labelle Co., Que.

CHAS. GOULD.

THE DAIRY.

All Branches of Farming Discussed at Huntingdon Dairymen's Association.

The practical side of things characterized the 34th annual convention of the Huntingdon Dairymen's Association, held at Hemmingford, Que., on February 18. President, D. H. Brown, Beith, occupied the chair, and many prominent agriculturists and live-stock breeders from the various sections of the district of Beauharnois were present at each session. R. W. Blair, Mayor, and Robert Ellerton, Secretary-Treasurer, Hemmingford, welcomed the members of the Convention.

The President, in his opening remarks, paid a tribute to the progressive men who organized and successfully carried on the work of the Association for 34 years. Such men as the late D. M. Macpherson, its first president, and his successor, Robert Ness, and those associated with them in the work, laid a strong foundation on which we men of to-day can continue to build. Great advancement in agriculture and dairying had been made since the organization of the Association and methods advocated by them, which were considered by many beyond their reach are now widely practiced.

The Secretary, W. F. Stephen, of Huntingdon, in his report of the year's work, referred to the past year as one of the best in the history of the district. Large crops, an increased milk flow, and higher prices for dairy products had been realized. There was a bigger make of cheese and more milk and cream shipped to the city than ever before. He contrasted present conditions in the district with those of 30 years ago, when there were over 40 cheeseries and 10 or 12 creameries. Now there were less than a dozen cheeseries and 6 or 8 creameries, owing to the bulk of milk and cream going to Montreal. The condensary at Huntingdon and receiving stations at Ormstown also took a large quantity of milk that formerly went to factories. It is recognized that the purest and cleanest milk received in Montreal comes from this district. The financial statement showed a balance on hand of \$10,67.

Prof. Barton was the first speaker at the morning session, and discussed the "Horse Industry" from many viewpoints. He paid a compliment to the enterprise and progressiveness of the farmers of the district of Beauharnois, but thought there was still room for improvement. He made a survey of the conditions surrounding the production and sale of horses. If we are going to breed there must be an outlet, therefore, the marketing end was important. He impressed his hearers by stating that in spite of the many competing agents, horses were the only branch of live stock that had made a steady increase in numbers. There were fewer cattle, sheep, and swine in Canada and the United States than a few years ago. The statistics had taken many of our horses. Statistics show that in 1909, 19,711 horses passed through Winnipeg; 33,571 in 1910; 26,072 in 1911; 4,932 in 1912, and comparatively few in 1914 and 1915. Local demands, the opening of new country, lumbering and commercial enterprise were all factors

demanding a supply of horses. There is little call from the West for horses. Lumbering was quiet, therefore, the cities were our chief purchasers. The war has caused a demand not as big as was expected, but up to Jan. 1, 1916, over 42,000 horses had been purchased in Canada for war purposes, and more would be required. The greatest competitor of the horse was the tractor, but so far it had been shown that on the land the horse was the cheapest propelling power. The auto had displaced the lighter class of horses to some extent, but there would always be a place and demand for good drafters. He considered this should not be overlooked, and farmers should rear one or more colts each year. At the College farm they had found that the idle horse in winter was a loss, and by breeding the mare so as to foal in the fall would overcome this to a large extent. Farmers must learn that a better quality horse is wanted, therefore, breed only their best mares to the best stallion, and thus have high-class stock. The cost of production was increasing, labor being the chief factor, and farmers must improve conditions so that better horses may be more economically reared.

At the afternoon session, James Morris, M.P. for Chateauguay County, referred briefly to the manner in which this district was coming to the front as a great live-stock centre, also that Canada had received much prominence through her great crop and the increased production of 1915, together with the splendid part she had played in assisting the mother country in her many contributions, the best of which was the thousands of her noble sons, who had sacrificed much, even life itself in many cases, for the cause of justice and truth. He referred to the splendid work of the Live Stock Commissioner, in making it possible to secure the best class of breeding sires, to the great possibilities in the dairy industry and to the work of the small experimental farms, one of which had been established at St. Chrysostome, and thought there should be one in the east end of Huntingdon county.

As Hemmingford is a great apple producing section an hour or two was given to fruit growing. Fred H. Grindly, of the Fruit Branch, Ottawa, spoke on the marketing of apples, and advised the co-operative system now so successfully carried out in Ontario, Nova Scotia, British Columbia and certain parts of Quebec. Montreal was the natural market for Quebec

on the ground and ploughed within in the spring fosters the growth of the tree and at the same time ripens the wood, and thus the trees become more hardy. Pruning is important, the tree should be cut back so as to have a low headed tree and heavier to the side of the prevailing wind. Fertilization should not be neglected, 8 to 10 tons per acre of barnyard manure with 500 to 600 lbs. of good fertilizer will give good results. Wood ashes are beneficial, especially in bearing orchards. Apples cannot be successfully grown if spraying is omitted. The mixtures recommended, applied by a large hand or power sprayer, three or four times during the season and at proper times will give excellent results. There is no reason why in the Province of Quebec the growing of apples should not be made a more prominent feature of agriculture. We have a splendid home market, and Quebec apples should be sold in large quantities instead of apples from the States of Washington and Idaho.

Robert Brodie, of Westmount, spoke briefly in the discussion which followed the two addresses, and C. E. Baxter, of the Fruit Branch, Ottawa, also spoke on the fruit question; J. A. Robb, M.P., for Huntingdon, spoke briefly on live stock and dairy matters.

Building up of the dairy herd by the use of pure-bred sires, and the rearing of the calf, were ably handled by R. R. Ness, Howick's noted Ayrshire breeder, and Neil Sangster, Ormstown's noted Holstein breeder. The former stated that the influence of the good, pure-bred sire was the most important factor in the improvement of the herd. He considered that the sire was more than half of the herd, therefore, the inferior sire should go to the butcher. Sires should be selected from families of good type backed up with good records of milk and fat. A few dollars difference in the price between a good and inferior sire frequently influenced men from procuring the superior animal. This difference was often more than made up by the first crop of calves. Mr. Ness advocated the keeping of the old bull until his usefulness was past. Often good bulls went to the butcher before their ability to produce heifers of high quality had been established. In selecting a sire choose one that is strong and vigorous, and especially strong where the females of the herd are weak. Where the herd production had increased it was frequently due to the better sires used from time to time. In the discussion which followed, co-operation in using the good, old sire was strongly advocated.

Mr. Sangster, in his address, said that he recognized the importance of using only sires of quality, along with this he advocated paying more attention to the babyhood of the cow. He claimed that many cows were ruined by being stunted when in the calf period through lack of proper feed and care, and, therefore, there was no development. This is in evidence in many parts of our country. The undeveloped cow was more subject to disease, and from this class we get the great numbers of "boarders." The calf should be well fed, new milk at first gradually turning to skim at about three weeks old. From now on the calf should be kept in a growing condition at maturity may be insured. The feeder should use good judgment so that the calf will not take scours, the bane of the dairy cattle raiser. This is usually caused by overfeeding. He advocated feeding milk to the young calf three times a day. As the calf grows the skim-milk ration should be increased, and after each feed of milk give a small portion of meal. When the heifer is six or seven months old the task becomes easier, as she then can handle and assimilate coarser feeds as the digestive organs develop. From now on they should be kept thrifty but not fat. When they should drop their first calf depends on the breed, size and development of the heifer. Some claim that early breeding develops the milking propensities of the heifer. Where such is practiced from 18 to 20 months should elapse before the second lactation period to allow for growth and development. The cow making a large amount of milk works as hard as any horse and must be well fed and cared for. Rearing the calf under these conditions, along with skilful feeding and good care will improve a very mediocre herd into a fine herd of producers.



Destra.

Champion cow of the Dairy Test, Ottawa Winter Fair, 1916. Exhibited by Jas. Knapp, Merrickville.

apple growers, and if they did their duty there would be no apples imported from the United States to supply the demand. He recommended box packing for table apples, such as Fameuse or McIntosh Reds. For the later varieties he thought barrel packing was best for this province. While the market was now affected by the war, this was only a temporary condition, and there is bound to be an ever-increasing consumption of good apples. The Fruit Marks Act is a great protection to the producer. He said the three essentials to successful apple production were: Care of the orchard, honest packing and co-operation. These if carried out would make such a section as Hemmingford, famous for the production of apples, and would return to the growers a good profit on their investment.

Peter Reid, of Chateauguay Basin, Secretary of the Pomological Society, gave an interesting paper on the "Care of the orchard." He said there were few farms but what had a spot suitable for an apple orchard. Such ground planted with apple trees would amply repay the owner. In planting an orchard he advised that the ground be thoroughly cleaned by the growing of hoed crops. If ground is low and springy, under-drain. In planting, holes should be made sufficiently large so that the trees may be set in either way to insure straight rows. Put the best soil about the roots, and make the ground around the trees firm with the foot. Plant well-grown trees of two-year-old growth from the graft, and cut back the last year's growth to three or four buds. Thorough cultivation insures growth, but a little back when in crimson clover sown in July will retard the growth, ripen the wood and make the tree more hardy for the winter. Shallow cultivation of the orchard as the trees grow larger, and the sowing of 15 to 20 lbs. of crimson clover in July, left

so that its development at maturity may be insured. The feeder should use good judgment so that the calf will not take scours, the bane of the dairy cattle raiser. This is usually caused by overfeeding. He advocated feeding milk to the young calf three times a day. As the calf grows the skim-milk ration should be increased, and after each feed of milk give a small portion of meal. When the heifer is six or seven months old the task becomes easier, as she then can handle and assimilate coarser feeds as the digestive organs develop. From now on they should be kept thrifty but not fat. When they should drop their first calf depends on the breed, size and development of the heifer. Some claim that early breeding develops the milking propensities of the heifer. Where such is practiced from 18 to 20 months should elapse before the second lactation period to allow for growth and development. The cow making a large amount of milk works as hard as any horse and must be well fed and cared for. Rearing the calf under these conditions, along with skilful feeding and good care will improve a very mediocre herd into a fine herd of producers.

J. L. LeLaire, of St. Hyacinthe, who represented the Hon. J. E. Caron, expressed the regrets of the Minister. He was much pleased with what he had seen and heard, and could understand why the district of Beauharnois was so progressive, because of such conventions being held yearly where advanced ideas and methods were advocated by progressive men. He referred briefly to the new law governing creameries and cheeseries, and thought it was an advance step.

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from Prof. Jull, of Macdonald College, on "Farm Poultry." He illustrated his practical address with lantern slides. He showed pictures of the various utility breeds, and demonstrated on the best types of birds. He also showed the best kind of poultry-houses used at Macdonald College. These are 20 feet square, 6 feet high on south and 4 feet high on north side, double boarded on back and ends with two windows and a screen on the south side. Fowls require plenty of fresh air, but drafts must be avoided. He also dwelt on the incubation and feeding as being most important questions in connection with successful egg production. He recommended for whole grains, fed morning and noon in deep litter, a mixture of wheat, corn, buckwheat and oats, also a dry mash, fed in hopper, of two parts wheat-bran, two parts each of corn meal, middlings, crushed oats, and beef scrap. This gave the necessary protein required in egg production. If fed wet it should be mixed with sour milk, and a smaller quantity would do. Quebec egg producers had a splendid market at their door, as Montreal imported many thousands of dozens of eggs each year. It was for farmers to double the number of poultry kept, improve their stock by selection, give them better care, and the market could be captured and held by them. He advocated the formation of egg circles, and cited cases where quite an increase had been made in the increased output of eggs and of better quality. Thus would the income of our farmers be considerably increased.

The feature of the evening session was the interesting address on "The Bad and Good in Dairying," given by Mrs. Laura Rose Stephen, of Huntingdon. It was illustrated by 70 fine slides, which brought vividly before the large audience the important points made by the speaker. Splendid specimens of the different breeds of dairy cattle were thrown on the screen, and many cows famous for their production were introduced. Pictures of a scrub bull, and the \$50,000 Holstein bull, were a sermon in themselves as to what selection, breeding and feeding can do. That like produces like was strongly demonstrated by the pictures of the champion Ayrshire bull of Canada, Hobsland Masterpiece, and his son, Hobsland Perfect Piece, the champion Ayrshire bull of the United States. Both had the identical characteristics which place them at the top. The bad and good in barn locations and constructions, the interior of barns with special reference to ventilation, lighting, mangers, etc., were shown. Great emphasis was laid on the atmosphere being clean when milking is going on. There should be no putting down of hay or cleaning out of stables just before or during milking. An interesting slide was one showing a section of a cow's udder. Mrs. Stephen described the theory of milk secretion, and convinced her hearers that the milk was almost entirely secreted during the actual process of milking. The cow collected the materials, but it takes the nervous action excited by the hand pressure on the teats to secrete the fluid, gentle treatment of the cow and quick, firm milking do much in adding to the milk flow. The slide showing how easily the farm well may become contaminated from the surface drainage should cause the farmer to think of the dangers that may assail the water supply. Another educational picture was the milk route of a town, showing an outbreak of scarlet fever in about 50 homes which could be traced to one farm where there was a case of the fever. A slide showing the bacteria on just one dirty cow hair emphasized the need of clipping the hind quarters and keeping the cow's flanks and udder clean, and for having hooded milk pails.

The efficacy of cooling milk was demonstrated by showing the small life development found in milk cooled quickly by water, while milk allowed to cool naturally abounded with germ life. Looking for the best, keeping the best, doing the best were the key notes of the hour's talk given by Mrs. Stephen. The cow, she said, was God's richest and best gift, in the animal kingdom. To man no other animal contributed so largely to our health, comfort and prosperity. The cow of the right sort and handled rightly will bring a great degree of pleasure, and a goodly profit to her owner. She is the foster mother of the world, and the animal that is making the Quebec farmer happy and prosperous.

Prof. Barton in summing up the Convention, said it was a big day, as the discussions had all grouped around the "old farm." The following resolution was unanimously passed:

Moved by David Pringle, seconded by Neil Sangster, that whereas, we have learned with regret that the management of our splendid agricultural institution, Macdonald College, have announced that they are compelled, owing to lack of funds, to close the offices of the College Demonstrators, situated in eight counties in the province on the 30th of April next.

That, whereas, it is recognized that these representatives have done much progressive work in the Province, and their withdrawal would be a set back to agricultural advancement.

That, whereas, in several of the other provinces of the Dominion the District Representatives are maintained through a special apportionment of the Federal Grant to the Province.

That, therefore, be it resolved that we, the members of the Huntingdon Dairymen's Association, embracing the counties of Huntingdon, Chateaugay and Beauharnois, at an annual session assembled, are of the opinion that in the best interests of the farmers of our Province, that these offices be kept open, and that

we respectfully ask the Department of Agriculture of Quebec to allocate a special amount from the Federal Government to the Province to Macdonald College for the continuance of the District Demonstrators' work, and that we respectfully ask the Hon. J. E. Caron, Minister of Agriculture, to give this matter his immediate and favorable consideration, and that a copy of this resolution be forwarded to the Hon. Minister of Agriculture, the Provincial Treasurer, and all the Members representing those counties where offices of the College Demonstrators now exist.—Carried unanimously.

The following officers were elected: President, D. H. Brown, Beith, Que.; Vice-President, R. R. Ness, Howick, Que.; Secretary-Treasurer, W. F. Stephen, Huntingdon, Que. Directors—Alf. Alseph, Valleyfield, Que.; Neil Sangster, Ormstown, Que.; D. A. McCormick, Allan's Corners, Que.; John McDougall, Ormstown, Que.; Hector Gordon, Howick, Que.; M. M. McNaughton, Huntingdon, Que.; David Pringle, Huntingdon, Que.; Geo. Bustard, Jr., Vicars, Que.; R. T. Brownlee, Hemmingford, Que.; and Geo. Tennant, St. Louis, Que.

A Common Ailment of Calves.

Young calves are subject to the disease known as "scours"; hence every precaution should be taken to avoid the calves becoming affected, as it gives them a set-back from which it takes considerable time to recover. It is claimed that indigestion is really the disease and scouring the symptom. The trouble may arise from several causes, as over-feeding, feeding the milk too cold, or feeding it in dirty pails. Dirty, damp stalls, or endeavoring to substitute unsuitable feeds for milk, before the young animal's digestive system is strong enough to stand the change, may cause the trouble. The feed ferments in the stomach, rather than digests, and products which are formed irritate the intestines, causing the calf to scour. When the feed is not properly digested and assimilated, poisons are produced which become absorbed into the system causing the calf to weaken. Treatment should be given when the first symptom of sickness is shown. First, find the cause of the trouble and remove it. Then, give a dose of from one to two ounces of castor oil to remove any irritating material from the intestines. It is claimed that a teaspoonful of blood meal or lime water added to the milk at each feed is beneficial. Raw eggs have been given after the oil, with satisfactory results. The following treatment is recommended: Powdered chalk, 2 ozs.; powdered catechu, 1 oz.; ginger, ½ oz.; opium, 2 drams; peppermint water, 1 pint. Give one tablespoonful of this mixture in milk night and morning.

Young calves are frequently lost by being affected with "white scours," which is believed to be caused by a germ entering the system through the navel cord. The calf so affected frequently dies when three or four days old. In this case every effort should be made to prevent infection. Have the cow due to freshen placed in a clean, well-bedded stall, and when the calf arrives, disinfect the navel cord with a five per cent. carbolic acid solution. This should be repeated until the navel cord dries up. The first internal treatment is a dose of one to two ounces of castor oil in milk, followed by the Formalin treatment, which consists of diluting one half ounce of formalin with fifteen and one half ounces of water. The calf is fed a teaspoonful of this solution to a pint of milk three or four times daily. The water should be boiled before using, and the solution kept in an amber-colored bottle to prevent chemical changes taking place.

It is possible to avoid many of the troubles affecting young stock, and prevention is always easier than effecting a cure.

Rennet Supply for Canadian Cheese Assured.

Editor "The Farmers' Advocate".

For some time, cheesemakers and those interested in the continued development of the Canadian cheese trade, have been anxious about the supply of rennet, which is an essential factor in cheese manufacture. The European war cut off large supplies of rennet or calves' stomachs from Europe. The home supply has been neglected. A local butcher told the writer recently that he used to be able to sell the stomach from slaughtered calves at fair prices, but during recent years he had not saved any of these, because it did not pay.

The Dairy Department of the Ontario Agricultural College has been in touch with several firms on this matter for some time. We are glad to be able to announce that one of the largest and most reliable manufacturers of rennet supplies has assured us that if there is any danger of Canadian cheesemakers not being able to get a full supply of rennet, they will be prepared to start a branch factory in Canada at short notice.

We expect to make some investigations during the coming summer on home-rennet-supply, and have already arranged with a local butcher to save us calves' stomachs during the coming season. It would be wisdom on the part of all cheesemakers to conserve, so far as possible, all rennets in the home locality, so that they might be utilized, if necessary, for rennet manufacture. We do not advise cheesemakers to use home-made in preference to commercial extract, but home-made would be better than none. The price allowed per stomach, by the manufacturers of commercial rennet, is about twelve cents each. Assuming there were 50 to 100 calves killed in a neigh-

borhood or by the local butcher, this would mean six to twelve dollars for very little labor. After cutting free from the other parts, the stomach should be sprinkled with salt and packed in a barrel or cask.
O. A. C., Guelph, Ont. H. H. DEAN

What Does it Cost to Raise a Dairy Cow?

In cheese-factory districts many dairymen have made a practice, in the past, of selling all their calves when a few days old, and have depended on buying mature cows to keep the herd to the required number. Men who disposed of whole milk at a good price considered it was more expensive to raise a calf than to purchase a mature animal, but, to-day the problem of buying suitable cows at an ordinary figure is becoming acute. The high price obtained for dairy products during the past few years has influenced many farmers in retaining all promising heifers and cows in their own herds. Dairymen are realizing that if the size of the herd is to be maintained and the productive capacity increased, the most satisfactory solution is to rear all strong, heifer calves from high-producing cows in their herds.

It was only a few years ago that good two-year-old heifers could be purchased for \$30 or \$40, and mature cows around \$55 or \$60. The cost of raising cows has an important bearing on the economy of milk production. The question arises: what does it cost to raise a heifer to the productive stage? It is believed that it costs more to raise the average cow than is ever returned in profits. It is essential therefore, that well-bred, strong, healthy calves that will make good use of the feed consumed, be raised. The amount and kind of feed and care received are important factors in the cost of raising the heifers. It is possible to raise them quite cheaply by skimping the amount of milk used, and in feeding ordinary roughage and concentrates which are handy, rather than studying the particular requirements necessary to grow strong, thrifty calves. The actual cost of raising calves will depend very much on the amount of whole milk and skim-milk used, and the amount of high-priced concentrates which are fed. Rough estimates are frequently made regarding the cost of raising calves, but few farmers are so situated as to be able to keep an accurate account of all feeds consumed by the young animals. Besides the feed, there are other expenses which must also be considered. Several years ago records were kept of a number of calves being raised at Macdonald College, Quebec, and during the first six months the average amount of feed consumed was 228 lbs. of whole milk; 2,699 lbs. of skim-milk; 91 lbs. of linseed meal; 92 lbs. of oats; 188 lbs. of hay; 204 lbs. of roots and silage. At the end of this period the average weight of a calf was 372 lbs. At the present market price, these feeds would cost about \$13. During the second six months \$18 would be a fair estimate of the cost of feeding a calf, or a total of \$31 for the year, and to this would have to be added value of the calf at birth, cost of labor, bedding, housing interest and taxes, which would amount to possibly \$13 or \$14. Crediting the calf with \$3 as value of manure the net cost of a yearling would be about \$42.

At several Experimental Stations in the United States, extensive work has been carried on in an endeavor to arrive at a fair average cost of raising heifer calves on feed grown on the average farm, and figured at market prices. At the Wisconsin Station records were kept of all expenses incurred in the rearing of heifers to two years of age, and the net cost was \$16.41, 12.5 per cent. of this was for labor, 22 per cent. for other costs, and 65.5 per cent. for feed. At the Connecticut Station the average net cost of rearing a heifer to two years of age was \$66. At the Ohio Agricultural Station C. C. Hayden, M. S., Chief of the Dairy Staff, has completed extensive investigation work along this line and his deductions are to the effect that Holstein Friesian heifers cost \$82.54 to raise them to two years of age, and other breeds were about the same. As heifers do not usually freshen until they are 30 to 32 months of age, the cost of raising them to the productive stage is materially increased above the figures given. The figures for the three stations vary considerably due, largely, to the value placed on calves at birth, the kind of feed fed, and the ruling market price. The factors considered by Prof. Hayden on arriving at these figures, were the value of calf at birth, feed, labor, housing, interest, insurance, taxes, and service fee. It was rather difficult to put an average value on labor in looking after calves, as the cost varies with the number cared for, local labor conditions and class of labor employed. The item of taxes and insurance varies with the tax rate and value of heifers, which depends on the breeding and demand. The investigation work reported in Bulletin 49 of the U. S. Department of Agriculture Bureau of Plant Industry, shows that the labor requirement for heifers one year of age is 7.13 minutes per day, and for heifers one to two years of age, four minutes per day. A laborer's time is figured at 15 cents

per hour, which makes the cost of labor the first year \$6.50, and \$3.65 for the second year. Prof. Hayden, in his work, valued the calf at \$5.00 at birth, and used \$6.50 as the labor cost for the first year, but valued the time at \$5.00 for the second year, as he was of the opinion that one cent per day was not sufficient. A charge of \$2.00 for the first year and \$2.50 for the second was made for bedding; for utensils, tools, and veterinary fees, a charge of \$1.00 per head was made. Housing was charged at \$2.00 per head per year; interest and taxes were charged at the rate of five per cent. and one per cent. respectively on the value of the calf at birth, plus the cost of tools, plus one-half the cost of feed, labor and bedding, less the value of the manure. The service fee was \$1.50. A credit for manure of \$3.00 the first year and \$6.00 the second year was given. The pasture was charged at the rate of 30 cents per month the first year, and 90 cents for the second. This may be considered low for some sections. Feed was charged at the following prices: whole milk, \$1.50 per hundred; skim-milk at 20 cents per hundredweight; clover hay, \$12.00 per ton; corn silage and stover, at \$4.00 per ton; wheat-bran, at \$24.00, and linseed meal at \$33.00 per ton. All feeds were weighed, and any feed refused was weighed again and deducted from the amount fed. Naturally, the heifers receiving the largest amount of milk, and smallest amount of pasture were the most expensive to raise, which emphasizes the fact that heifers born in the fall and normally fed, cost less to one year of age than those born in the spring, even though a normal amount of milk is fed to each. The calf born in the fall consumes its milk during the grain-feeding season, thus reducing the amount of grain required, and when spring comes, it is old enough to make the maximum use of pasture during the full pasture season. The spring-born calf consumes its milk during the cheap pasture season, and must be fed on grain and roughage at a time when it eats the most.

The heifers, used in estimating the cost of feeding, made a daily gain of about 1.3 lbs. the first year, and one pound the second year. They were fed a considerable quantity of whole milk and skim-milk, which possibly increased the cost somewhat. However, if any dairyman purposes raising a thrifty calf, that will have sufficient size when mature, it is poor economy to skimp the amount of milk fed. Of course, good, thrifty calves have been raised on a small amount of milk in combination with sweet, clover hay, oat chop, cornmeal, and a little linseed meal. The following figures give the average amount of feed consumed with thirty heifers in the test: At the end of the first year the weight was 564 lbs., and in that time 499 lbs. of whole milk, 2,786 lbs. of skim-milk; 656 lbs. of grain; 586 lbs. of silage; 768 lbs. of hay; and 9 lbs. of stover was consumed, besides 128 lbs. on pasture. The total cost of the feed was \$29.31. Valuing other costs, as previously mentioned, at \$14.79, the total net cost was \$44.10, for a calf at one year of age. From one to two years of age the feed consumed was: 174 lbs. of skim-milk; 870 lbs. of grain; 2,247 lbs. of silage; 1,419 lbs. of hay; 232 lbs. of stover, and 151 days on pasture. The total feed cost was \$29.55, and other costs \$8.89, making the net cost of \$38.44 for rearing the heifer from one to two years. These figures may seem rather high, but, on the feed given, the calves just made ordinary gains, and would not average over 1,000 lbs. apiece at the end of the second year. Possibly equally good calves might be fed at less expense, on the average farm, where only a few are being raised, and exceptionally good care given, but the figures quoted for the various expenses and feed appear reasonable; in fact, some of the feed was valued at a lower figure than the present market conditions would warrant. It is believed that, when everything is considered, the average cow costs more to raise than most dairymen figure on.

It is as expensive to raise an ordinary calf from low-producing ancestors, as it is the calf from high-producing stock, which, in all probability will be a profitable producer. If a cow returns \$10 profit each year, it will take about eight years for her to repay the cost of raising to two years of age. At this age the cow would be past her period of usefulness. However, cows that furnish their owner with \$10 profit give him a living wage, and a high rate of interest on his investment. It is believed that the average cow does not return a profit of \$10 per year, if feed, labor, housing and interest on investment are considered. Therefore, in order to receive good wages, the aim should be to raise and keep high-lucing cows on the farm.

Suppose it does cost \$80.00 or \$90.00 to raise a calf to the productive stage, during that two years or over the feeder is receiving a fair wage, all feed and bedding is paid for at market price, cost of stabling, taxes and interest on investment are also considered, so if the calf is only worth what it actually cost to raise it to the time when it returns a revenue, the feeder is losing no money. On first thought \$10.00 may seem a small annual profit from a cow, but it is equal to 12 1/2 per cent interest on the cost of raising a heifer. It is doubtful if any other branch of farming pays as high a rate of interest. If a cow at this age produces \$5.00 above the expenses incurred in raising her, she is a profitable investment. It is believed that a cow that produces \$10.00 per year will pay for itself in a shorter time than if it incurred

The Head of the Herd.

The progressive dairyman depends on the use of a pure-bred sire for improving the productive capacity of the herd, and the sire that usually brings the highest price is one whose immediate ancestors are high producers, both of milk and butter fat. As like tends to produce like, the natural conclusion is that a bull from high-producing stock will transmit heavy-producing qualities to his progeny, and in the majority of herds the use of a bull from such stock has been the means of increasing the average yield of milk from one to two thousand pounds per cow in the second generation. When the possibilities resulting from the use of good sires are so great, dairymen can well afford to pay a big price for an animal that represents not only a lifetime, but possibly generations, of careful breeding and selection for high production. But, in purchasing a herd header, pedigree is not the only consideration. No matter what records the bull's ancestors have made, if the animal himself does not appear to possess prepotency, individuality, trueness to breed type, and a strong constitution, pedigree should not be considered too highly. However, it is possible to secure bulls showing these characteristics along with the very best of breeding.

In raising the young bull he should receive careful attention and good feed in order to keep him in a healthy condition, so he will make normal growth. While it is possible that an animal that is thrifty, yet undersized on account of insufficient feed, may produce offspring equal in size to the calves from a larger sire, such an animal is not in demand on the market. The bull calf can be raised on skim-milk equally as well as the heifer. Until six months of age, heifer and bull calves may run together. The following daily ration will keep a calf in thrifty condition: When fifteen days old, about ten pounds of whole milk and two pounds of skim-milk, three ounces of concentrates made up of equal parts of corn meal and ground oats, and one-half pound of clover hay; at one month of age the whole milk will have been entirely substituted by about twelve pounds of skim-milk, and the average calf will eat about one-half pound of concentrates and one pound of hay; at two months of age the skim-milk need not be increased but one pound of concentrates, two pounds of clover hay and two pounds of silage or roots will probably be consumed. As the calf grows, concentrates and roughage are gradually increased. Only hay of good quality should be used for feeding to calves and bright, leafy clover which has been cut early makes the best roughage. Alfalfa is excellent feed, especially after milk is discontinued.

At six months of age bull calves should be separated from the heifers and fed more heavily on grain. If a number of bulls are run loose in a pen, they sometimes fight; consequently they do not do so well as if placed in separate pens. The bull should be sufficiently mature for light service at ten or twelve months of age. The calf should be halter broken and so handled from calf-hood that he will recognize man as his master. If this were done, there would be fewer cross bulls in the country. The bull in full service will require about the same quantity of feed as a dairy cow giving a good flow of milk to keep him in good condition. Clover or alfalfa hay, turnips and silage along with from six to eight pounds of concentrates make a suitable ration.

To maintain health and vitality the bull must have plenty of exercise. Possibly the most suitable quarters is a box stall with a paddock adjoining in which he may exercise. Every precaution should be taken to have stall partitions and paddock fences strongly built so that there will be no possibility of the bull learning how to break loose. The man handling the bull should do so without displaying fear, and yet always be careful. Many accidents occur with bulls that have been too much trusted.

Too many dairymen use a bull for two or three years, and then, just when his value as a producer of stock becomes known, he is sold to be slaughtered. For the best interests of the dairy industry it is time that this practice ceased in case of good bulls. A proven bull, three or four years old, can often be bought for less money than would have to be paid for an untried, young animal. As a bull's usefulness usually lasts for a number of years, if he is properly cared for, it would oftentimes be advisable to head the herd with an animal that is known to leave good stock rather than depend entirely on the services of a young sire.

POULTRY.

A Nest to Prevent Egg-Eating.

Editor "The Farmer's Advocate."

At this season of the year, through neglecting something from the hens' diet or because we could not get it for them, they often acquire the very annoying and expensive habit of egg-eating. They can not be cured nine times out of ten, and we hate to kill the whole lot of them. Yet, to cure them that way, we would have to kill nearly every one, because it goes through a whole flock in no time. Even after doing all we can in the way of supplying the proper feed to the hens, they will sometimes keep on eating their eggs and a nest to prevent it is the only resort that is left. Necessity is the mother of invention, and driven by necessity I experimented till I evolved the nest here described. It is quite satisfactory, if it is cleared of eggs occasionally during the day, to prevent one egg falling on another, and is well adapted to keep a company of eggs set in the bottom of the nest. An ordinary nail keg or even wooden box may be used, though the roundness of the keg lends

itself more readily to the best working of the nest. On the inside of the keg nail three strips perpendicularly so that the top end of the strips or cleats will be about eight inches from the bottom of the keg. I generally make the cleats out of an inch board, sawing off the strips an inch wide and six inches long. These cleats are for the false bottom of the nest to rest upon. Place them on the inside of the keg some distance apart so that the weight of the hens will not tip them and let the hens fall through and down on to the eggs. If the box or keg is large, four cleats will be found better. Cut a board that will fit loosely into the keg, and in the centre of the board cut a hole big enough to let an egg through easily. Take a bunch of straw and lay it on top of this board; then with strong cord or fine wire, like stove-pipe wire, fasten the straw to the board by winding the wire or string over the straw, passing it through the hole to the edge of the board, then on under the board and up through the hole over the straw again and so on, till you have fastened it securely, going all the way round the false bottom. In the bottom of the keg put some hay, clover is the best as it is springy. Leave it cone-shaped with the cone directly pointed under the hole of the false bottom. Place the false bottom on the cleats and the nest is ready. As soon as the hen starts to pick at the egg, it will roll down the hole, drop on the top of the cone of hay and roll to the outside of the keg. You can get the eggs by putting your hand through the hole in the false bottom; lift the false bottom out and if necessary fix the hay back into cone shape again. Keep the straw on the false bottom good and high next the sides of the keg to insure the egg rolling to the hole in the centre of the false bottom, so it can drop through.

I have seen the hens with their legs kicking in the air and their heads down in the hole trying to get at the eggs, and so long as I kept the cone in good shape the eggs would be safe. It takes but a few minutes to make them and they work.

West Summerland, B. C. WALTER M. WRIGHT

More Hints on Incubation.

EDITOR THE FARMER'S ADVOCATE:

This letter is written by one who is not in a position, financially, to make conditions suitable to his case but has to adjust his case to suit the conditions. It is all very well for learned men to recommend to us that we should keep our incubators in an airy well-ventilated cellar, dry, but not too dry, or a room, the temperature of which neither rises nor descends above certain prescribed limits. Suppose your cellar does not possess the ideal cement floor; suppose it is as damp as they make them, are you to give up the idea of hatching chickens out of an incubator? Undoubtedly the best place to run an incubator is a cellar. There is an even temperature, no vibration and a certain amount of moisture. The best hatch I ever saw was obtained by a novice with a 250-egg machine in a cellar that had little ventilation and down the walls of which the water was fairly trickling. It was his first try and I tested the eggs for him. As I had sold him the eggs with a guarantee that I would replace all infertile, you can depend upon it that I left in any that had the remotest chance of hatching—and he got 175 chicks out of 190 eggs. So don't worry even if your cellar is damp and has only a clay floor.

And if you haven't a cellar, pick out a quiet bedroom I have seen incubators run in the parlour, or even in a big kitchen, but the owners of the last-named told me they thought the jarring affected the results. When I first ran an incubator, three years ago, I ran it in a room which wasn't used. Out of the first 250 eggs I got 75 chickens. I thought I hadn't attended sufficiently to details. The chicks were there, but they were dead in shell. So I tried again with 50 chicks this time, and a third time with only 35. By then I thought incubators were a fraud and gave it up as a bad job. The next year, finding results from hens set on my own eggs (the others had been bought from a distance) were good, I set 240 in the incubator for a week or 10 days, and then took them out and placed them under hens. And I got 165 chickens out of 190 fertile eggs. So I ran off 100 eggs in the incubator once more and got 68 chickens out of 80 fertile. I wondered why I had such different results with the same machine. And I believe the reason was that the second year I had put into the machine a big tray containing water. The first year the eggs had been too dry and as the spring advanced and the ground grew drier and drier, so did the eggs in the incubator, and the chicks died for want of moisture.

Last year I got fair results every time, especially with eggs which had not been carried on a railroad, but had been selected from my own or my neighbor's birds. I do not propose to give full instructions for running incubators, but I want to point out one or two things—the less vibration the better, the more airing the eggs get the more moisture they need to take the place of that evaporated. Get the local druggist to test your thermometer for you, and if the thermometer hangs over the eggs and is not on the same level, remember that the higher it is the higher the temperature it will register, and if it makes 104 degrees, it will be less than 103 degrees down below where the eggs are. Every good chick should be out by the end of the 21st day, and if they are not, you should run the incubator at a trifle higher temperature. The colder the room is the hotter should be the incubator in order that the owners will get sufficient heat. See that the incubator is level or the heat all goes up to one corner. You will find that the eggs nearest the lamp will hatch quicker than those farther away. Even though the lamp is outside it makes a trifling difference to the inside

It is a good plan to mark both sides of the eggs, so that you can tell exactly when they are turned.

By following the directions in other respects you should be able to get good results, no matter what the season. Use eggs from good stock and the chickens will come. Rearing is another question to be considered later. Remember that in order to have the heavy kinds of fowls laying when the top prices are being given for eggs you must use an incubator.
Lanark Co., Ont. W. J. FLETCHER.

Making Poultry Pay.

Editor "The Farmer's Advocate:"

I have been reading the reports of the different poultrymen in your paper for some time past, and as a poultrykeeper myself I thought I would give the many readers of your valuable paper a few pointers on the care and management of my flock.

I keep Plymouth Rocks, chiefly, with a few White Wyandottes and Black Minorcas on trial. But I find the Plymouth Rocks are the best utility birds I ever had in my pens. Of course the egg records showed the Black Minorcas ahead by a small margin; but when the returns of the crate-fatted chicks were compared the Plymouth Rocks more than doubled the gain of the latter.

The place where I house my poultry is a log building, anything but expensive. It is 18 feet square and 8 feet high, with a partition of poultry wire, cutting 8 feet off one side for a place to separate the old hens from the pullets in the fall, because I find when I let the flock run together in the early fall, when I am forcing the pullets for the early eggs, the old hens become over-fat and do not lay any until late in the season. When it is time to house the geese for winter I turn this little department into a goose-house and put the hens and pullets all together.

The house is sprayed with a mixture of disinfectants and lime, it is also cleaned regularly to keep down the vermin. The windows are all in the south side, except one in the west, through which the last rays of the sun shine, while the hens are picking up their evening meal. It is a bad practice to have the biddies going to roost in the middle of the afternoon, and to prevent this they must be made work for what they get, and this also tends to keep them from getting too fat.

About the first of October I put my pullets in their winter quarters, and start forcing them to get them in laying condition before the cold weather sets in. They are kept separate from the old hens until the cold weather sets in. Their feed consists of a mixture of wheat, oats, peas, buckwheat and corn. A soft mash is also given at noon. The grain is fed in a litter about eight or ten inches deep. Early in the fall they get mostly wheat and oats and as the weather grows colder the other grains are mixed in their rations. For drink they have clean water before them all the time, with a drink of skim-milk or buttermilk in the morning. Green feed is supplied by cabbage, sprouted oats and sugar beets. For grit they have coarse sand and coal ashes, and as soon as they commence laying I keep in their pen a hopper full of oyster shells, and another with a dry mash composed of rolled oats, bran, and sifted oat chop. The rolled oats will appear very expensive to readers but, nevertheless, it pays to feed them. I have made a dust bath out of half an apple barrel. This I keep partly filled with dry earth and ashes. I keep it on a slant, so the rays of the sun shine directly into it. With this care and management of my flock I get fresh eggs the year round, and plenty of them when they are at their highest price, and any person who cares for his flock properly will never be able to say that poultry does not pay.

Carleton Co., Ont.

H. MOORE.

HORTICULTURE.

Pack Properly.

EDITOR THE FARMER'S ADVOCATE:

Your article in the February 17 issue of THE FARMER'S ADVOCATE on "Market Only the Best Apples," is a good one, and I am very glad to see that you have taken advantage of the opportunity to point out the necessity for putting up a good standard pack of apples. Unfortunately the year 1915 will pass into history as a disastrous one to many dealers who packed a very low grade of apples. This perhaps was largely due to the fact that orchards were bought in bulk, and, when the crop proved short, the dealers packed everything in the orchards, even putting out a very low grade of No. 3's, which brought no return to themselves and proved a drag on the market.

By present indications it would appear that this year there will be a large production of apples in Canada, and the influence of such papers as yours can have a great effect in directing the minds of the farmers to the proper method of packing their fruit. One of the reasons why so much fruit was consumed in 1914, when we had such a large crop of apples, was that many growers packed only No. 1's, and what No. 2's were put up were of a high grade; and if this course is followed next year, I can see no reason why there should not, under existing conditions, be a good market for all well packed Canadian apples.

D. JOHNSON,
Dominion Fruit Commissioner.

The Practice of Dusting Apple Orchards.

When spraying fruit trees to prevent the ravages of fungous and insect pests was first introduced in this country, many looked on askance at those who pioneered in the work. We can say without hesitation that it has been a success; materials have been discovered and brought into use that make spraying more effective than it was at first. The equipment has also been developed to such an extent that one part of the labor is performed largely by gas-line power. Yet there is the mixing to be done, and the long, dripping rods to handle. Anyone who sprays from five to twenty-five acres of orchard three or four times annually, knows full well what this means. For a number of years Prof. Donald Reddick, of the New York State College of Agriculture, at Cornell, has been investigating the art of dusting apple orchards. This practice involves the use of dry, insecticides and fungicides, which are blown upon the trees with the air as a carrier. As yet no preparation has been brought into practical use in the form of dust that is effective against scale, aphids, or pear psylla. However, as a preventative of apple scab, sooty blotch, and many insects, chief amongst which is the codling worm, the method has proved practical and efficient.

Years ago excellent and comprehensive experiments were performed in a number of states, but that was in the days of Bordeaux and Paris green. They were not a success from the viewpoint of economy and efficiency. Later orchardists suddenly switched from Bordeaux to lime-sulphur solution, and from Paris green to arsenate of lead. After a few years' use of lime-sulphur solution it became known to plant pathologists that after the solution of lime-sulphur is sprayed on to the trees, it is only a few hours until the only substance remaining that possesses fungicidal properties is pure sulphur in a very fine state of division. When this fact became evident, the idea was grasped that very finely ground sulphur might be applied to the trees in the dry form. Lead arsenate then began to appear in the dry state. These two have been combined in certain proportions and have been applied through a duster with very satisfactory results.

The dust mixture is applied by means of a blower, which generates an air current in a conductor into which the materials are slowly dropped from a hopper, and which are thus carried to the fruit and foliage. There are a number of types of dusters on the market, both engine, and horse-traction, but the basic principle is the same in all. The outlet pipe is flexible, or has a flexible joint which allows freedom of motion. Any gasoline engine with sufficient power can be arranged to run the dusting machine.

Powdered sulphur of unusual fineness has been used by Prof. Reddick, in his experimental work. It is believed that the effectiveness of the treatment for scab control depends on the exceeding fineness of the sulphur. The powdered lead used in experiments was of the so-called fluffy type. From the experiments conducted, under New York State conditions, it appears that good results can be obtained from a mixture containing 85 per cent. of exceedingly finely-ground sulphur, and 15 per cent. of powdered arsenate of lead. The amounts required vary from 1.25 to 2.5 lbs. per tree at each application.

The times at which the application should be made are advised by those who have experimented with it, as follows: 1. In the pink; that is, before the blossoms open, but after the cluster-buds have separated. This will kill larvae of various spring caterpillars and will protect the trees from scab infection. 2. In the calyx; this is the most important treatment for codling moth, and should never be omitted. 3. Three weeks after the second treatment. 4. Ten weeks after the second treatment. This application is for the general protection against late scab of apple scab and sooty blotch, and against the second brood of codling moths, if there is one.

The advantages of dusting over spraying lie chiefly in that it can be performed much more speedily. It is cleaner work, and dusting can be performed under circumstances where it would be impossible to spray. For the large, commercial orchardists dusting has an even stronger appeal than for the grower with only a small plantation. In a dry year the water supply may be short, or in a wet season the ground may be so soft that a heavy sprayer cannot be dragged through the orchard. The dusting outfit is light, and mud or hills, rocks or drought, or mist and fog do not prevent treatment at the critical time. From time records it has been proved by the dust method that one can treat from one hundred to two hundred very large trees an hour. This is from four to ten times as fast as the same work can be done by the spray method. One does not have to drive to the creek or to the barn for water or supplies. Enough material may be carried along to provide for work for a half day.

As regards the cost of dusting, it has been estimated that on a commercial scale trees can

be dusted at the same total cost per tree as for spraying. Material for four applications, 2 pounds per tree each time, mixture containing 85 per cent. exceedingly fine sulphur, and 15 per cent. lead arsenate, will average about twice the cost of spraying material. However, the great saving of time and labor is a factor in the total cost per tree. It should be remembered also that dusting is not yet commercialized, and materials and equipment cannot yet be obtained so cheaply or so conveniently as can spray materials.

During the season of 1915 Prof. Reddick carried on experiments in five different orchards throughout the State of New York, the results were very satisfactory, as regards the control of apple scab, sooty blotch, and codling worm.

As yet, to our knowledge, the practice of dusting has not been investigated in Ontario. It is reported, however, that some work along this line will be conducted this coming season. It cannot be stated here that dusting will be preferable to spraying for our conditions, yet it is well for orchardists to keep in touch with this work. If dusting is any more cleanly, convenient, or time-saving, than spraying, it would be well to give it a trial. For the coming season however, spraying should be carried on with great diligence. Our orchards can be kept practically free from scab and insects, if we use the spray rod as often and as thoroughly as we should.

FARM BULLETIN.

Sawing Logs.

BY PETER MCARTHUR.

So as not to delay a little job of hauling out logs, that was in progress, the boy and I undertook to cut a maple tree into logs, so as to keep the teamsters going. It was something of a rush job, as the snow was melting, fast and everyone wanted to get through with it. The tree was one that had been blown partly out by the roots in the big windstorm of a year ago last November. It had lodged in the top of another tree, but enough roots had remained unbroken to keep it alive. As it stood it furnished a good example of what used to be called a "widow maker." It appeared to be so firmly caught in the branches of the other tree that it would not be possible to get it down without felling the tree in which it was lodged. That looked to be altogether too dangerous a task, so we left it where it was. The children used to shin up its slanting trunk, and I thought they were in no danger, but one day, when I was in the wood-lot with a visitor, I heard a crackling in the jammed branches that made me think that the "widow maker" was coming down. Of course, I issued orders for everyone to keep away from the tree, and it was probably as well that I did, for a few days later, it came crashing down. As it was an entirely sound hard maple, we decided to send it to the sawmill for flooring. Hence the job of cutting it into logs.

When we went to look at the tree, we saw trouble ahead at once. The trunk was about a foot from the ground and resting on a big branch that held it up. Even an amateur lumberman could see at once that the saw would be pinched as soon as we started to saw through the trunk. But I did not imagine that it would pinch so much. After viewing the situation carefully, we hunted up half a dozen blocks of stove-wood that had been left in the woods as being quite unsplittable. Then we cut a stout pole from the top of a small tree that had been felled for another purpose. In this way we provided ourselves with the necessary elements of a lever and began our feat of engineering. We knew we must pry up the trunk and block it so as to relieve the pressure. After a few attempts, in which we only managed to push the block under the lever down into the snow, we finally got everything solid and found that by putting all our weight on the end of our twenty-foot lever we could heave up the top of the trunk a couple of inches. That is, the two of us could, but when I went to place the blocks under it, the trunk had gone down for the boy did not have the necessary beef. And then we found that if the boy went to put in the blocks, I had not the beef. We were up against a problem about as hard as the old one in which a man tried to carry a fox, a goose and a sheaf of oats across a river in a boat that would carry only himself and two of the things he was carrying. If he took across the goose and the oats, he could not leave them together, or the goose would eat the oats. If he took over the goose and fox and left them together, the fox would eat the goose. You probably know the problem and have spent long winter evenings trying to work it out. But the working out of that problem casts no light on the one that we had to deal with. Finally I found that by swinging on the lever, I could heave up the trunk a little so I let the boy place the blocks and drive in wedges while I jumped up and down on the lever. It was quite a trick to arrange it so that he could strike the wedge at the exact moment when I had relieved the pressure by a wild swing. And as in the case of the lever, the block kept pushing down through the snow and leaves, and we had to increase the size of our wedges several times. We decided that we must block up the trunk on both sides of the spot where our measuring showed that we should saw through the trunk and that added to our difficulties. But by much swinging and pounding of wedges we finally managed to get both

blocks as firm as we could make them and the job of sawing began.

When we took up the saw I suddenly noticed that I was almost swimming in perspiration and my hair was plastered down over my eyes. But we stripped to the work, for we were bound to have the job done before they got back with the team. We started in briskly and got the saw down about half its depth when something slipped and the saw stopped dead. We went back to the lever wedges, and, by dint of much swinging and pounding, managed to heave up the trunk and block it so that the saw was loose. But after another spell of sawing we got pinched again. Five blessed times we had to go back to the lever to get the saw loose, but we were in too much of a hurry to take time to get mad. We were bound to get the job done before the team got back from the saw mill. After we finally got the top cut off the rest was easy. We placed blocks where the next cut was to be made and loosened our top-blocks, but left them close enough to keep the log that was being cut off from splitting with its own weight when we were sawing it off.

Of course, we had no more pinching, but I am not sure that that was an advantage. A man who is out of training, "fat and scant of breath," is likely to find work on the end of a crosscut saw about all that he can stand. The boy was particularly anxious to have the job done in time, and if his wind was affected, he was too proud to show it. And I couldn't let him get a suspicion that he is a better man than I am, so I tugged at that saw even when I was seeing stars. There were times when I thought that the tree would still prove a "widow maker." Once or twice I managed to remember something about which I could stop a moment to ask him a question, as if I had forgotten about it, and as if it were terribly important. In this way I managed to steal a couple of little rests that enabled me to catch my breath for a moment. But the speed at which we were going soon nipped off the two logs and I had the satisfaction of shouldering the saw and getting safely out of the woods before the team got back. Tired? Well, yes, for a few hours. But what an appetite I worked up.

Free Wheat Voted Down.

The subject of free wheat was introduced in the House of Commons during the present session by John G. Turriff, M.P., for Assiniboia, in a resolution that in order to secure to the farmers and people of Canada the advantages of the American market for wheat, wheat products and potatoes, steps should be taken at once to put these articles on the free list in the Canadian tariff. Mr. Turriff asserted that there had not been a single year during the past twenty years in which the farmers of Assiniboia could

not, during ten or eleven months of the year, take their wheat across the line, if it were not for the duty, and get from ten to sixteen cents a bushel more for it than they could get at home. He asked why every man who grows wheat in Canada should be crucified to the extent of ten cents a bushel on his wheat? He conceded that the Canadian millers would have to pay more for their wheat and sell their flour cheaper, but they could stand it when one company could make \$1,600,000 profit in a year—56 per cent. on its millions of watered stock. It was about time the government ceased telling farmers what ailed them and what was good for them. Sir Wm. Thos. White, Minister of Finance, argued that the inrush of Canadian wheat on the American market would lower prices and make any expected benefits only temporary. The proposal in the Turriff resolution would be a departure from the national policy of Canada. He stated that the Underwood (American) tariff did not simply provide that if other countries admitted United States' wheat free of duty the United States would remove the duty against their wheat. It enacted that if Canada, for example, allowed U. S. wheat and wheat products, such as flour and semolina, to enter its territory free of duty the United States would grant a like concession to Canadian wheat. He also argued that Canada should not take any step now that might hamper preferential arrangements within the Empire after the war. The crucial point in his contention appeared to be that it would not be in "the national interest" to put the 550 flour mills of Canada with a capacity of 110,000 barrels daily in competition with the 7,500 mills of the United States, with a daily capacity of 1,000,000 barrels of flour. Sir Thos. White and other speakers suggested that farmers should look to the Grain Growers' Company, a heavy buyer of wheat in the West, and which, according to Hon. Arthur Meighen, last year made a profit of 27 per cent., to raise prices. In regard to permanency of prices Hon. Frank Oliver thought farmers should not be debarred this year from getting \$1.00 per bushel, because next year it might be only 75 cents, and asserted that farmers had been penalized this year on the wheat crop to the extent of \$12,500,000 for the benefit of the milling industry and the railways. Hon. Robt. Rogers attributed existing conditions rather to the high grading system of Canada and the lack of a sample market, for which (latter) he held the Grain Growers' Association responsible and blamable. He concluded by saying that Canadian wheat should not be diverted into American channels where it would lose its transcendent identity. J. J. Hughes, M.P., of Prince Edward Island, asked why it was that Canadian flour was sold at 50 or 60 cents a barrel cheaper in Liverpool than in Eastern Canada, and thought millers must be making excessive profits in Canada. W. F. McLean, M.P., strongly favored free wheat, and proposed nationalizing the railways and means of transportation across the

Atlantic. He subsequently supported with his vote the resolution which was finally voted down on a division of 77 to 44.

The Shearer Holstein-Friesian Sale.

The sale of Holstein cattle of W. S. Shearer, Listowel, was held as advertised. There was a large crowd in attendance and bidding was brisk. The cattle were in show condition, and prices realized were quite satisfactory. Sixteen females, half the number under two years of age, averaged \$142. The following is a list of animals bringing \$100 or over, with their purchasers:

Rosarden Lad, Willis Johnston, Listowel.....	\$110
Burnside Tidy Korndyke, Jas. White, Listowel.....	185
Christie Grange, Thomas Sproule, Listowel.....	105
Princess Gretqui De Kol, R. T. Carson, Atwood.....	175
Daisy Gretqui De Kol, R. T. Carson.....	175
Flossie De Kol Clothilde, R. T. Carson.....	160
Jennie Morrison, J. J. Waechter, Mildmay.....	185
Rosarden Countess Josephine, J. M. Boyd, Atwood.....	175
Roxey of Rosarden, Ryonson Chamney, Listowel.....	145
Dutchland Grange, T. Cleland, Listowel.....	115
Listowel Grange, Robert Galbraith, Atwood.....	170
Elsie Mercena, Dr. C. A. Cline, London.....	160
Henrietta Grange, Dr. C. A. Cline.....	170
Hannah Grange, Robert Cleland, Listowel.....	150
Violet Grange, James Keith, Britton.....	100

Officers of the Guelph Winter Fair.

The annual meeting of the Directors of the Ontario Provincial Winter Fair, was held in the Secretary's office, Parliament Buildings, Toronto, Wednesday, February, 23.

The following officers were elected: Honorary President, Wm. Smith, M.P., Columbus; President, W. W. Ballantyne, Stratford; Vice-President, Jno. I. Flatt, Hamilton; Secretary-Treasurer, R. W. Wade, Toronto. Executive Committee: John Gardhouse, Weston; R. S. Stevenson, Ancaster; J. E. Brethour, Burford; William McNeil, London; A. McKenney, Amherstburg.

The date for the next Winter Fair is December 1 to 7, 1916.

It was the decision of the Directors to add a class for shearing ewes for the 1916 show to take the place of the class for shearing wethers.

Uncle Bije says, "if there is a more foolish looking spectacle than a row of grown men lined up polishing a walnut plank, with booze glasses, it has escaped his notice."

Toronto, Montreal, Buffalo and Other Leading Markets.

Toronto.

Receipts at the Union Stock Yards, West Toronto, Monday Feb. 28, were: 128 cars, 2,101 cattle, 242 hogs, 186 sheep, 196 calves, and 1,452 horses. The quality of cattle was common to good; trade was slow, with prices barely steady. Choice heavy steers, \$7.60 to \$7.85; choice butchers' steers and heifers, \$7.40 to \$7.65; common and medium, \$6.25 to \$6.50; cows, \$3.75 to \$6.50; bulls, \$5 to \$6.75; feeders, unchanged; milkers, \$60 to \$100; calves, \$5.50 to \$12; sheep, \$6 to \$9.50; lambs, \$9.50 to \$12.50; hogs, \$9.75 fed and watered.

TOTAL LIVE STOCK

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

	City	Union	Total
Cars	37	446	483
Cattle	704	5,197	5,901
Hogs	377	8,643	9,020
Sheep	131	543	674
Calves	32	473	505
Horses	52	1,671	1,723

The total receipts of live stock at the City and Union Stock Yards for the corresponding week of 1915 were:

	City	Union	Totals
Cars	42	251	293
Cattle	501	2,233	2,734
Hogs	1206	8,660	9,866
Sheep	672	430	1,102
Calves	49	300	349
Horses	97	535	632

The combined receipts of live stock at the City and Union Stock Yards for the past week show an increase of 190 car-loads, 3,167 cattle, 156 calves, 1,091 horses, and a decrease of 846 hogs, and 428 sheep and lambs, compared with the corresponding week of 1915.

The supply of fat cattle was liberal, commencing on Monday with a run of 2,518, and this was supplemented with liberal supplies on Tuesday and Wednesday, as well as on Thursday.

But the quality of the cattle on sale was far from being satisfactory, few choice finished lots, let alone loads, being amongst them, and in fact there were few loads of good. And each succeeding day was a repetition of the preceding one, as regards quality. Trade on Monday was slow, with a reduction of prices from 15 to 20 cents per cwt. from the previous week's closing quotations. Only 6 cattle sold over \$8 per cwt. and there were steers weighing 1,350 lbs. each and equal in quality to the best Christmas cattle. These were the only cattle selling over \$8, and we did not hear of any others reaching that figure, but \$7.90 was paid for one or two lots, and \$7.85 for 2 loads. The bulk of the cattle were bought between \$7 and \$7.50, a few loads bringing \$7.60 and \$7.75.

Values in cows and bulls did not suffer, as choice cows and bulls sold as high as \$7, and in a few instances \$7.25 was paid.

Taking the week through, there was little doing in the stockers, and feeder classes. One order for three car-loads from an American buyer, and a few sales to Ontario farmers, made up the bulk of the week's trading. Values were not quite as high. American buyers as a rule demand and will not take any but de-horned cattle, and are becoming more insistent in this demand.

There was little or no change in the milk and springer classes. The supply being about equal to the demand which continues good.

The supply of veal calves was about doubled, but values did not decrease, as the demand continued strong, and even more would have found ready sale.

Light deliveries of sheep and lambs caused the market to continue to be firm at our last quotations, quality considered, which was not as good as for the previous week.

Hog deliveries were fairly liberal and prices have declined slightly, as will be seen by quotations given below.

Butchers' Cattle.—Choice heavy steers at \$7.60 to \$7.85; choice butchers' cattle at \$7.30 to \$7.55; good at \$7.00 to \$7.20; medium at \$6.60 to \$6.85; common at \$6.00 to \$6.25; choice cows, \$6.50 to \$6.75; good cows, \$6.25 to \$6.50; medium, cows, \$5.40 to \$5.80; common cows, \$4.75 to \$5.25; canners and cutters, \$3.50 to \$4.50; light bulls, \$5.50 to \$6; heavy bulls, \$6.25 to \$7.

Stockers and Feeders.—Choice feeders, 900 to 1000 lbs., each, de-horned, \$7 to \$7.25; steers, 800 to 900 lbs., each, \$6.50 to \$6.75; and light stockers, 500 to 700 lbs. each, \$6 to \$6.60.

Milkers and Springers.—Choice milkers and springers at \$9 to \$10; good cows at \$7 to \$8; common cows at \$45 to \$65.

Veal Calves.—Choice, \$11.00 to \$12.00; good, \$10 to \$11.00; common, \$5.50 to \$7.50; heavy, fat, \$7 to \$8.50.

The calves sold at \$12 were new milk-fed and very scarce.

Sheep and Lambs.—Light sheep at \$8.50 to \$9.00; heavy sheep at \$7.50 to \$8.00; cull sheep, \$5.50 to \$6.25; lambs, \$11.50 to \$12.50; cull lambs, \$8.50 to \$9.50.

Hogs.—Selects fed and watered, \$9.75; \$9.40 f.o.b., and \$10.15 weighed off cars at the packing houses; 50c. per cut is being deducted for heavy fat, and light hogs; \$2.50 off for sows, and \$4 for stags from prices paid for selects; half of one per cent. of all hogs, for inspection.

BREADSTUFFS.

Wheat.—Ontario, No. 2 winter, per car lot, \$1.08 to \$1.10; slightly sprouted \$1.03 to \$1.05, according to sample; sprouted, smutty and tough, 98c. to \$1.02; according to sample; feed wheat, 85c. to 90c. Manitoba, No. 1 northern, \$1.20 1/2, Fort William; No. 2 northern, \$1.18, Fort William; No. 3 northern, \$1.15 1/2, Fort William.

Buckwheat.—Nominal, car lots, 74c. to 75c., according to freights outside.

American Corn.—No. 3 yellow, 82 1/2c., track, Toronto.

Canadian Corn.—Feed, 74c. to 75c., track, Toronto.

Peas.—No. 2, \$1.70, according to freights outside; sample peas, according to sample, \$1.25 to \$1.50.

Oats.—Ontario, No. 3 white, 43c. to 44c., according to freights outside; commercial oats, 42c. to 43c.; No. 2 Canada Western, 42 3/4, in store, Fort William; No. 3 Canada Western, 40 3/4, in store, Fort William; extra No. 1 feed, 40 3/4c., in store, Fort William; No. 1 feed, 39 3/4c., in store, Fort William.

Barley.—Ontario, good malting, 64c. to 66c.; feed barley, 57c. to 60c., according to freight outside.

Rye.—No. 1 commercial, 90c. to 91c., according to freight outside; rejected, 83c. to 85c., according to sample.

Flour.—Winter, \$4.60 to \$4.70, according to sample, track, Toronto; bulk, seaboard, \$4.60 to \$4.70, prompt shipment. Manitoba flour—First patents, \$7.00; second patents, \$6.50 in jute; strong bakers, \$6.30 in jute; in cotton, 10c. more.

HAY AND MILLFEED.

Hay.—Baled, car lots, track, Toronto, No. 1, \$17.50 to \$18.50; No. 2, \$14 to \$16, track, Toronto, per ton.

Straw.—Baled, car lots, \$6.50 to \$7, track, Toronto.

Bran.—\$25 in bags, Montreal freight; shorts, \$26, Montreal freight; middlings, \$27, Montreal freight; good feed flour, per bag, \$1.75 to \$1.85. Montreal freight.

COUNTRY PRODUCE.

Butter.—Prices remained about stationary on the wholesale during the past week. Creamery pound squares, fresh made, 35c. to 36c.; creamery cut squares, 34c. to 35c.; creamery solids, 32c. to 34c.; separator dairy, 28c. to 30c.

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THE ROYAL BANK OF CANADA

Capital Authorized - - \$ 25,000,000
Capital Paid up - - - 11,560,000
Reserve Funds - - - 13,236,000
Total Assets - - - 200,000,000

HEAD OFFICE: MONTREAL

Branches throughout every Province
of the Dominion of Canada.

Accounts of Farmers
Invited
Sale Notes Collected

Savings Department at all
Branches

Eggs—New-laid eggs again declined on
the wholesales during the past week,
selling at 28c. to 30c., and cold-storage at
23c. to 24c. per dozen.

Cheese—New, large, 19c.; twins, 19½c.
per lb.

Honey—Extracted, 11½c. to 12½c.
per pound; combs, per dozen sections,
\$2.40 to \$3.

Beans—Prime, \$1.25 to \$4.50; hand-
picked, \$4.50 to \$4.75 per bushel.

Potatoes—Ontario, per bag, car lot,
\$1.65 and \$1.70; New Brunswick, per bag,
car lot, \$1.80 and \$1.85.

Poultry—Live weight: Chickens, 14c.
to 17c. per lb.; ducks, 17c. per lb.; geese,
12c. per lb.; turkeys, young, 20c. per lb.;
turkeys, old, 18c. per lb.; fowl, heavy, 16c.
per lb.; fowl, light, 14c. to 12c. per lb.

HIDES AND SKINS.

City hides, flat, 18c.; country hides,
cured, 16c. to 17c.; country hides, part
cured, 15c. to 16c.; country hides, green,
14c. to 15c.; calf skins, per lb., 18c.;
kip skins, per lb., 16c.; sheep skins, city,
\$2 to \$3; sheep skins, country, \$1.50 to
\$2.25; lamb skins and pelts, \$1.20 to
\$1.25; horse hair, per lb., 37c. to 40c.
horse hides, No. 1, \$4 to \$5; No. 2, \$3
to \$4. Wool, washed, 40c. to 44c.; wool,
rejections, 33c. to 35c.; wool, unwashed,
28c. to 32c.

WHOLESALE FRUITS AND VEGETABLES.

Prices remained nearly stationary on
most of the offerings at the wholesales
during the past week. Navel oranges
were an exception, as they declined from
twenty-five to fifty cents per box; and are
now selling at \$2.25 to \$3.25 per case.

The home-grown mushrooms on sale
this week were of better quality than
previous shipments and brought 60c. per
lb.

Hot-house rhubarb is coming in in
larger quantities, and is of splendid
quality generally, selling at 75c. to \$1.00
per dozen bunches.

Onions continue to be very high
priced, a few choice domestic (and these
are scarce) selling at \$2.75 to \$3 per bag;
others grading at \$2 to \$2.50, the Ameri-
cans bringing \$4 per bag and Spanish
\$5.50 per case.

New cabbage is in from Florida,
selling at \$3 per case of about 48 heads.
New carrots at 65c. to \$1 per doz. bunches.
New beets at \$1.25 per dozen bunches.

Florida strawberries are in demand at
40c. per box.

Apples—25c. to 35c. per 11-quart
basket; Spys, \$4 to \$6 per bbl.; Greenings
and Baldwins, \$3 to \$5 per bbl.; Russets,
\$3 to \$4.50 per bbl.; Kings, \$3.50 to \$5
per bbl.; imported, \$2.25 to \$3 per box;
British Columbia, \$2 to \$2.50 per box;
Ontario, \$1.50 to \$2 per box.

Montreal.

Supplies of cattle on the local market
have not been at all liberal of late—more
especially of fine cattle—and, as a conse-
quence, the tone of the market for this
quality has been fairly firm. Sales of
choice steers were made at 8c., while
good to fine ranged from 7¼ to
7¾c. per lb. Fair quality changed hands
at 6½c. per lb. to 7c., while common
cattle sold from 5 to 6c. per lb., and
canning cattle at 4 to 4¾c. per lb. Sheep
and lambs continued in very good de-
mand, and it has not been any too easy
to obtain sufficient. As a consequence,
the tone of the market was very firm.
Lambs sold at 10¾c. to 11c. for best,
while sheep ranged from 6¾c. to 7½c.
per lb. The offering of calves showed a

slight increase, but the bulk were un-
desirable, the animals being young and
of poor quality. These sold at \$2 to \$3.50
apiece, with an occasional animal selling
around \$1 more. The milk-fed stock
brought 10 to 11c. per lb., and good,
stall-fed calves sold at 5½c. to 6½c. The
offerings of hogs have been larger of late
and as a consequence the tone of the
market was a little on the easy side.
Select hogs sold at 10½ to 10¾c. per lb.
weighed off cars.

Horses—There is still some demand for
horses, both from cartage companies and
from farmers making preparations for
spring operations, but the market was
nevertheless dull. There was no change
in price. Quotations were: Heavy draft
horses weighing 1,500 to 1,700 lbs., \$200
to \$250 each; light draft horses weighing
1,400 to 1,500 lbs., \$150 to \$200 each;
small horses, \$100 to \$125; and culls,
\$50 to \$75 each. Fine saddle and carriage
animals are \$200 to \$250 each.

Dressed Hogs—In sympathy with the
decline in price of live hogs, dressed hogs
sold at slightly lower prices last week.
Abattoir-dressed, fresh-killed hogs were
quoted at 14¾ to 15c., and light-weight,
country-dressed hogs at 13¾ to 14c. per
lb.

Poultry—Poultry was scarce and dear.
Demand fell off considerably because of
the high prices and, owing to this, dealers
had to accept lower figures. Choice
turkeys were quoted at 27 to 28c. per lb.,
and ordinary turkeys at 24 to 26c. Chick-
ens declined and the price ranged from
20 to 22c. per lb. Ducks sold from 18 to
20c. per lb. Geese and fowl were lower
also, being obtainable at 15 to 17c.,
according to quality.

Potatoes—The market for potatoes
held its strength and supplies were none
too plentiful. Choicest Green Mountains
and Quebec potatoes sold in car lots at
\$1.80 to \$1.85 per bag, ex-track and in a
smaller way, at 15 to 20c. advance on
these figures.

Maple Syrup and Honey—Old syrup
was not in very good demand and very
little of it was available. The price held
steady at 95c. for 8-lb. tins; \$1.10 each
for 10-lb. tins, and \$1.40 for 13-lb. tins.
Pure maple sugar was firm, at 13c. Honey
was unchanged, being quoted at 15c. for
white clover comb and 12 to 13c. for
white extracted, while brown clover comb
was 12 to 13c. and extracted 10 to 11c.
Buckwheat honey was 9 to 10½c. per lb.

Eggs—This is the one food product
which is going down in price. Production
is constantly increasing and strictly
fresh stock was quoted at 30 to 32c.
Select eggs were quoted at 26 to 27c.,
No. 1 candled at 24 to 25c. No. 2
candled, 21 to 22c.

Butter—The market for butter showed
slightly easier disposition, which is a
little surprising at this time of year,
and suggests that stocks may have been
a little heavier than anticipated. Quota-
tions for finest were 33¾ to 34½c., while
fine was quoted at about 1c. less and
seconds at 31½ to 32½c. Dairies were
27 to 28c.

Cheese—There was no change in this
market. Finest Western cheese was 18¾
to 19c. and finest Eastern ½c. less.

Grain—The wheat markets have come
down several cents during the past few
days, but the fluctuations carry the price
up and down from hour to hour. Oats
have also eased off in sympathy with
wheat. No. 2 white Ontario and Quebec
oats were quoted at 48½c., No. 3 at 47½c.,
and No. 4 at 6½c. per bushel ex-store.
Canadian westerns were steady at 53½c.
for No. 2, and 51½c. for No. 3.

Flour—In sympathy with the lower
price of wheat, flour declined to \$7.10 per
barrel for first patent Manitoba wheat
flour, \$6.60 for second patents and \$6.40
for strong bakers', in bags. Ontarios
were also lower, being \$6.60 for patents,
in wood, and \$5.90 to \$6 for straight
rollers, the latter being \$2.85 per bag.

Hay—The market was steady at \$21
per ton for No. 1, \$20.50 for No. 2 extra
good, and \$20 for No. 2 ex-track. No. 3
was \$18.50.

Seeds—Prices were unchanged. Dealers
quoted, at country points, to shippers,
\$10 to \$12 per bushel for red clover, \$7
to \$10 for alsike, and \$9 to \$12 for timothy,
the latter being per 100 lbs. and the clover
per bushel.

Hides—There was no change in the
market last week.

Buffalo.

Cattle—Receipts at Buffalo last week
were again liberal, and another market
that was generally weak, prevailed. On

some sales of shipping steers the trade
looked steady with the week before, but
steers selling under the eight-cent mark
were generally lower. There were in the
neighborhood of twenty-five cars of
shipping cattle on the market for the
week's opening—Monday—and best na-
tive steers sold from \$8.40 to \$8.50, but
no real prime steers were offered. Best
handy-weight steers sold up to \$8.35, but
from \$7.75 to \$8.00 generally took the
best lighter steers. No yearlings to speak
of were offered. A plain, light kind of steers
running in price from \$6.75 to \$7.35 were
a full quarter lower and the supply of
these was large and trading was very
slow on them. Heifers generally sold
possibly a shade lower, while cows
generally brought steady prices. In fact,
there were three cow buyers to one steer
buyer. Some of the country buyers, who
are usually long on fat cows, shifted to
some of the cheaper steers. Best heavy
heifers sold up to \$7.50, but real fancy
kinds are bringing steer prices, and sold
along with steers at the same price, some
sales of these fancy heifers running up
to \$8.00 to \$8.25, but they were a very
fancy kind. Best heavy fat cows sold at
\$6.00 to \$6.25, a medium kind running
from \$5.00 to \$5.50, canners generally
bringing from \$3.50 to \$3.75. Bulls sold
strong, few fancy heavy kinds running
up to \$7.00 to \$7.15. Very few stockers
and feeders were offered. Thousand-
pound feeders sold up to \$7.25, with 800
and 900-lb. kinds running from \$6.60 to
\$6.80, a load selected out of fifty head
costing \$6.90. Milker and springer trade
very satisfactory. Receipts last week
were 4,825 head, as against 5,300 for the
previous week and 80 head for the cor-
responding week last year. Quotations:

Shipping Steers—Choice to prime na-
tives, \$8.50 to \$8.75; fair to good, \$8.15
to \$8.35; plain, \$7.50 to \$7.75; very coarse
and common, \$6.75 to \$7.00; best Cana-
dians, \$8.00 to \$8.25; fair to good, \$7.25
to \$7.75; common and plain, \$6.50 to
\$7.00.

Butcher Steers—Choice heavy, \$8.00
to \$8.25; fair to good, \$7.25 to \$7.40;
best handy, \$7.75 to \$8.25; common to
good, \$6.25 to \$7.40; light, thin, \$5.50 to
\$6.00; yearlings, prime, \$8.00 to \$8.75;
yearlings, common to good, \$7.00 to \$7.75.

Cows and Heifers—Prime weighty
heifers, \$6.75 to \$7.00; best handy butcher
heifers, \$6.75 to \$7.25; common to good,
\$4.50 to \$6.50; best heavy fat cows, \$6.00
to \$6.25; good butchering cows, \$5.25 to
\$5.75; medium to fair, \$4.75 to \$5.00;
cutters, \$3.75 to 4.25; canners, \$3.00 to
\$3.60.

Bulls—Best heavy, \$6.50 to \$6.75;
good butchering, \$6.00 to \$6.25.

Stockers and Feeders—Best feeders,
\$6.25 to \$6.50; common to good, \$5.50 to
\$6.00; best stockers, \$6.00 to \$6.25; com-
mon to good, \$4.50 to 5.75; good yearlings,
\$6.00 to \$6.50; common, \$4.00 to \$4.75.

Milchers and Springers—Good to best,
in small lots, \$75.00 to \$85.00; in car
loads, \$60.00 to \$70.00; medium to fair,
in small lots, \$45.00 to \$55.00; in car
loads, \$45.00 to \$50.00; common, \$30.00
to \$40.00.

Hogs—A falling off in receipts was the
medium for higher prices last week. On
the opening day top was \$8.70, bulk went
at \$8.60 and pigs landed at \$7.75 and
\$7.85. Tuesday top jumped to \$8.85,
with the majority going at \$8.75 and
\$8.80 and light to good pigs brought
from \$7.00 to \$7.90. Wednesday and
Thursday a few made \$8.90, although bulk
moved at \$8.85, pigs ranging from \$7.75
to \$8.00, and Friday the big end of the
crop landed at \$8.90, with a few reaching
\$8.95 and \$9.00, latter price being the
highest since October 14th, 1915. Friday
pigs landed at \$8.00, roughs brought up
around \$7.75, and stags ranged from
\$5.00 to \$6.00. Receipts last week were
29,000 head, being against 40,705 head
for the week previous and 14,850 head
for the same week a year ago.

Sheep and Lambs—Trade on lambs
last week was not as good as the week
before. Monday one load of lambs made
\$11.85, three loads went at \$11.75, and
the general market for tops was from
\$11.50 to \$11.65. Tuesday and Wed-
nesday the top was \$11.75. Thursday
nothing brought above \$11.60 with
some selling down to \$11.35 and \$11.40
and Friday tops again reached
\$11.75, though they had to be fancy
to bring above \$11.60, and pretty good
class of stuff landed down around \$11.40.
Cull lambs sold up to \$10.75, and top
for yearlings the past week was \$10.25.
Sheep were scarce and they were held
steady all week choice wethers selling
from \$8.75 to \$9.00, with ewes from

\$8.50 down. Receipts last week reached
approximately 17,700 head, as compared
with 19,014 head for the week before
and 10,650 head for the same week a
year ago.

Calves—Last week started with tops
selling mostly at \$12.00; the next three
days best lots ranged from \$12.00 to
\$12.50, and Friday the bulk went at
\$12.50, with a few reaching \$12.75. Cull
grades went from \$10.00 down, heavy
fat calves ranged from \$7.00 to \$8.50,
and grassers, unless very desirable, are
not quotable above \$5.50. No Canadians
were offered the past week. Receipts for
the entire week reached around 2,000
head, being against 2,496 head for the
previous week and 850 head for the same
week a year ago.

Chicago.

Chicago, Feb. 26—Cattle—Beeves, \$6.-
85 to \$9.50; stockers and feeders, \$5.65
to \$7.70; cows and heifers, \$8.25 to \$8.25;
calves, \$8.50 to \$11.25.

Hogs—Light, \$8.05 to \$8.65; mixed,
\$8.35 to \$8.70; heavy, \$8.25 to \$8.75;
rough, \$8.25 to \$8.40; pigs, \$6.80 to \$8.75.

Sheep—Native, \$8.50 to \$8.50; lambs,
native, \$9.15 to \$11.25.

**The Oxford District
Holstein Sale.**

The usual high-class offering of cattle
will be seen at the 5th Annual Oxford
District Holstein Breeders' Club consig-
ment sale to be held at Woodstock on
March 15. The members of the Club
have a reputation to maintain and this
they are determined to do at the coming
event. One of the chief attractions will
be the great show bull, Prince Aberkerk
Mercena, a proven sire and brother to
Madam Posch Pauline, the only cow in
the world, it is said, to give 17,476.9 lbs.
milk and 709.9 lbs. butter in 179 days.
The owner of Prince Abbecker Mercena
is also offering one of this great bull's
daughters. Another lot included in the
sale is a 26-lb. cow. The names of the
breeders consigning stock are familiar
to all patrons of the Holstein breed.
Write to the Secretary, W. E. Thompson,
Woodstock, and get catalogues and full
particulars about the sale.

Gossip.

W. J. McCallum, Brampton, Ont., and
Wigton, Cumberland, Eng., whose ad-
vertisement appears in another column,
is in the market to purchase a number of
pedigreed Clydesdales. Parties having
such horses for sale should communicate
with Mr. McCallum.

J. A. Watt, Elora, Ont., writes that
he has done a big business in Short-
horns, in the last six months. The
recent public sales held at Toronto,
were topped by Salem Shorthorns,
either bought here, or sold directly.
Gainford Marquis, nine times first,
and unbeaten in Great Britain, cham-
pion at Chicago International, and
three years grand champion of Can-
ada, will not be shown again, although
he is as good as ever. Some time ago,
we sold his champion son, "Gainford
Perfection," for \$3,000, to Day & Roth-
rock, Spokane, Wash. "Gainford Mar-
quis" is also the sire of "Silver Queen,"
champion everywhere in 1915, and
Duchess 50th, champion of the Cana-
dian shows 1914. Gainford Marquis
in the get of sire class was never beaten,
having the honor of winning over the
get of the great Avondale, whose get
were never beaten in the United States.

SALE DATES CLAIMED.

March 8—W. J. Isaac, R. R. 1, Balti-
more, Ont.; pure-bred stock.

March 8—John Tuck, R. R. 2, Breslau,
Ont.; Shorthorns, sheep and swine.

March 9—Elias Ruby, Tavistock, Ont.;
Holsteins.

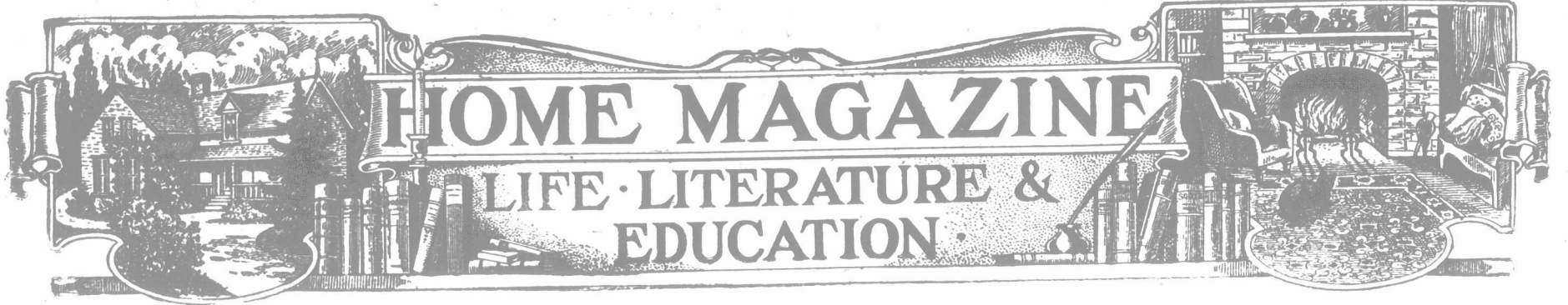
March 14—W. J. Cowan, Cannington,
Ont.; Clydesdales and Standard-breds.

March 14—East Elgin Breeders' Sale,
at Aylmer, H. C. Mann, Secretary.

March 15—Oxford District Holstein
Breeders' Club Consignment Sale, at
Woodstock; W. E. Thomson, Woodstock,
Secretary.

March 29—Western Ontario Consig-
ment Sale, London, Harry Smith, Hay,
Ont., Manager.

April 19—James Benning, Williams-
town, Ont.; Ayrshires.



Children.

A joyous sound of laughter
Blown through the gates of morning,
A gossamer of music.

(O little frightened whisper,
And hands that reach for comfort!)

Glad lips with song upswelling,
Wide eyes agaze with wonder,
Hearts tiptoe for adventure.

(O glance that brands the liar!
O words of baby wisdom!)

A rush, a cry, a scurry
Of playmate seeking playmate;
A gust of mimic passion.

(O little lifted faces
Forever asking, asking!)

Blown bubbles floating lightly
That cast no shadow after,
That mirror only heaven.

(O clear eyes filled with vision!
O lips like silent sphinxes!)
—Helen Coal Crew.

Travel Notes.

(FROM HELEN'S DIARY.)

Geneva, Dec. 17, 1915.
Alackaday! It's a weary world! I'm tired of everything—tired of this hotel, tired of looking at the same people day after day, and most awfully tired of the meals—the rubbery, drab-colored war-bread, of the stuff that looks like butter but doesn't taste like it, of the muddy, flavorless coffee, and of that everlasting veal, sometimes disguised under another name, but always just the same old veal. Bread may be the Staff of Life in some countries, but not in Switzerland. In Switzerland the Staff of Life is veal.

And I'm tired of living in a perpetual fog, and of staying in the same place, and of being jailed in one little country. And no matter where you go in that little country, you run into the worst weather ever known in that section. If you go where it is supposed to be balmy and spring-like you are treated to arctic gales and furious snow-storms, and if you hie to the high Alps for winter sports, the snow melts and the skating rinks turn into lakes.

Everything is wrong this year. I'd like to get into an aeroplane and fly to realms unknown—to some place where it was balmy and restful, where meals grew on convenient bushes, and gunpowder was never heard of.

But here we are, and here we have to stay till the war-clouds clear away. Alackaday! It's a weary world!

Dec. 20.

They have some very curious street names in old Geneva. There is a short, narrow, gloomy street, or street-let I should call it, which rejoices in the high-sounding name of "The Street of the Rising Sun." If the sun ever gets a chance to peep into that street it must be just at dawn, for all the rest of the day it is as sombre and glacial as a cellar. Not far away is the street of the Black Horse, and a little farther on the street of the White Horse, and then you come to the Hen Steps, a short, irregular strip connecting two streets. I was on its early days it was a busy street. One day when I was mooning around, I found myself on Purgatory Street, and proceeding on my thorny way, I fell straight into Hell — — — Street. Mark Twain mentions these streets in his "Tramp Abroad," but I always thought it was just one of his jokes. But, no. The names are tacked up on the street

corners in plain letters. Mark Twain relates how one day when he was on an investigating tour around the town he lost his way.

"I got lost," he says, "in a tangle of narrow, crooked streets, and stayed lost for an hour or two. Finally I found a street which looked somewhat familiar, and said to myself, 'now I am at home, I judge.' But I was wrong; this was Hell Street. Presently I found another place which had a familiar look, and said to my-

homes have been ruined, their property destroyed, and now, the Germans have got tired of feeding them, and so they are shipping them out of the country. A hundred thousand of them are being sent to the southern part of France. As they are not allowed to pass through the fighting lines, they have to be sent around by Germany and Switzerland.

For one hour I stood on the cold, damp, ground, in a chilly foggy atmosphere, waiting to see them pass by

of improvised makeshift contrivances. A most pitiable sight!

Old men and women, bent and crippled, hobbling painfully along; pale-faced, haggard women; puny children; blind people, lame people, people with sore eyes and graveyard coughs. And babies. Such a lot of babies. I tried to imagine the interior of one of those cars when all those babies were squalling at once. What a pandemonium! And it lasted two days! Two days of ear-splitting racket! But I suppose those wretched people have become so inured to discomfort that a little more or less doesn't make much difference to them.

In almost complete silence the sad procession of refugees filed past. Once or twice some of the more ambitious ones tried to shout, "Vive la Suisse," but their voices were so weak and faint they could hardly be heard. The gray-coated Swiss soldiers walked along with them acting as porters and assistants. It seemed to me as if every third soldier was carrying a baby in his brawny arms. But I saw one frail-looking young mother who absolutely refused to give up her child. Three different soldiers offered to take it from her, but she would not give it up. Perhaps she had lost everything else she had in the world, and was afraid to let her baby out of her sight.

One of the most touching things was the sight of the orphaned children—poor little, homeless waifs, tagged like a lot of cattle, and going they knew not whither.

One little boy of seven was asked: "Where is your father?" "He was killed." "And your mother?" "I don't know." "And where are you going?" "To France."

In one car there was a bunch of little children from three to six years of age. They had been dumped into the train at the last minute like so much baggage. Some of them had parents, but they didn't know where they were. The Germans didn't waste any time sorting out families, or looking up parents. They just filled the cars. Many of the parents were left behind. Perhaps they will find their children later on, perhaps they will never see them again.

The condition of the refugees when they reach Switzerland is most deplorable. They are ragged, dirty and starving. Some are revoltingly filthy and covered with vermin. Many are suffering from physical ills due to neglect and exposure.

The refugees are brought into Switzerland by way of Schaff house, where they are taken in charge by the Swiss Red Cross. When they reach Zurich they are taken to rooms prepared for the purpose and bathed, fed, and re-clothed. Those too ill to travel farther are taken to hospitals, the rest are sent on to Geneva. Sometimes the trains come right through to Geneva, and then the clean-up process is done here. At Geneva the refugees are transferred to tram cars and taken out to Annemasse, the French town just over the frontier line, and from there they are sent on to the interior of France.

It takes an enormous amount of clothes to reclothe these ragged people, and the Swiss have contributed most liberally, but the supply is running out, and the Red Cross have called for more donations.

One old Frenchman refused to accept any clothes. He said all he wanted was a black crape cap. He was asked why he wanted a black crape cap. "For my son who was killed," he said. "I had a black cap, but the German soldiers tore it off my head and put it on the head of a horse that was passing."



The "Evacués" Coming from the Station, Geneva.

The Swiss soldiers made themselves useful in carrying the babies for the refugees.

self, 'now I am at home, sure.' It was another error. This was Purgatory Street. After a little, I said, 'Now, I've got to the right place anyway.' No, this is Paradise Street, I'm further from home than I was in the beginning. Those were queer names—Calvin was the author of them, likely."

Jan. 5, 1916.

I have had my first glimpse of some of the real victims of this terrible war. I have seen a train-load of

as they came from the station. Thousands of people had gathered in the neighborhood of the station for the same purpose. A line of armed soldiers held back the crowd. Hundreds of other soldiers, unarmed, were detailed to meet the refugees at the train, and help them in any way necessary. Drawn up beside the platform were big motor ambulances for the sick and crippled.

Every one was waiting—waiting, but there was no excitement, just a great silence.



Helping the Sick and Crippled Into the Ambulance.

"evacués" on their way back to France. The "evacués" are the French people from that part of Northern France now occupied by the Germans. The refugees that are arriving here don't are from the region near Lille. Little villages in that section have been depopulated. Ever since the German invasion these people have been under German domination. Their

Suddenly, the whistle of a locomotive, the rumble of a coming train!

The train pulls into the station, and from it emerges a sad-eyed throng of battered human beings.

Here they come, slowly, haltingly, all conspicuously ticketed and numbered, and carrying in their hands all their worldly possessions—in bags, in baskets, in pillow-cases, in all sorts

The stories these people tell of the brutality of the German soldiers are so revolting as to be almost unbelievable.

Among the refugees are people of all classes of society, cultivated and ignorant, rich and poor—but now, all are poor. Only old people, women and children, and the disabled are sent back to France; all the boys over sixteen, and the able-bodied men of military age are detained by the Germans.

During all these long, dreary months, these poor French people have been kept in complete ignorance about the war. When the refugee trains arrive in Switzerland, one of the first things the Swiss do is to distribute French newspapers in the cars. The poor creatures weep with joy when they see the papers, and the pictures of the French soldiers.

Two refugee trains arrive in Geneva every day, each train bringing about 500 people. Their condition varies a good deal, depending on the particular section of the country they come from. The party that came from Longwy a few days ago were in a terrible state. There were seventy old people so ill and exhausted that they had to be conveyed to Annemasse in ambulances.

A great surprise waited the last train of refugees that reached Geneva just before Christmas. Instead of being hustled right out to Annemasse, they were taken to a hall and given a Christmas treat. There was a gorgeous Christmas tree, all a glitter with candles and spangles, and for every person there was a present. The children of Plainpalais—a certain section of Geneva—gave all their Christmas toys to the little French children. And in addition, they gave them bags of cakes and biscuits—the bags they made themselves, and the cakes they bought with the pennies they had saved.

It is no wonder these people look pinched and starved when one considers the famine prices charged for food. In Canadian coinage the prices would be equivalent to one dollar a pound for butter, eighty cents a pint for oil, six cents a pound for potatoes. Eggs cost fifteen cents apiece. Milk was not obtainable at all.

The rules and regulations laid down by the Germans were very strict, and for the least infraction there was severe punishment.

Some of the refugees bring their cats and dogs with them, and occasionally one sees a goat.

One old lady in Geneva, who is a great lover of animals, goes to every refugee train with a large basket filled with food for the cats and dogs.

And talking about dogs makes me think of the story told me by one of the ladies who assists in the work at the Red Cross Agency for Prisoners of War.

She says people write to the Agency about all sorts of things that the Agency has nothing whatever to do with. This story is an illustration. It is about a dog—a dog that belonged to an old German lady from Hanover. When the war broke out she was in Paris, and in her haste to get away she forgot her pet dog. She wrote to the Prisoners' Agency in Geneva, telling them of her sad loss, and requesting them to find her dog for her. She said she would come to Geneva and get it.

One of the Red Cross officials happened to be going to Paris about this time, and he good naturedly undertook to look up the dog.

He brought it back with him and notified the old lady.

Weeks went by and no answer came. Meanwhile the dog lived at the Agency. It was such a frisky little dog, so affectionate and responsive, that every one became greatly attached to it, especially the man who had brought it from Paris. He didn't want to part with it at all.

But one day a letter came—a letter from the old lady. She said she had started for Geneva but the frontier was closed, and she couldn't get into Switzerland. Would they please send her dog to Germany?

That was impossible at the time, so the dog continued to lead a merry existence at the Agency. It was like a little bit of joy running around loose in the middle of tragedy.

Then one day, a gentleman who was

going to Berlin offered to take the dog there with him.

There was much lamentation over the loss of the Agency pet. But it's an ill wind, etc., and the old lady was made supremely happy when she got her dog back. She made a special trip to Berlin on purpose to get it.

But I think if that dog could express its feelings in words it would say: "I don't like Germany as well as I used to. I don't like these war-time meals. And I think living in an apartment, and being an old lady's pet is a pretty dull business, anyway. I wish I were back in Geneva at the Agency, where everybody made such a fuss over me, and I had such a jolly time, and got such good things to eat."

Smiles.

Sufferer.—"This insomnia's gettin' worse. Can't even sleep when it's time to get up."—Judge.

A Highlander with bagpipes entered the street and commenced his plaintive lay, at the same time marching up and down in time-honored fashion. "Why does he move about all the time he plays?" asked Johnny of his father. "I don't know," answered the lad's father, wearily; "unless it is to prevent me getting the range with the ink-pot."

Want Too Much.—"Politics isn't what it used to be," remarked Senator Sorghum.

"Doesn't the crowd listen to you?" "Yes. They used to be satisfied to shake hands and listen to a brass band. Now they pay so much attention to my remarks that I've got to be careful what I say."—Washington Star.

His Progress.—"Last Christmas, before their marriage, she gave him a book entitled, 'A Perfect Gentleman.'"

"Well?" "This Christmas she gave him 'Wild Animals I Have Known.'"—Life.

Measles.

An epidemic of measles is abroad in various parts of Canada, and deaths, because of the disease, have been reported from various points, hence the following, gathered from a talk with Dr. H. W. Hill, Director of the Institute of Public Health, London, Ont., may be, at this time, of special interest.

In the first place, children do not "have to have" measles. They only have the disease because exposed to the germs which cause it. Moreover, the younger the child the more likely he is to die of the effects. As a matter of fact, measles should not be permitted to run rampant. The disease should be checked so effectually that before long it will be as extinct as the dodo, and considered quite discreditable to have it in a family at all.

The way to do this is to isolate every child who shows symptoms, and report at once, to the nearest Health Officer. Then steps can be taken immediately to prevent the spread of the disease.

As a rule the mortality due to measles runs higher than that due to Scarlet fever. In observations taken in London last year, in connection with the Institute of Public Health, it was found that the deaths caused by measles were 50 per cent. more.

The symptoms are, at first, much like those of a heavy cold—red eyes, snuffling, rising temperature and sore throat. When these are evident, examine the child's mouth. If red spots are found there, running to a white head with a bluish tip, (these are known professionally as "Koplik spots") measles are under way, and the rash appears three or four days later.

When a child is exposed to measles, don't expect the disease to develop right away. Between the time the germs enter the body and the time when the first symptoms, just described, appear, there is an interval of about ten days during which the child is perfectly well, and will not give the disease to others. But as soon as he is sick, he is dangerous, and should be isolated at once. Don't wait until the rash comes to take precautions. Begin at once with the very first signs of illness.



contrivances.

ment and cripp- along; pale- ouny children; e, people with coughs. And abies. I tried f one of those were squalling monium! And o days of ear- suppose those ome so injured e more or less ence to them. ce the sad pro- d past. Once ore ambitious ve la Suisse," weak and faint heard. The s walked along ers and assist- e as if every ng a baby in saw one frail- who absolute- child. Three l to take it d not give it ost everything orld, and was ut of her sight. ouching things aned children— ifs, tagged like they knew not

en was asked: er?

going?"

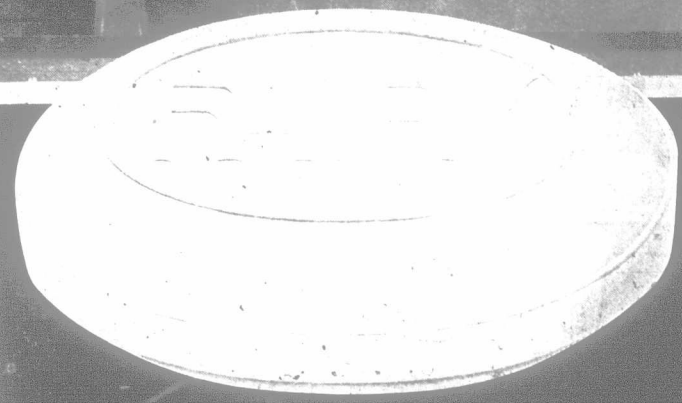
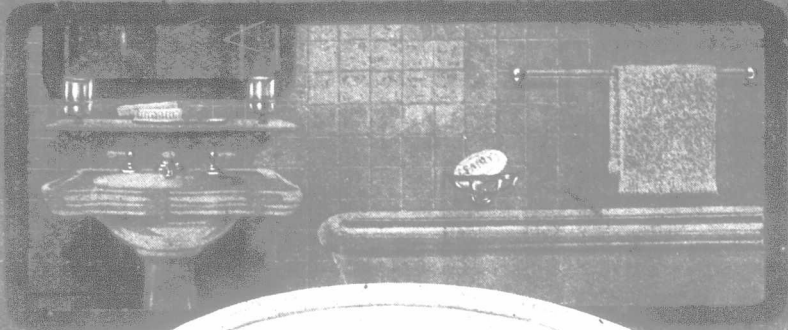
s a bunch of e to six years n dumped into minute like so of them had t know where s didn't waste milies, or look- just filled the rents were left will find their aps they will

refugees when is most de- ged, dirty and voltingly filthy in. Many are s due to neglect

ht into Switzer- ff house, where ge by the Swiss y reach Zurich s prepared for l, fed, and re- o travel farther the rest are Sometimes the gh to Geneva, process is done fuges are trans- d taken out to ch town just and from there the interior of

ous amount of ese ragged peo- ave contributed supply is run- ed Cross have ons.

refused to ac- id all he wanted He was asked rape cap. "For" he said. "I German soldiers l put it on the was passing."



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It is something of a task to maintain roads under such frosty conditions, but Chicoutimi does it cheaply and well with Tarvia.

Here is the report of Jean A. Claveau, the town engineer, in his own words:

"During the summer of 1911, we made a trial of 'Tarvia-X' in the macadam construction of our principal street. This street is still in a perfect condition, and Tarvia has not only served to bind the stones well, but it has

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It is quite necessary to keep all patients ill with measles, not only isolated, but in bed, in order that the possibility of catching cold may be avoided.

Occasionally a wide-spread epidemic of measles is caused by the germs getting into milk. It is, of course, the duty of the Health Officer to trace cases due to this down to the source. Early reports of every case will help him in his work.

Hope's Quiet Hour.

The Field is the World.

He answered and said unto them: He that soweth the good seed is the Son of Man; the field is the world.—S. Matt. xiii: 38.

One of the things our Lord impressed on His disciples was the greatness of the Church's work. They were never to rest satisfied until all the nations owned their Master as King. They belonged to a race which was anything but universal in its outlook. The Jews thought themselves the chosen of God; all other nations were Gentiles and outside the Covenant. Slowly they learned the lesson of God's love for all the world. Then they set out to make disciples of all the nations.

The business of every man is to serve his generation in some way—one who lives only for himself is a dead failure, an idler in God's field. There is plenty of opportunity for willing workers for the field is a large one—the whole world. We are now effectually shaken out of narrow and petty interests. Every day we gaze out over the world feeling that local affairs are less interesting than the battle-fields on the other side of the sea.

God is trying to burn selfishness out of us. Do you remember our Lord's warning parable about the rich man and Lazarus? The rich man was condemned. Why? We are not told that he was a liar, thief or murderer, that he was vicious in his habits or condemned by his neighbors. He lived in comfort and luxury and his body was interred with honor. Why did God condemn him? Because he was living for himself alone. Even when a suffering neighbor was lying at his gate the opportunity of service was looked upon neither as a privilege nor a duty.

Christianity has so strengthened our vision that we can see the suffering neighbor when he is many thousand miles away and we have awakened to the fact that the welfare of humanity is our business. It is an immense business—for the field is the world—but we are not to sit down helplessly and say that the task is beyond us. If we felt, as Elijah did that we stood alone in God's vineyard, we might get discouraged; but the army of workers is great and is steadily increasing. The work is being organized more and more so that each one of us can reach out and give real help to needy sufferers in distant corners of the field.

For instance—yesterday I received an appeal for the "Russian Jews' Relief Fund." Among the patrons of the Society are some of the greatest men in England and Canada. They point out that owing to the war, "millions of Jews are homeless, starving and shelterless. . . . Scores of cities as large as Brussels and Antwerp have been ruined and over eleven thousand villages have been razed to the ground." This Society makes it possible for us to reach the fellow-countrymen of our Lord in Russia, Poland and Galicia. I am not passing on the appeal to you—you have a fine opportunity already offered by the ADVOCATE "Dollar Chain"—but I simply mentioned this to remind you that there are millions of eager workers in the great field and there is no need to despair over the task laid upon us.

This morning I received the parish monthly published by a little church in the States. It contained the information that the Women's Guild of the parish had begun the work of making bandages and hospital supplies for the wounded in France. Last week I spent an afternoon in the country having the great pleasure of meeting face to face one of the readers of the Quiet Hour—and there I found a very "live" Branch of the Red Cross firmly established and working in capable and systematic fashion. Go where you will in city or in the country—you find people working for others. The fire of enthusiastic desire to help is wonderfully con-

tagious. The rich man, in these days, can't possibly be comfortable if he devotes his whole attention to his own pleasures and pursuits. His conscience is stung into activity by the good deeds of his neighbors and for very shame—if for no higher motive—he spends some money and time for others. Is the poorer or less happy because he is caught in the great wave of helpfulness which is sweeping across the world? Would he find life more enjoyable if he were permitted by conscience and public opinion to devote himself entirely to the care of Number One? I think he deserves our pity—that poor rich man who was clothed in purple and fine linen and fared sumptuously every day missing the pleasure of showing kindness to the sick and hungry man at his gate. He let slip the real happiness of this life as well as of that which is to come.

Judas the covetous disciple gained nothing but misery from the money he thought would be so valuable to him. He sold his Master for nothing—for he gave back the silver—and then went out swiftly in despair and hanged himself. Self is a cruel god crushing happiness out of a soul devoted to its service.

"Still, as of old,
Man by himself is priced,—
For thirty pieces Judas sold
Himself, not Christ"

It has been said that the temptation to be good is irresistible when you know the joy of it. Though there was a traitor among the apostles there was only one. Eleven out of twelve—a big proportion—devoted their lives unstintedly to the service of God and man. Look round you to-day and you will find many who are willingly spending time, talents, strength and money for the good of others—the selfish idlers are few and far between, now, whatever they may have been before the war. The "society woman" sees that she has a duty to society, the "business man" acknowledges that the pressing claim of the world's need is greater than the claim of business, and even the children are knitting for the soldiers.

The field is the world, but the Master of the field appoints to each worker his place in the field. The result will be confusion if we rush hither and thither as we choose. Ploughing may be less interesting than reaping but it is necessary. The farmer—"doing his bit" to feed the world—may feel that it would be more exciting and splendid to win the Victoria Cross at the front. But the world's praise is a small thing as compared with the quiet "Well done" of our own Master. Let us work under His direction, going or staying as He commands. The field is the world and we may have the opportunity of serving in its farthest corners, but the work of the whole field is not laid upon your shoulders. Some are called to fight but others "do their bit" by cooking for the soldiers, making boots for them or knitting stockings. Charity should always "begin" at home, but there is no need to concentrate all one's energies on home duties—especially now when the world needs the help of every individual. The Priest and the Levite were too intent in their own business to minister to a wounded stranger—and so they missed their chance of doing a much-needed kindness to Him who has said, "Inasmuch as ye did it not to one of the least of these, ye did it not to Me." Because we are not able to help all the hungry and suffering people in the world is no excuse for us if we sit down helplessly and do nothing. We can all do something, and if we use the pennies and minutes wisely, the dollars and days will take care of themselves. There is no need to get worried and flustered because the field is in such terrible disorder at present. The field is God's Kingdom, not ours. We are only called to do our part under His direction. How hopeless a soldier would feel if he thought the whole burden of saving his country were on his shoulders! When the leaders of the Patriotic League set out to add millions of dollars to the fund, they knew they were not working alone. Everybody wanted to help, and so the millions poured into the treasury.

Once, when hungry multitudes pleaded silently for food, the perplexed disciples stood with a few little loaves in their hands. "What are they among so many?" they asked, despairingly. But the Master answered, "Make the men sit down." There was some food to begin on, and He could provide more when that little supply was really exhausted. You can't

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feed the whole world—are you doing anything with the five loaves and two fishes in your hands? If we do our part, God will do His. He gives us the privilege of helping Him to feed the world. "Yield thy poor best and muse not how or why, Lest one day, seeing all about thee spread, A mighty crowd, and marvellously fed, Thy heart break out into a bitter cry, 'I might have furnished, I, yea, even I The two small fishes and the barley bread.'" DORA FARNCOMB.

Gifts from Readers.

I wish to thank those who have sent the papers and magazines for the "shut-in"—I have given them to patients in the hospital. My thanks also go out to the kind friend who sent \$2.00 for the needy—half of it has already been spent on a sick woman.—Hope.

News of the Week

One of the most picturesque peaks of the Rockies is to be called Mount Cavell in honor of Edith Cavell.

Over 109,000 women in Great Britain are doing "men's work" in place of men gone to the front.

The war news of all-absorbing importance at the time of going to press, is the great German attack on Verdun, a strongly fortified city almost directly east of Paris. The drive began on the morning of February 22, over a line of 8 miles, with a German army of 300,000 men, of which, during the first four days of fighting, according to the French report, the German losses were 150,000 men, killed and wounded. The Germans, during that time, succeeded in taking the first fort, and claimed to have captured 10,000 French soldiers.

From all other quarters the news is definitely good. In Armenia the Russians have taken Mush, guarded by 40,000 men, also Ahlat, and at last despatches were on the way to Trebizond, Bitlis and Diarbekr. General Townshend, although still shut up in Kut-el-Amara, has been heard from, and reports his men well and busy planting gardens,—an observation, by the way, which recalls the fact that Kut-el-Amara is in the traditional vicinity of the Garden of Eden. During the week, also, a British submarine passed through the Dardanelles, reached Bosphorus, and torpedoed a tug and 6 Turkish transports laden with munitions. On Feb. 21 French aviators pursued 15 German aeroplanes which had been dropping bombs in Northern France, captured one and brought down another, while another squadron of 28 machines smashed a German munitions' factory at Pagny-sur-Moselle. A Fokker was brought down over Altkirch. The whole line between France and Germany is now said to be marked by a semi-circle of

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A liberal test jar of Princess Skin Food and Booklet "F" mailed on receipt of 5 cents. We specialise in the treatment of Moles, Warts, Red Veins, Superfluous Hair and other beauty-marring blemishes. Consultation invited.

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aeroplanes hovering constantly in the air.

Great Britain has captured 730,000 square miles of German territory in Africa since the beginning of the war.

The Department of Public Health in New York has undertaken a campaign against alcoholic drinks as a menace to general health. "The intemperate use of alcohol," says the Department's bulletins, "is filling our asylums, hospitals, charity homes and jails."

The Allies have requested the right to use Greek railway lines, especially the one running between Salonika and Monastir.

The Dollar Chain

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

Contributions from Feb. 18 to Feb. 25: "Toronto," 2.00; G. Glenelg, Owen Sound, Ont., \$1.00; "Unknown," \$2.00; Jas. Poole, Lambeth, Ont., \$1.00. Amount previously acknowledged \$2,084.35

Total to Feb. 25 \$2,090.35
IF YOU CAN'T GO TO THE FRONT, GIVE.

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

The Ingle Nook.

WHAT OUR READERS ARE THINKING.

A few letters on the subject raised by "Inspired Bachelor" have arrived. The first of these, written by "An Interested Bachelor," Huron Co., Ont., begins as follows:

"To Junia,—I have been an interested reader of your paper for a number of years and so much more since "A Bachelor" had nerve enough to write to you.—I also swing in that line, and because I am not old, but very serious, you may feel kindly towards me and give me ample space in your Ingle Nook to express my opinion on that very important discussion, "Hell fire."

First, I must say that if we as bachelors are spiritually inclined, we find more time to read and ponder over our future state than a mother or father, whose time is so necessarily taken up with their children; and let me impress on you: any up-to-date bachelor that ever had a vestige of respect for himself would not like to be caught like the five virgins without oil for his lamps.

Now, Junia, let me take my hat off to you regarding your view of a literal hell fire. I believe the hell of popular belief to be a mere figment of the imagination, and will try to show the destiny of the wicked according to the scriptures—that they will be put out of existence by divine judgment with attendant circumstances of shame and suffering."

"Interested Bachelor" here adds seven pages of texts taken from the Bible to support his idea that "the wicked" will at death be utterly annihilated. To save space I merely indicate these. Those who are interested can look them up for themselves: Ps. 37, 20; Ps. 37, 10; Ob. 15, 16; 2 Thess. 1, 9-10; Job 20, 5-8; Ps. 37, 34; Ps. 104, 35; Ps. 145, 20; 2 Peter 2, 12; Job 21, 30; 2 Cor. 2, 15-16; Prov. 13, 13; Rev. 21, 8. To support the view that the soul is not necessarily immortal, but presumably so only for the righteous, he quotes Gen. 2, 7; Rom. 2, 7; 1 Tim. 6, 15-16; 1 Cor. 15, 54-55; Rev. 2, 11-17.

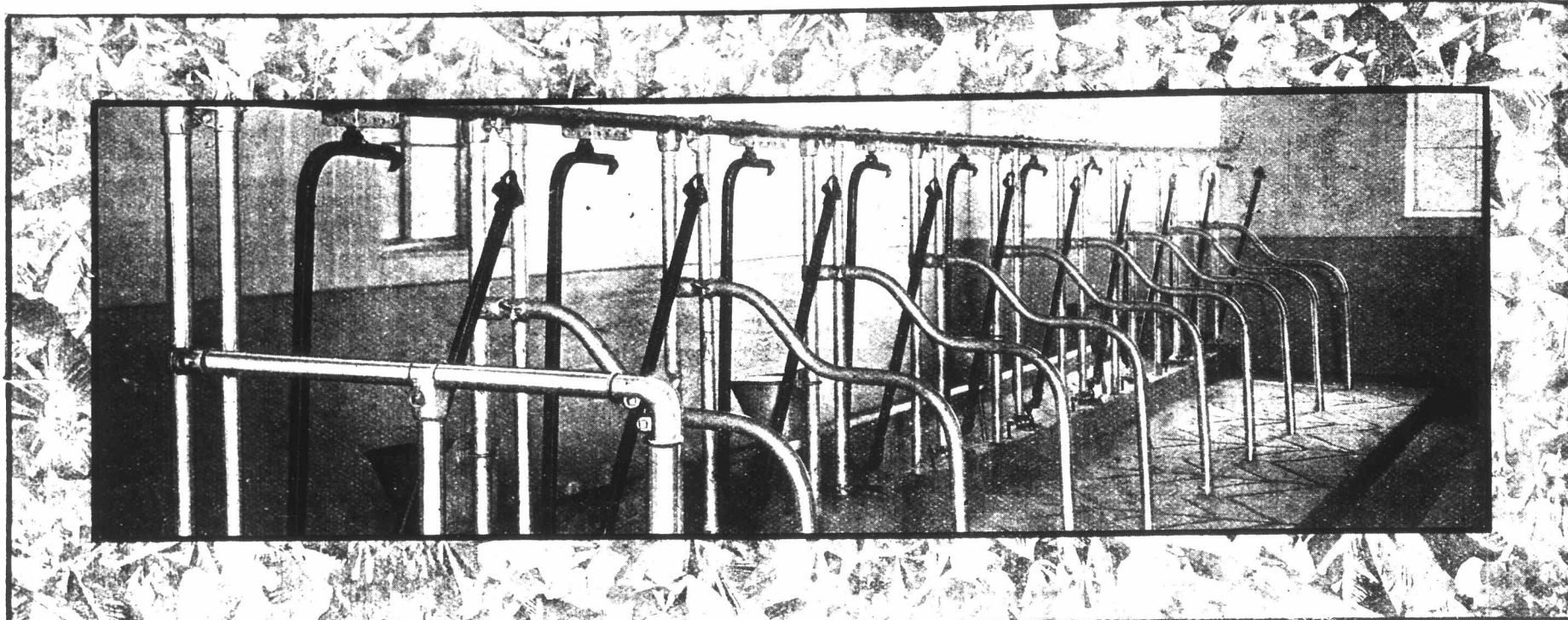
Well, I suppose it is only the old story, that if one chooses to take isolated texts to help out in an argument, almost anything under the sun may be proved from the Bible. Among all the sects (Christian) that exist to-day there is not one that fails to point to texts as its foundation—and the odd part of it all is that most of these sects differ, as day from night, in some of the beliefs for which they contend. Of course, there is a difficulty, often overlooked, in pointing to isolated texts for proof, especially in the Old Testament. Many of these pronouncements, as the most profound Bible students—who have access to research, historical and otherwise in regard to the subject—know, were spoken by the great among the ancients in regard to events in the immediate future of their tribes—just as great men of to-day are now looking into the future in regard to the war—and speaking what they foresee. And, may it be remarked, these deep-searching Bible students are, perhaps, the very men who most recognize and realize the wonderfulness of the Bible as a revelation of the development of the eastern peoples; they are the very men who see most clearly the real inspiration of the prophets of the old time, who so bravely dared to reproach the evils of their time—evils too often carried over into ours.

For my own part, I cannot agree with "Interested Bachelor's" belief that any souls are annihilated at death. In the economy of the universe nothing is ever wasted. Nothing created can ever be wholly destroyed, although it may, it is true, exist in another form; then why should the human mind, the most wonderful thing ever created, be permitted to be destroyed? To me (as a follower of the modernists) it seems vastly better and more reasonable to think that every stumbling or weak mind shall some day go forward, steadily and persistently, learning even by its mistakes, until it is "good" enough to justify its having been created. If Scripture must be called in to substantiate this view, may I mention, as one instance, the words of Jesus in John 12, 32: "I, if I be lifted up, will draw all men unto me." How do you get over the "all"?

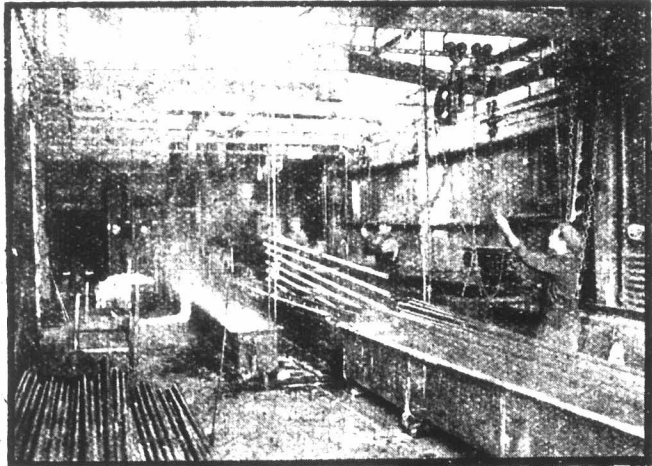
Of course, you have an absolute right to your opinion. I am merely stating mine.

ANOTHER OPINION.

Junia,—I read your answer to Inspired Bachelor, but have been waiting to hear what others would say about it. "Another Bachelor" has answered you, and his answer fills the bill on most points. You surely do not mean what you say, and you never got your doctrine out of the Bible, but have been reading Infidel Books and are being led away by false prophets, whom the Lord said would come and many would be led away by them. Now, there is no one who has read the Book of Revelations in the New Testament that can really believe there is not a literal Hell. Did not John stand before God, and write what he was told to write, and did he not see with his own eyes the seven vials of God's wrath emptied upon the earth and the wicked disobedient people and the angel open the door of the bottomless pit? Revelations 20th chapter and 10th verse: "And the devil that deceived them was cast into the lake of fire and brimstone, where the beast and the false prophet are and shall be tormented day and night forever and ever." And did not John see God



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You know the need of galvanizing, from your own experience. You wouldn't think of buying a steel tank unless it was galvanized, or wire fencing, or eave-troughing, or steel pipe, unless they were galvanized. Then be sure your stalls are galvanized, too. Galvanizing is the only finish that will stand exposure to stable acids and moisture.

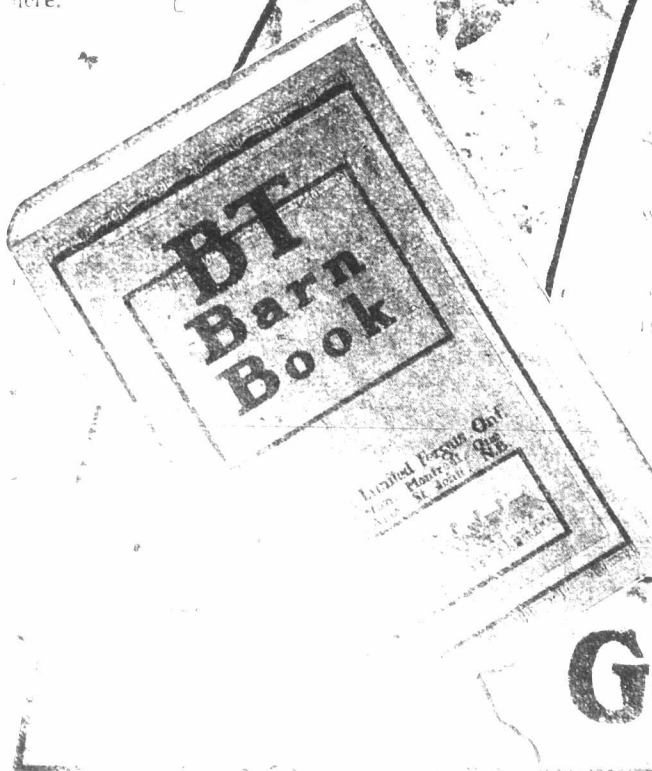
We want you to realize fully the value you are getting for your money when your stalls are galvanized. The pipe used in galvanized steel stalls costs almost twice the price of pipe that is not galvanized. The spliter or zinc used in galvanizing is very difficult to get, because it is used in ammunition.

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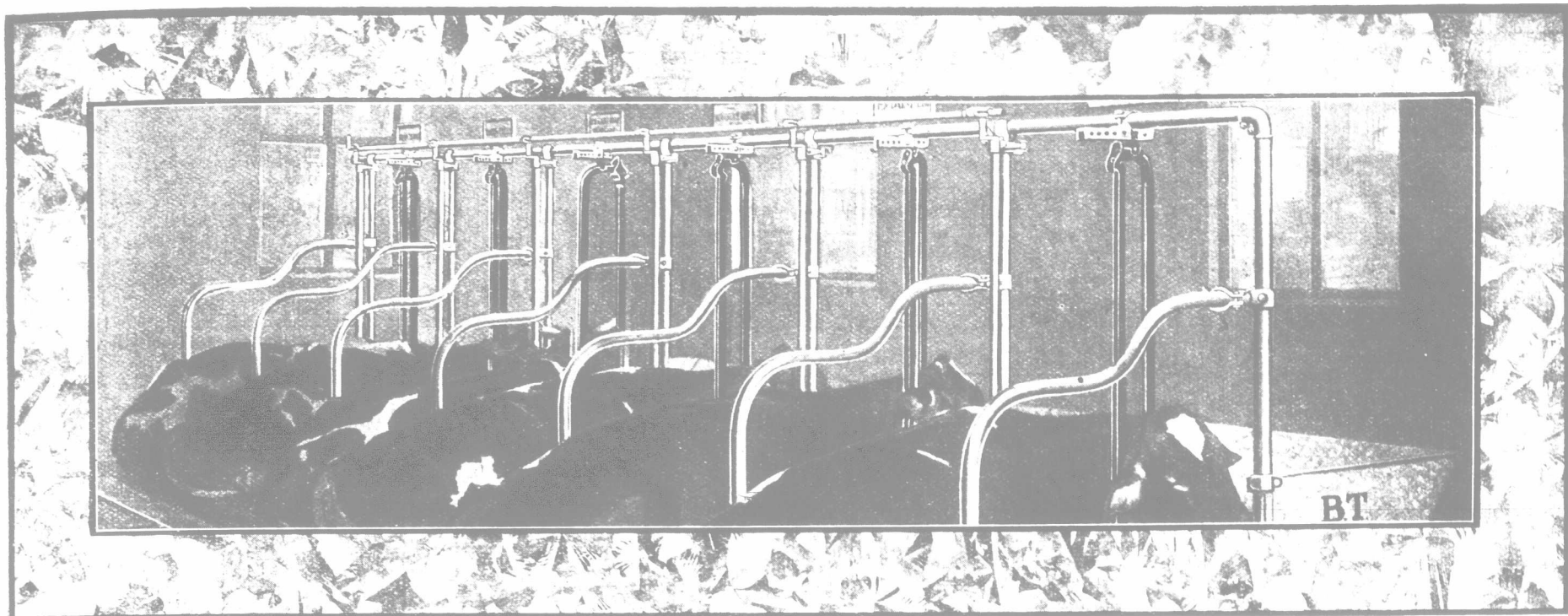
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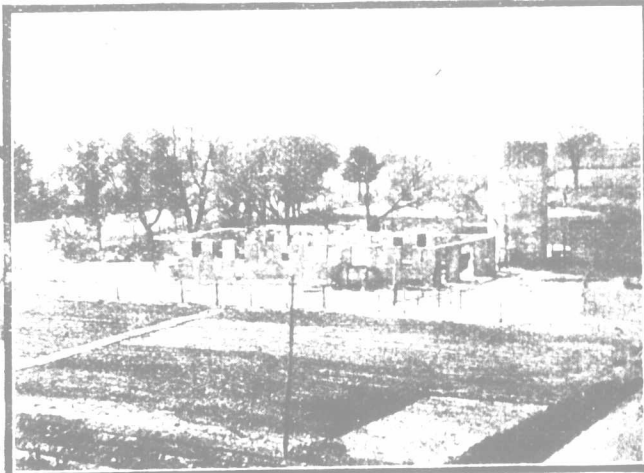
Get our fine new Barn Book. It illustrates the equipment in actual use in 75 barns. The pictures explain everything. They show how comfortable the stanchions are for the cows when standing or lying, how the divided steel mangers save feed and save work, how handy the galvanized steel pens are for feeding and caring for calves, cows and the bull. Manure and feed carriers and water bowls are shown working in the barns.

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We will send it free to any man who will write and state if he is building or remodeling, when he expects to start the work and the number of head of stock he will keep. Simply fill in the blanks on the coupon and you will receive the book by first mail. You do not obligate yourself in any way.

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judge the dead and whose ever was not found written in the Book of Life was cast into the lake of fire? There is nothing said about their minds being their hell, or that the evil be given another chance. Do you believe that if they had been fighting against God all their lives and hardening their hearts and closing their ears against the truth that they would ever change if they had a dozen chances? And do you believe that the hardened sinner could be scared into loving God by giving him a taste of hell? No; God knows all hearts, and He gives every one a fair chance in this world, and there will be one Judgment, and that will be final. Now, Junia, do you think Mr. Griggs a higher authority than Jesus Christ, Who is a loving Saviour and teaches the truth and a literal hell for those that hear the Word and will not obey, but stands ready to pardon us if we forsake our evil ways and come to Him, and if we will not, we have only ourselves to blame if we miss the glory. BACHELOR No. 3.

This is an entirely sincere letter, and again, I repeat, those who want to believe in a literal hell have an absolute right to do so. Those who cannot so believe cannot—that is all there is about it; they have to be honest even in what they think. Frankly, I am one who cannot. To me the Book of Revelation is all figurative, a beautiful vision intended to convey great lessons. It could never make me believe in real fire for tortured souls to all eternity. To do so would seem to me a slur on God.

Personally, I have noticed that those who cling fastest to literal hell-fire belief never dream of it as a possibility for anyone dear to themselves. And yet we all know saintly mothers who have had sons who "went wrong." How those mothers could ever sit calmly in Heaven enjoying themselves while their beloved children were writhing forever in real fire is more than I can even imagine!

There is an argument, of course, that if we take away hell-fire belief, people will not be "good." But here again: Is the truly good man one who is good simply because he whips himself into line for fear of physical punishment and because he hopes for a reward afterwards?

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Or is he the one who is good simply because he loves goodness and wants God who is all good? Is the best little boy the one who behaves well for fear of a strapping and in the hope of being given candy at the end of the day? Or is he the one who wants to be good because it is "good," and because he loves his parents? . . . At the same time those who hold to the necessity of "punishment," need not be disappointed at this presentation. There always is, and always will be, suffering, bitter suffering, as a result of sin, but the punishment will be to uplift and help onward—not a satisfaction to anger, nor physical torture without end.

No; I never read an infidel book in my life. The books I mentioned in connection with this subject were written by a clergyman.

Really, I don't quite see what Mr. Griggs has to do with it. My reference to him was in another connection entirely, in the reply to a letter that did not touch on this hell-fire discussion at all. Edward Howard Griggs, by the way, is one of the most eminent lecturers and scholars in America to-day, and, if I mistake not, is a clergyman also.

FROM "A FRIEND."

Dear Junia.—Will you permit me to say a few words in answer to your reply to "A Subscriber's Wife?" If I understand you, you believe that in the future state man goes on developing and becoming greater and greater through eternity. When he would be perfect, you do not say. We know man's way is to improve. I believe God begins with perfection.

In Genesis we read of man's creation, a perfect being, placed in perfect surroundings. We all know what happened. Man, as a free-will being, fell, until in Genesis 6, 6 we read: "it repented the Lord that He made man on the earth and it grieved Him at His heart." God then chose Noah, a just man, a preacher of righteousness, 2 Peter, 2, 5, but only his own family believed him. The result was the whole human family perished save Noah and his sons, his wife and their wives. Apparently they were the only ones who believed the God of the

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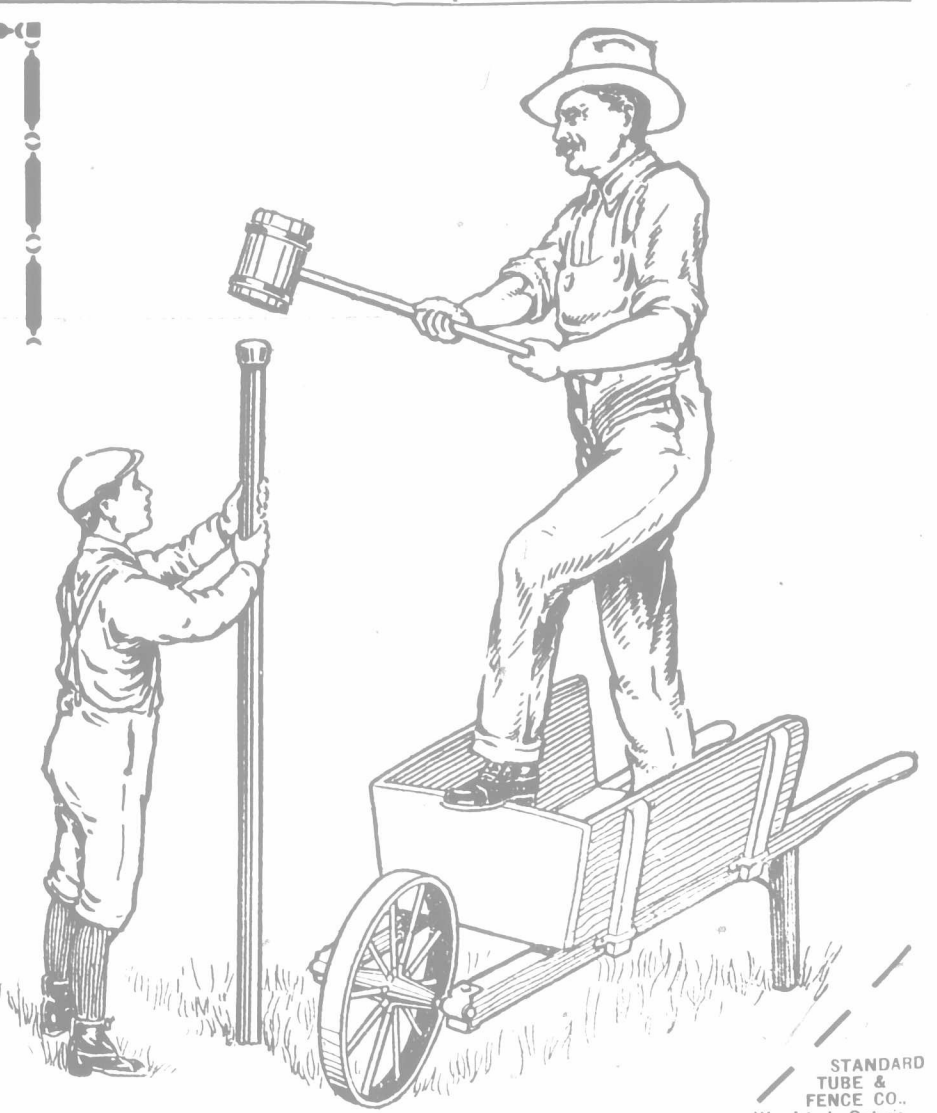
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an's creation, perfect sur- at happened. fell, until in repented the on the earth heart." God n, a preacher 5, but only . The result nily perished his wife and ey were the God of the

Bible. In reading further it is not long until we see man building Babel to make themselves a name. "God was not in all their thoughts."

Now, God begins again and chooses Abram. In Genesis 12, 1-3, we read the blessing God promised him unconditionally. We all know the story of the Children of Israel, their redemption from Egypt by blood, Exodus 12, 13, and the Law given to Moses, but we notice before the Law is given, Exodus 19, 8, "All the people answered together and said, 'All that the Lord hath spoken we will do.'" In Deut. 5, 27 God's comment is given: "Oh, that there was such a heart in them, that they would fear me, that it might be well with them and with their children forever."

Now, we all know how Israel failed and how they have been scattered among all nations. And when Christ, their promised Messiah came, Jews and Gentiles alike were consenting unto His death, they gave Him a reed for a sceptre, a crown of thorns instead of a crown of gold, a mock robe, and a mock trial, and then led Him out to Mount Calvary, and man committed the greatest crime the world has ever known when they crucified the beloved Son of God, and then when man had done their worst, God caused a veil to fall, and in that awful darkness He laid on Christ the iniquity of us all.

At that time God's righteous throne was vindicated, and now the royal proclamation is "Whosoever believeth on the Son hath everlasting life. He that believeth not the Son, shall not see life, but the wrath of God abideth on him." John 3, 36.

God provided a perfect sacrifice, and all who believe are "Complete in Him," Colossians 2, 10, and again, Colossians 3-4. The new birth spoken of in John 3, 3, is the very beginning of Christian life, and we read in 1st John 3, 2, "It doth not yet appear what we shall be, but we know that when He shall appear, we shall be like Him, for we shall see Him as He is."

We know Christ is perfect, and this Scripture assures us—we shall be like Him—in the eternal state.

But what about those who have not come as guilty sinners, and trusted in the finished work of the Lord Jesus? (In Romans 3, 19, we are told why the law was given, "that every mouth may be stopped and all the world become guilty before God." The 20th verse says: "By the law is the knowledge of sin." In Matt 24, 41, we read who hell was prepared for—the devil and his angels. God never prepared it for man, but if man refuses the salvation offered, he must suffer the reward of his deeds. Isaiah 14, 9-10 tells us where hell is and in hell they talked and Revelation 20, 14 tells us the final abode of those in hell.

Rev. 21, 1-2 tells us of the new heaven and new earth. I believe heaven and hell are more than a condition; they are places of abode. God has, as you say, left us free-will men and women, and we can choose either heaven or hell. "The blood of Christ is sufficient for every sin."

You quote 1st Peter 3, 18-19. If you take your Bible and look a little closer, dear Junia, you will see this is not an eternal state. 2 Timothy 2, 26, "They may recover themselves out of the snare of the devil who are taken captive by him at his will." And again Hebrews 2, 15 "And deliver them who through fear of death were all their lifetime subject to bondage." Again, in Hebrews 9, 27, "And as it is appointed unto men once to die, but after this the judgment."

This is God's day of grace and He earnestly entreats men to believe on His Son. He tells us He has no pleasure in the death of the wicked. And if we stop a moment and consider what sin is in God's sight, one scripture tells us "the very thought of foolishness is sin." Paul could say of himself before he was saved "as touching the law blameless," and yet he calls himself the chief of sinners. Scripture tells us we are born in sin and shapen in iniquity, our very best is sin in God's sight. "All our righteousnesses are as filthy rags," so that everyone needs to be born again.

The day of vengeance comes after the day of grace. God is mercifully lengthening out this day of grace, because judgment in His strange act, but we know when the day of grace will end, when God's Holy Spirit which now would lead lead us men to Christ in order that they might be saved, will be taken away from the earth, and the earth will be left for that awful day of judgment.

Dear Junia, we may seek to worship God, but we must be sure we worship the God of the Bible and come in His way to worship Him. He is not only a God of infinite love, but a God of infinite justice as well.

This is a long letter, and I do not expect you will be able to print it, but I wanted to write to you, dear Junia, to shew you a little of the God I worship, because He has saved me from hell through precious blood, that I may reign with Him through all eternity.

A FRIEND.

I thank you, "Friend," for the kind tone of your letter.

The difficulty in your understanding me comes again in the fact that you take as literal what we, who are glad to be modernists, see as figurative—wonderful visions and stories told by great men of old to convey great lessons. Some years ago I heard of a man who took the Bible so literally that, basing his opinion on Matthew 5, 37, he thought, quite honestly too, that every single word we speak other than "yea" and "nay" is a sin. He also thought that the injunction, "Pray without ceasing," 1 Thess. 5, 19, meant that we should be "saying prayers" all the time in our minds. Now, he was a literalist—and he based his conviction on texts of Scripture, too.

Think as you like, "Friend." Your belief in literal fire evidently satisfies you, and therefore it must be quite right for you to hold to it. At the same time, I must say that I have met some people who became absolute atheists because literal hell-fire had been presented to them as the belief of the churches. Throwing that aside as unreasonable, and finding other misconceptions due to literalism, they threw everything aside as superstition. Of course, this was not the wise way; they should have investigated further to see if there might not be another "interpretation."

I am glad to know to-day that very few of the thoughtful among modern preachers believe in such a cruel thing as hell-fire, taken literally, and I have an idea that in a few years there will be none left. Already a few brave voices are sounding from the pulpits against this injustice to a God called a "God of Love," and there are many other voices that would like to be brave about it, but are a little timid about starting. They will be heard one of these days.

Of course there are many among the clergy who do not believe in a literal hell, yet who simply do not touch upon the subject at all because they feel that it is unimportant. This attitude, in some localities, may be all that is necessary; yet the fact remains that, here and there, there are people like "Inspired Bachelor" who do question, and it is surely right that their questionings be answered. Modern interpretation never destroys the Bible; it only restores it, to such questioners, in all its wonder, and reasonableness, and majesty, and beauty.

You say, "God is also just," and you are entirely right. But I cannot see how He could be just if He would condemn men after a few short years of trial here to endless fire, real fire, keeping them alive so that they could suffer it—all this added to the fact that during the earth-life of these erring ones other men had already, in all probability, meted out to them what was then considered an adequate punishment.

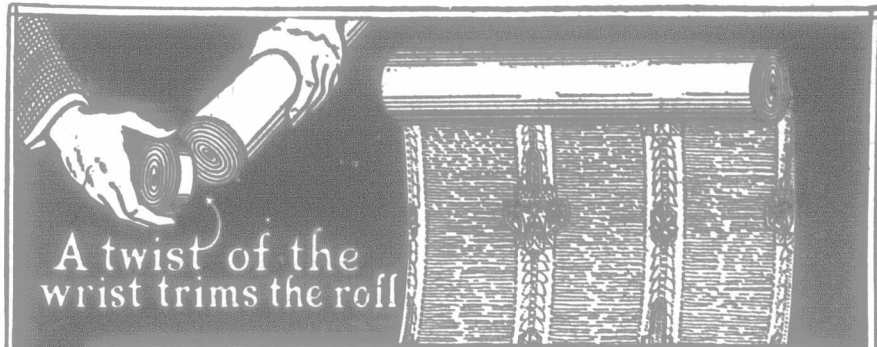
I am not touching, you see, upon any part of your letter except the one portion which deals with the question we are discussing.

In reference to your last paragraph, I do worship the God of the Bible—the One you find—but I see Him differently—that is all. Thanks again for your evident kindness. Believe just as you can, "Friend." I must also believe as I can. We must be absolutely honest, even with ourselves, and so long as we are, it is all right.

Several letters on the subjects set for discussion have been crowded out, but will appear as soon as possible.

SEASONABLE RECIPES.

CURRIED COD.—Two slices cod, 3 heaping dessertspoons butter, 1 onion sliced, 1 cup white stock, butter and flour to thicken, 1 level teaspoon curry powder, 1/2 cup cream, salt and cayenne to taste. Flake the fish and fry to a nice brown, add the butter and onions. Add the stock and thickening and simmer for 10 minutes.



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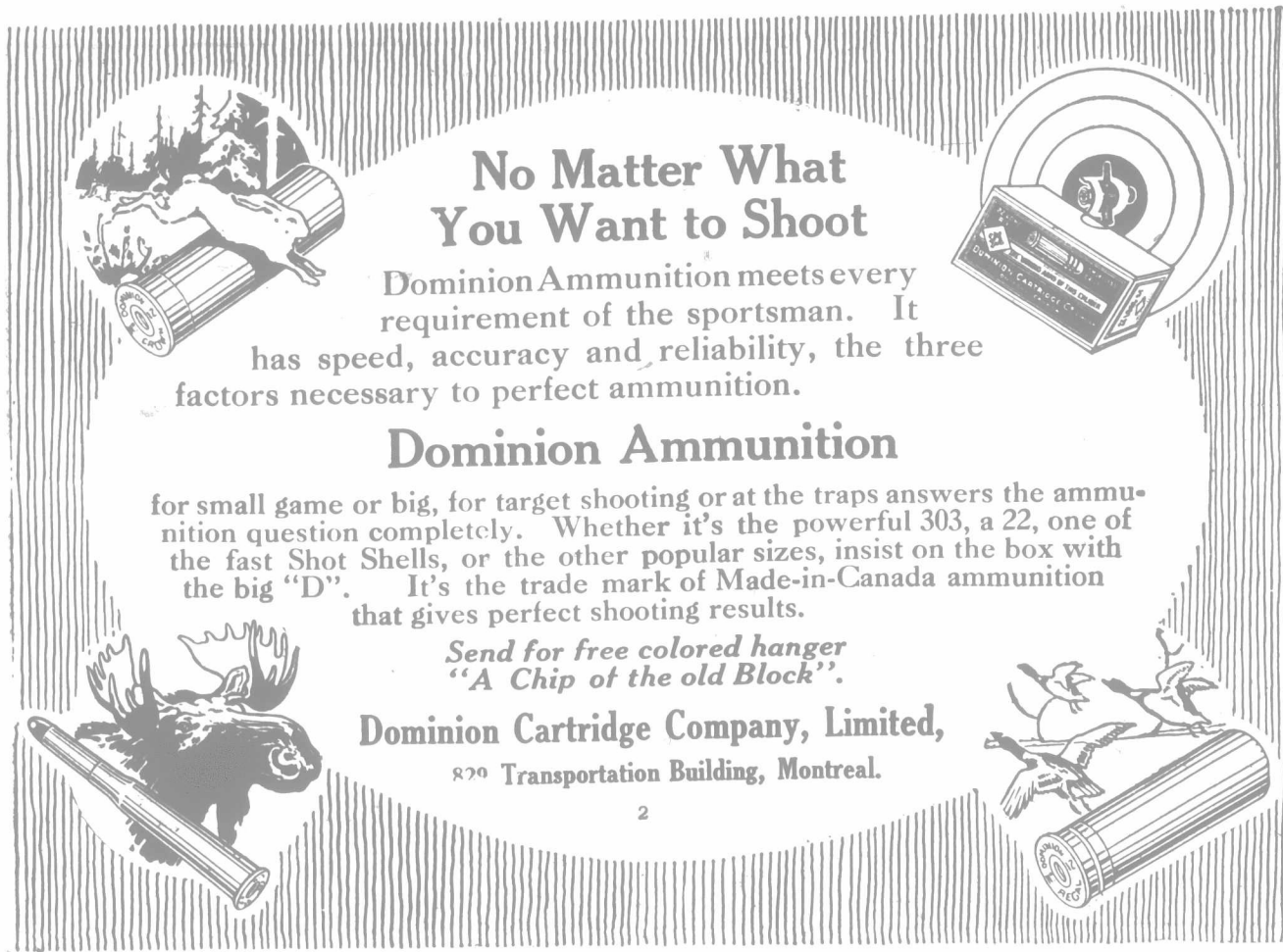
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Of your schoolgirl days
Are things of the long ago;
But life and love will soon come by
There! little girl; don't cry!

There! little girl; don't cry!
They have broken your heart, I know,
And the rainbow gleams
Of your youthful dreams
Are things of the long ago;
But heaven holds all for which you sigh
There! little girl; don't cry!

Funnies.

A schoolboy home for the holidays, wishing to inspire his little brother with awe for his learning, pointed to a star and said, "Do you see that small luminary? It's bigger than this wide world." "No, 'tant!" said the brother. "Yes, it is," said the youthful scholar. "Then why is it that it don't keep the rain off?" was the triumphant query of the younger boy.

Father (trying to give the concealed dose)—"Well, well, you are a funny boy. May I ask why this sudden extraordinary dislike for jam?"

Chip—"Cos' I b'levee it's mined.—London Sketch.

Skeeing.

Not long ago directions for making skees were given in this department. How many of the boys have tried them? When walking on skees, one does not lift the skees at all; one merely rests the weight of the body on one foot while the other is shuffled ahead. In going up a hill it is necessary to "tack," all the time, zig-zagging back and forth until the top is reached; or else one may go straight up, putting each skee at an angle of 45 degrees from the point of the one supporting the weight. Going up hill on skees is not easy, but coming down is great fun. Often one can coast all the way down, keeping the skees parallel. If you come to a short, sharp rise, while doing this, you must lean back on the ascent, then quickly forward for the descent again; otherwise you are likely to take a tumble.

Senior Beavers' Letter Box

Dear Puck and Beavers,—For quite a long time I have been enjoying the interesting letters written for our valuable paper, "The Farmer's Advocate," and at last I have summoned up courage to write also, hoping that this may escape the w.p. b. I am going to school; I am in the Senior Fourth Class. I would love to study and be able to teach some day, as I have a sister teaching who likes it very well. And now, this being my first letter to you, I think I shall conclude, wishing all success.

LIZZIE DUFFY (age 12)
Beechgrove, Que.

Dear Puck and Beavers,—As my father has taken "The Farmer's Advocate" for several years, I have, within the last couple of years, become very interested in the letters and stories written by the Beavers. I have thought of writing several times, but did not know whether I could join your Circle. I go to school every day. I have a lady teacher. We all like her very much. I think the story of "Black Beauty" is a nice story. Well, I guess I will close, hoping to see my letter in print, and also with a riddle.

Why does a moon never get rich?
Ans.—Because it spends all its quarters in getting full.
ELSIE ROGERS,
(Age 12, Sr. III Class.)
New Lowell, Ont.

Dear Puck and Beavers,—This is my first letter to your Circle. Father has taken "The Farmer's Advocate" as long as I can remember. I have one sister, Aleda, who is teaching near Battersea. I am thirteen years old, and am in the First Form of the Kingston Collegiate Institute. I am taking a teacher's course, and like it fine. I am very fond of reading. I have read many "Made Books," also "A Girl of the Lumberlost," "The Silver Maple," "The Shepherd of the Hills," "The Patrol of the Sundance Trail," and many others.

then stir the curry powder into the cream and add. Put in the other seasonings, boil up, and serve very hot.

SALMON EN CASSEROLE.—Cook 1 cup rice. When cooked put part of it into a baking dish. Take 1 can salmon and flake; beat 2 eggs, 1/3 cup milk, 1 tablespoon butter, pinch of salt, dash of cayenne. Stir into the salmon, cover lightly with rice and steam 1 hour. Serve with white sauce.

HONEY PUDDING.—Mix together 1/2 cup honey and 6 ounces bread crumbs. Add 1/2 cup milk, 1/2 teaspoon ginger, 2 tablespoons butter, rind of half a lemon, grated, and whites of 2 eggs, well beaten. Steam about 2 hours in a pudding mould. The pudding should come about 3/4 way up the mould.

POOR MAN'S PUDDING.—1 cup milk, 1 cup treacle, 1 cup chopped dates, 1 cup suet, 1 teaspoon salt, 1 teaspoon (level) of soda, 3 cups flour, 1 teaspoon each of cinnamon and allspice. Add the milk to dry ingredients after they are well mixed. Boil or steam 6 hours.

GOOD MEAT HASH.—Mix together 1 1/2 cups hot mashed potatoes, 1 cup chopped cooked meat, 3 tablespoons gravy or meat stock, 1 small chopped onion, 1/2 level teaspoon salt, 1/4 teaspoon pepper. Melt a heaping tablespoon of butter in a pan, add the hash and cover. Fry slowly until brown; then turn and brown the other side. Serve very hot on a hot platter.

CREAMED BEEF IN BISCUITS.—Make 1 cup rich brown or cream sauce and add 1 1/2 cups cooked diced beef. Simmer gently. Remove enough of the centers of 4 or 5 biscuits to make good-sized cups. Butter the cups and toast in a hot oven. When done, place on a hot platter, fill with the creamed meat, place a slice of hard-boiled egg on each and garnish with sprigs of parsley. Serve hot.

The Beaver Circle

OUR SENIOR BEAVERS

For all letters from the Beavers, please continue to use the following address:

A Life Lesson

There! little girl; don't cry!
They have broken your heart, I know,
And your playful days
Are things of the long ago;
But childish troubles will soon pass
There! little girl; don't cry!

There! little girl; don't cry!
They have broken your slate, I know,
And the glad, wild ways

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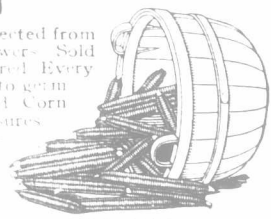
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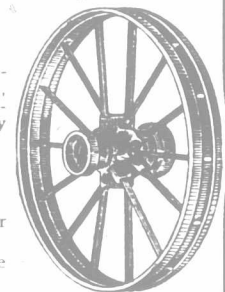
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hope to read "Torchy" some time. As my letter is pretty long, I think I will close, wishing the Beaver Circle every success.

HELEN GARDINER.
(Age 13, Form I, K.C.I.)

114 Colborne St., Kingston, Ont.

P. S.—I would like some of the Beavers to write to me. H. G.

The Beaver Circle Story Competition.

Subject:—Write a story bringing in an old man, two children, a dog, and a gipsy camp.

At last all the stories sent in about this subject have been examined, and the first prize this time has gone away to England.

The prize list is as follows:

1st. Lucy Harwood, Lees Rest, Charlbury, Oxford, England.

2nd. Helen E. Jardine, R. R. 2, Camlachie, Ont.

3rd. Equal—Charlotte Carmichael, Ilderton, Ont.; Helen Gardiner, Kingston, Ont.; Miriam Johnson, Bradford, Ont.; Melba Cameron, Carlsbad Springs, Ont.; John C. McIntyre, R. 3, Chesley, Ont.; Georgina Rutherford, R. 2, Clarksburg, Ont.; Mary Shantz, R. 1, Waterloo, Ont.; Maye Fitzpatrick, Wexford, Ont.; Clifford Nauman, R. 1, Fisherville, Ont.

Special prizes will be given to two very little girls, (age 8), who wrote very good little stories—Mollie Reed, away up at the Abitibi Crossing, New Ontario, and Fairy Watt, R. 3, Tottenham, Ont.

The Honor Roll (those who did very well but did not win prizes) is as follows:

Thomas Knott, Mabel Sollitt, Clara Zeran, Nancy Gerber, Edward Dutton, Marie Lyons, Mabel Calvert, Dorothy Chisholm, Violet Gundy, May Gormley, Joyce Douglas, Robert Ripley, Hazel Stirtzinger, Mary O'Leary, Alex. Smith, Reva Skippen, Mabel Brown, Bernice Clayton, Nina Strigley, Lonida Bauman, Eva Atkinson, Clara Canfield, Irving Lency, Viola Reid, Lauretta Reid, George Fyle, Hilda Johnson, Grace McDonald, Hazel Yealland, Gladys Prong, Jean Rennie, Violet Mazerall, Mary Flood, E. M. Currah, Cora McIntyre, Catherine McDonald, Lila McIntyre, Faye Bancroft, Mary Jeffrey, Vivian Purce, Doris Reid, Watford Beaver who forgot to sign name, Mildred Hodgins, Reva Phelps, Myrtle Simpson, Mary Steele, M. L. F. Gordon Hoskin, Isabel Smart, Taynbee Lamb, Helen MacRae, Ida Farley, Dorothy Farley, Edna Buckingham, Zella Connolly, Mae Turner, Lilian Holtzauer, Russell Pawley, Graeme Kirstine. Three Beavers made a mistake. Maude Civalier and Mary Brodhagen wrote only about a dog, while another, who gave neither name nor post office, wrote four stories, one on "a dog," another on "an old man," etc.

It is interesting to note that stories came from Prince Edward Island, Nova Scotia, New Brunswick, and Quebec, although the greater number were written by Ontario Beavers.

As many stories as possible will be published. To-day there is space for but one.

First Prize Story—"That Picnic Party."

BY LUCY HARWOOD, LEES REST, CHARLBURY, OXFORD, ENG.

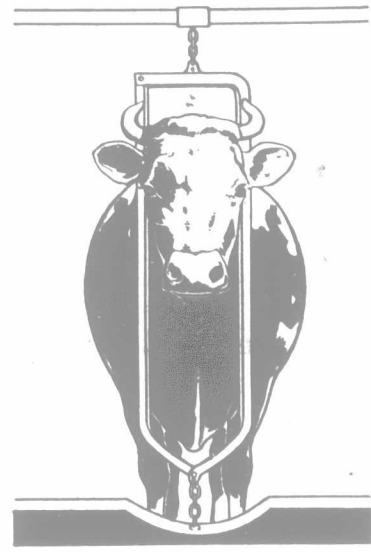
"Oh dear!" Tommy sat up in bed and rubbed his eyes, then out he jumped and began to dress very quickly. To-day if it was fine grandpa would take him and Betty to "Ferry Creek" to spend the day fishing, and best of all to have a picnic afterwards right by the water, with a real camp-fire and a kettle.

Having dressed, Tommy fled downstairs to the breakfast-room where sat his grandfather who was waiting for the breakfast to be brought in.

"Good morning grandpa," cried Tommy, "is it fine enough?"

"Ah, you rascal," replied his grandfather, "that's what you are thinking about is it? Why, bless me, I had nearly forgotten it! Well, I think if the weather keeps fine we might go."

"Hurrah, hurrah," yelled Tommy, dancing about on the tips of his toes, "and may we walk across the meadows and carry all our camp things just like real gypsies?"



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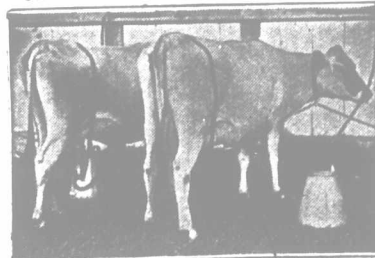
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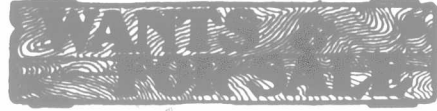
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Advertisements will be inserted under this heading, such as Farm Properties, Help and Situations Wanted and Pet Stock.

FOR-SALE—187 acres, 20 sugar bush, unfailing wells, windmills, splendid farm buildings, water in stables, litter carrier, etc.; adjoins village. Price \$11,000. Mrs. J. M. Lochhead, Centreville, Addington County, Ontario.

FARM Assistant wanted at once. Reliable married man for general farm work. No milking. Good wages and comfortable free house. Farm within two miles of Toronto. Apply to A. D. Wallace, 250 Chisholm Ave., East Toronto.

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

FARM of 50 acres, more or less, located on the Governor's Road, midway between Copetown and Lynden, and convenient to Hamilton market. The farm is well equipped with good barns and large brick house, situated in attractive grounds. The soil is admirably suited to market gardening, comprising heavy loam, light loam and muck, all in a high state of fertility. Price \$5,000, part cash. Apply: Oakville P.O., Box 319.

FARMER Wanted—young married man preferred. Capable of taking full charge of 160 acre farm. 100 acres under cultivation. Yearly engagement. Give age, reference, salary, etc. Apply: M. Rothschild, Cochrane, Ontario.

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MAN to work around small place in London. Yearly employment and good wages to right man. Apply: M. M. Fergusson, Box 505, London.

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

SEVEN-roomed, solid brick, detached house, on paved residential street, North Toronto, close to Public and High school. Electricity, gas, every convenience. Price forty-five hundred, equity twenty-three hundred. Would accept first mortgage, good farm property, part payment. L. B. Gartshore, Hillsdale Ave., Toronto.

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

WANTED—2 first-class single men for general farm work, good wages and board. Commence work immediately. Wm. Manning & Sons, Woodville.

WANTED to hear from owner of small house and barn with few acres of land, where man can get work by day, by experienced farm laborer. Write Box L, Farmer's Advocate, London, Ont.

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BARGAIN: GRIMM MAPLE SYRUP EVAPORATOR Fully equipped; five hundred pails with covers. Cost \$350; used three seasons; price \$175 cash. WM. BARNET, FERGUS, ONTARIO

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Louden Barn Equipments SAVE Time Save Labor Save Expense Our new catalogue describes every kind of device for making saving and labor-saving on farms. Write to Louden Machinery Company Dept. 1 Guelph, Ont.

"Perhaps you would like to pay a visit to the gypsies themselves," suggested grandpa mischievously.

"Oh, may we, grandpa?" asked Betty, as she entered the breakfast-room and had overheard her grandfather's last words.

"Well, I won't promise. We'll see when the time comes," replied Mr. Ransome, "and now I think it is time all healthy young people began their breakfast."

The twins, Betty and Tommy, aged 11, were paying a visit to their grandfather, Mr. Ransome, who lived in the country. They had been at the "Grange" about a week when Mr. Ransome proposed a trip across to Ferry Creek, which was about three miles away. It was not really a creek, but an outlet of one of the great Scotch lakes, but it was so much like a real creek, that it was known all round the neighborhood as Ferry Creek. Of course we should not think it was very far, but to the two city children who had only been in the country once before, it seemed quite an adventurous expedition. It turned out to be a lovely June morning, and about 10 o'clock the party set out, Mr. Ransome and Tommy carrying a small camp-chair each, and also a fishing rod and lines, whilst Betty carried a small tin kettle. Each carried a canvas bag, whilst Jock, the black spaniel, trotted along behind. As they crossed one of the meadows, Mr. Ransome showed the children a common in the distance where he said the gypsies had their camp. Betty and Tommy wished to go that way so that they might see them, but Mr. Ransome said that it was such a long way round, so they had better go that way coming home, and they agreed to this.

The creek was a very pretty place, bordered with gorse and clumps of pretty wild ferns. Betty sat down on the bank and began to wreath daisies, while Mr. Ransome and Tommy set about preparing their fishing tackle. But the fish seemed as though they would not be tempted to try the bait, and Tommy and his grandfather went farther down the creek to see if they could find better luck there. By this time Betty had become tired of wreathing daisies, and she asked if she might walk round to the opposite bank to pick some pretty bluebells and yellow and purple heather which grew round there in abundance. "Very well, but don't go far, Betty," said her grandfather, "for we must soon see about our camp fire if we want any dinner."

Betty scampered away delighted, and Jock, equally delighted, followed at her heels. Suddenly a large rabbit darted out of a clump of ferns and Jock instantly gave chase, while Betty joined in the scamper, quite forgetting her promise to her grandfather. There seemed to be dozens of rabbits, for as soon as one disappeared into a hole another turned up, and it was great fun chasing first one and then another, on and on, until suddenly Betty caught her foot in a piece of tangled fern and fell heavily to the ground. She tried to get up but a dreadful pain in her foot made her give up the attempt, and she burst into tears. Jock, missing his young mistress, came tearing back and sat down by her side. Poor Betty was sobbing with the dreadful pain. On seeing Jock she began talking to him. "Oh Jock," she gasped, "my foot dees hurt and I'm so hot. Oh dear, I'm afraid I am lost. I don't know where I am," and Betty looked all round but only the vast common and the green hills with the hot sun overhead was all she could see. Jock seemed to think that something was the matter, for he looked very sad as he licked Betty's hands. The sharp pain in her foot was almost too dreadful to bear, and Betty again began to talk to the spaniel.

"Jock, I do wish some one was here! I wish you were a human being! Oh wherever are grandpa and Tommy? I expect they are still fishing by the creek. If only my foot would not hurt so, I would get up and walk back, but I don't know the way." At this Betty began to cry again. Then suddenly an old man came into her head and she began to speak again, "If only I had a pencil and paper, but I have my fountain pen, and I believe I have mother's letter in my pocket, I could write on

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Valuable Farm For Sale by Tender

Tenders will be received by the undersigned until Wednesday, March the Eighth, nineteen hundred and sixteen for the purchase of the valuable property known as "Fairview Farm" the property of the estate of the late John Campbell of Woodville; the farm contains 150 acres and is composed of the north half of Lot No. 10, in the 14th Concession of Mariposa and the south east quarter of Lot No. 10 in the 15th Concession. This farm is in a very high state of cultivation; thoroughly underdrained; the outbuildings are outfitted with the most modern equipment and the fences are in first-class repair; there is a most commodious and handsome residence heated by a first-class hot-water system, and complete waterworks, beautiful lawn and hedges, also a splendid residence for an assistant. Terms ten per cent, down upon acceptance of the tender, balance in one month thereafter without interest. The highest or any tender not necessarily accepted. The purchaser shall examine the title at his own expense and the Vendors shall not be expected or bound to supply any deeds, abstracts or other evidence of title except those in their possession.

For any further particulars address: ANDREW McKAY, D. McLACHLAN, Woodville. 520 Carlan St., Toronto

Tenders will also be received by John P. Campbell, Woodville, until Wednesday, March 8th, 1916, for the balance of "Fairview Farm" the property of the estate of the late John Campbell, containing 50 acres and being the south west quarter of Lot No. 10, in the 15th Concession of Mariposa. This is probably the best 50 acres of Fairview and should go to the successful bidder. Terms ten per cent, down upon the acceptance of the tender, balance in one month thereafter without interest. The highest or any tender not necessarily accepted.

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FOR PARTICULARS WRITE

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A FEW choice White Wyandotte cockerels at \$2.50 each. Order early! they won't last long at that price. W. B. Powell, Galt, Ont.

BRAMA, Partridge Rock Cockerels, \$2.00. Black Spanish, White Leghorn Cockerels, \$1.50. Trio of White Leghorns and Partridge Rocks (one male, two females) \$5.00. John Anneser, Tilbury, Ont.

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

CLARK'S Famous Orpingtons—75 choice vigorous Buff and White Orpington cockerels and yearlings, 100 pullets and yearlings. Bred from best exhibition and laying strains in Canada. Males \$2, \$3, \$5; females, \$1.50, \$2, \$3 each. Choice breeding pen, 5 birds, \$10 to \$15. Best general purpose fowl bred, unexcelled for table, layers and mothers. Order from oldest and largest breeder in Canada. Satisfaction guaranteed. Eggs shipped in season. Catalogue free. J. W. Clark, Cedar Row Farm, Cainsville, Ont.

"DUL-MAGE" White Rocks—Eggs from our heavy laying utility strains, \$3 per 15. McConnell & Fergusson, P.O. Box 505, London, Ontario.

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

FOR sale—To house geese, five dollars per pair or three dollars each. Also R. I. Red cockerels and pullets, two dollars each, they are fine S. C. and R. C. Sam Holmes, Box 2, Chatham, Ontario.

HIGH Grade Barred Rock cockerels and Pekin ducks. Drakes all sold. Correspondence invited. Prices right. Leslie Kerns, Freeman, Ont.

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

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

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

SPLENDID Single Comb Rhode Island Red Cockerels. Prices reasonable. Hatching eggs later. Dr. Hendry, D.Jhi, Ont.

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

WHITE-ROCKS "Dul-mage". Yearling hens, pullets and males from our heavy laying utility strain. To reduce our stock we offer for immediate sale: individuals, \$2 to \$5 each, trios, \$6 to \$10. McConnell & Fergusson, P. O. Box 505, London, Ont.

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the back of that." Betty took her pen out of her pocket and laid the envelope in her lap, then she wrote: "Dear grandpa and Tommy—I have hurt my foot out on the common, and can't walk, do come and help me—Betty."

While Jock looked on very astonished. But perhaps he was more astonished when Betty proceeded to tie the back of the envelope on to his collar with one of her shoelaces.

"Now Jocky," she said, "go to grandpa! Go on!"

Jock looked doubtfully at her and wagged his tail, but did not move.

"Go on, Jock, go to Tommy! Good dog!" and Betty pointed in the direction in which she thought they must have come. This time Jock seemed to understand, and trotted off with a little bark. Betty watched him until he was out of sight and then she looked about for some sort of shelter, for the sun was pouring down on her head. Seeing a high clump of ferns not far away she tried to crawl to it, but the pain in her leg became quite unbearable, and everything seemed to be turning black all round her. Suddenly she realized that some one was near her, and opening her eyes she looked around in amazement; she was lying on a thick rug and by a little kind tent, while near by stood two or three large caravans. Near her was a triangular-shaped thing made of iron which stood over a huge fire, and had a large pot hanging from the centre of it. But what took her attention most was the people sitting by it. A young black-haired woman with a little baby, and an older woman with a bright handkerchief on her head, were serving out the contents of the large iron pot while three or four men and a crowd of children sat in a ring by them. One of the women turned round and noticed Betty.

"Ah, so you are better, my dear?" she asked kindly. "Yes, thank you," answered Betty. The kind tone of the woman cheered her up; at the same time, however, she realized half with fear and half with surprise that she was in the midst of gipsies—in the very camp which they had seen from the distance that morning.

"Ah," the other woman turned round also, "and you do look better. But, come, tell us how on earth you come to be fainted out on the common all with yourself and a dreadful sprained ankle?"

Betty had to tell them all the history of the morning, although she felt much too tired to do so. Afterwards they gave her some thick rabbit soup, and as she was very hungry she was very glad of it. Then she went to sleep again, for although her foot had been bandaged the pain in it seemed to make her tired. So the gipsy woman persuaded her to sleep and so she lay down again on the rug, feeling quite sure that grandpa and Tommy would come.

Meanwhile Mr. Ransome and Tommy had got so intent on their fishing that they did not notice Betty's disappearance.

"I have got another grandpa," cried Tommy excitedly, "this is the fourth."

"Well done," replied his grandfather, and so have I. How many have we altogether?"

"Eight, nine, ten, grandpa. I should think we might have dinner now, it's one o'clock."

"Never!" exclaimed Mr. Ransome—"well, well, the time has gone quickly. Yes we had better have dinner. Why, wherever is Betty all this time? I declare I had forgotten all about her."

"Do you think she is over the other side?" suggested Tommy.

"I'm sure I do not know, my boy," replied Mr. Ransome, looking very worried, "she has been gone nearly an hour."

"Whatever can have happened to her?" said Tommy, anxiously.

"Ah, here comes Jock. Look grandpa! What has he got on his collar?"

Jock came running up to Mr. Ransome barking excitedly.

Mr. Ransome hastily undid the knot and read the note on the paper.

"Oh grandpa, do let's go to poor Betty, quick!" said Tommy.

"Yes, Tommy, we must go at once," said Mr. Ransome hurriedly. As soon as the spaniel saw them start the way he had come he ran on in front and they followed him for about a mile

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and a half, up and down over the common, until they came to a place where Jock stopped suddenly.

"What's that over there?" cried Tommy, pointing to a white object lying a few yards away. He ran to pick it up and found that it was Betty's white scarf. Mr. Ransome was more puzzled than ever, and Tommy began to cry. Suddenly Jock gave a low growl and started off again, with Tommy and his grandfather at his heels. But what was their astonishment to see Jock with his nose on the ground running towards the gipsies' camp.

"Grandpa," said Tommy, "do you think that the gipsies have stolen her?"

"I think that she is here, although they may not have stolen her," replied Mr. Ransome.

And so it proved that when they entered the round circle between the caravans the saw Betty hugging Jock. Everything seemed all right then, and when they left Mr. Ransome rewarded the gipsies for their kindness to Betty.

The next day Betty was lying on the sofa with her ankle bound up with bandages when Tommy came in with Jock behind him. As soon as Jock saw her he jumped up on to the sofa and began to lick her.

"Whatever would you have done without Jock yesterday, Betty?" asked Tommy.

"I don't know," replied Betty, "I might not have been home now if it had not been for him, for although the gipsies were kind they had not got a pony or even a donkey to bring me home with, they told me that their donkeys had gone to a fair some miles away." And then she added laughingly, "I think Jock deserves the Victoria Cross."

"So he does, assented Tommy, "I'll make him one out of a penny."

The twins have gone back to the city, but I do not think that they will ever forget that picnic party.

What To Do for Burns and Scalds.

There are two kinds of burns: (1) burns proper, caused by contact with dry heat, such as fire, hot solids or chemicals, and (2) scalds, caused by moist heat, as hot liquids, steam, etc. If burns affect the outer skin only, they may be treated at home; but if they go deeper and destroy more or less of the underlying tissue, they should be looked after by a physician.

KEEP AIR AWAY.

The most important factor in treating a burn or a scald is to keep it airtight. The value of this simple precaution cannot be overestimated. In cases of more severe wounds, exposure is so dangerous that it often results fatally. Therefore, apply whatever remedy you use by means of a cloth closely bound over the wound, and cover this cloth with cotton wadding, if necessary, to keep out the air. It does little good to hold a burn to the heat, because the benefits of the warmth are more than counteracted by the danger from exposure. If warmth is wanted, it should be applied by means of moist, warm cloths, laid on so as to exclude air.

If any clothing covers the wound, cut it away with a knife or scissors; if it sticks, cut away the loose part and flood the rest with some oily substance to loosen the material before carefully peeling it off. In case clothing has to be cut away to get at burns, have the remedies right at hand; remove only a small part of the goods at a time so that the exposed part may be covered at once.

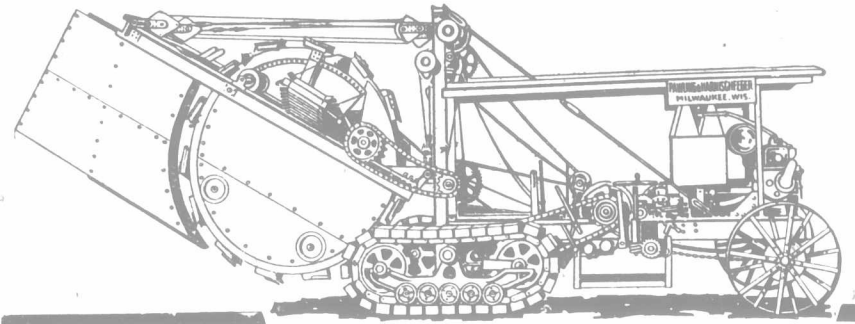
Here follow some simple home remedies:

FOR SLIGHT BURNS AND SCALDS.

First: Prick open any blisters which may have formed with a sterilized needle dipped in some disinfectant. Do not use a pin. If no liquid disinfectant is handy, sterilize the needle by passing it through a flame. Press out the water in the blister, taking care not to break or expose the tender surface beneath the skin, and clean it with a weak solution of table salt and water.

Second: Apply one of the following remedies, and cover wound at once:

1. Castor oil, a mixture of equal parts of lard and lime-water.



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THOSE low acres—drain them this spring and add them to your productive land, besides adding to the value of your farm. There's rich land there—productive land—if it were drained of superfluous moisture. Farm drainage no longer involves the hiring of a big crew, a lot of time and labor. It can be done quickly and economically with

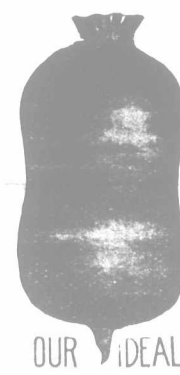


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SPECIAL OFFER One pound each of above 3 Mangels for one dollar P. Free. Half pound each of above 3 Mangels for 60c. Post Free.

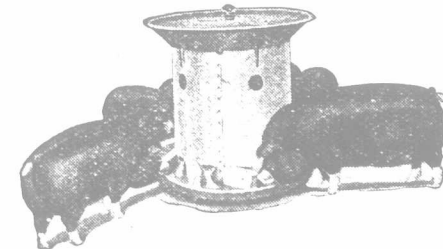
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are machines which compel the pigs to grind their own grain as they eat.

They waste less grain. They compel the pigs to eat slowly. They save the cost of grinding. They save one-half the labor. They feed pigs better than you can. They pay for themselves in every batch of hogs.

Mr. Wm. Shott, of Listowel, purchased a Motor because of loss of pigs through crippling, and has since sold two lots off the Motor. He states the Motor has solved the hog trouble with him, and is leading him to pay more attention to this branch of farming.

Mr. Herb. Jackson, of Listowel, has had so good results with his first Motor he has purchased a second, and is feeding some forty hogs, and could feed 10 more on the two machines. He is always pleased to show them to persons desirous of learning how to successfully feed hogs.

The Canadian Hog Motor Co., Limited, Listowel, Ontario

This is one of the best remedies, and should be in every medicine chest.

2. A solution of water and as much baking-soda as the water will soak up. (Especially helpful for scalds.)

3. Some oily substance—salad, olive or sweet oil, fresh lard, unsalted butter or vaseline. Carbolated vaseline is especially good.

4. The white of an egg. (This is very cool and soothing, and stops pain quickly.)

5. If none of the above substances are handy, dust the wound with flour; if even that is out of reach, apply moist earth, preferably clay, and cover the part to keep it air-tight.

ACID BURNS.

Acid burns are caused by acid substances, such as sulphuric acid, carbolic acid, etc. Treat them by drenching the burn with water and washing it with a solution of washing or baking-soda and water, after which treat it by the means described above.

ALKALI BURNS.

Alkali burns, which are caused by caustic potash, caustic soda, strong ammonia, etc., are first drenched with water and then washed with vinegar or dilute acid before they are treated like other burns.

CLOTHING ON FIRE.

Force a person whose clothing is on fire to lie down quickly—throw him down, if necessary—to check the progress of the flames. A burning person's impulse is to run into the cool air to escape the heat of the fire, a fact which only aggravates the flames by fanning them. Stop him immediately and throw him down on the spot. Smother the flames quickly in a coat, shawl, rug or blanket—anything that will keep the air from the flames and prevent them from climbing up toward the face. Use woolen wrappings, if possible; if not, any thick material will do. The main thing to remember is that what has to be done must be done quickly. Then send for a physician.

CUTS OR WOUNDS.

Cuts or open wounds, especially if they penetrate far underneath the skin, can be very dangerous unless they are treated at once. Where instant care is necessary, the following method will be found effective:

First: Stop the bleeding as far as possible, especially if the cut is a deep one. If it is one which reaches a blood-vessel, summon a physician at once, because there is danger of bleeding to death.

1. Artery cuts are recognized by the bright red blood which flows from them. The regular means of stopping the flow of blood in such a cut is by the use of a tourniquet. To make one in case of an emergency, roll up a handkerchief or a stout piece of cloth; knot the two ends and slip the loop over the limb above the wound. Pass a stick beneath the bandage and turn it from left to right, thus increasing the pressure on the limb with each twist of the stick until the flow of blood is controlled.

2. Vein cuts give out blood which is dark, blackish red in color. Here the flow can be lessened by pressing the thumb or finger into the wound. But in this case, as in the one above, call a doctor at once, for you can do nothing until bleeding stops.

3. Slight cuts will stop bleeding if put into hot or cold water; often, too, the pressure of the dressing will stop the flow.

Second: Cleanse the wound from dirt, bits of glass, stone, etc., by washing it with one of the following:

1. Clean water, in which a table-spoonful of salt has been dissolved to every pint of water.

2. Iodine, which acts as a healing remedy as well as a disinfectant, and is especially helpful for wounds caused by rusty nails, etc.

3. A solution of one part of vinegar and three parts of water.

4. A peroxide solution. Be careful not to use unclean water. An unclean wound is much safer than one washed in dirty water.

Third: Band the wound, drawing the parts together as much as possible. This will hasten the process of healing, and will diminish the size of the scar. A large wound should be stitched by a physician immediately if possible—select,

**No Burning,
Clean Foliage,
Fine Bloom and Finish.**

SPRAY

Mr. C. W. Gurney of Paris, Ontario, says that with Soluble Sulphur there is no burning, clean foliage, and fruit that hangs well and grows to large size. He states that like other sprays it must be applied in strict accordance to directions to avoid burning, but so applied it gives the best results.

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comes to you in powder form. It is easy to mix, sticks like paint and does not clog the nozzles of sprayers.

Niagara Soluble Sulphur controls scale, aphids, and fungus better than Lime-sulphur.

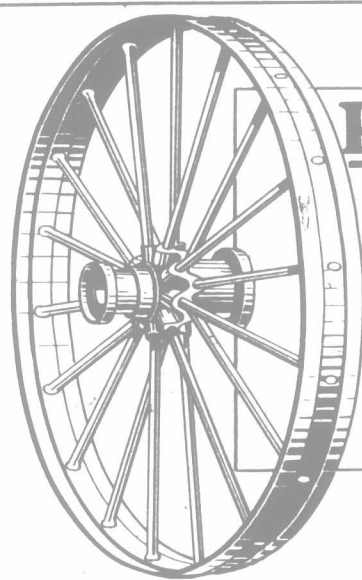
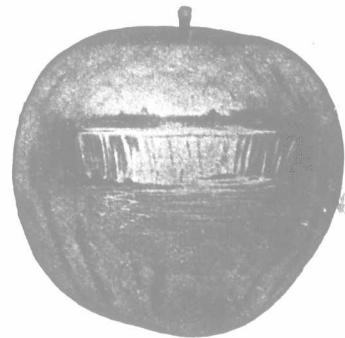
It costs no more than Lime-sulphur and the freight charges are less.

You handle a 100 lb. tin from your station, instead of a 600 lb. barrel. With Niagara Soluble Sulphur there is no leakage, and loss. It does better work than Lime-sulphur and does it quicker.

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Spraying and Dusters, Hand and Power Pumps and Accessories.

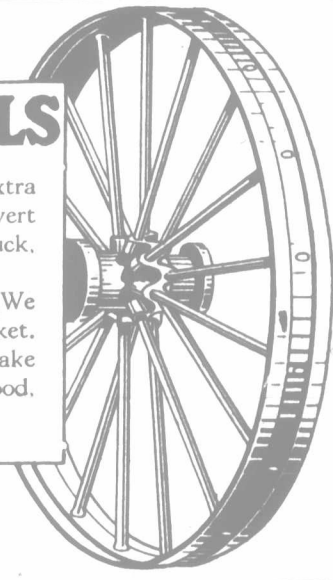


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WISCONSIN INCUBATOR CO. Box 228, RACINE, WISCONSIN, U. S. A.

**CLOSING SALE OF THE
Isaac Shorthorns**

At HARWOOD, ONTARIO, on

Wednesday, March 8, 1916

The whole of this old and well-known herd will be sold without reserve, as the farms are sold. The horses and implements will also be sold on same day.

This is one of the oldest herds in the country, and it has been kept up-to-date by frequent importations. Now you will have a chance to get the benefit of all this, at your own price. It is a good time to buy cattle, and you should attend this sale if you have room for another animal. Those that have pure-bred herds can get something to improve them, and those beginning can lay a foundation that will prove to be sound.

Parties from a distance will be met at the Balmoral Hotel, Cobourg, on morning of sale, and they will be taken back to trains in the evening.

Write for catalogue to:

W. J. ISAAC, Harwood, Ontario

When Writing Please Mention Advocate

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.

Colt Slavers.

I would like to know what can be done for a colt (one year old in May), that slavers while eating? The hay and manger become wet as if water had been thrown on them. He is very thin and is not doing well; early in fall his jaw festered but appeared to get over that, but seems a little weak in hind legs. S. C.

Ans.—Slavering is generally due to some trouble in the mouth. Have the colt's mouth and teeth carefully examined, and remove the cause, if it is discovered. The festering may have been caused by a defective tooth. After the trouble in the mouth is remedied, the colt will probably put on flesh and become stronger.

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ABSOLUTE SECURITY TO POLICYHOLDERS



"I'm not going to leave money for another husband to spend," you say.

Few women would marry a second time except to provide a home for themselves and their children. Put it in the power of your widow to remain single if she so desires, or to remarry from choice—not from necessity.

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for every need—the small farmer and the thousand-acre man. The knapsack outfit at the left is all high-grade and sprays at high pressure. We guarantee it to spray paint, whitewash and chemicals. The SPRAMOTOR is all brass with dashing agitator around screen, automatic plunger, brass ball valves and patent hand valve. In galvanized or brass 5-gallon tank.

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Questions and Answers.
Miscellaneous.

Testing Seeds—Books on Plant Diseases.

As I have some small seeds I would like to know the best way to test them. Also, the names of the best books on insect pests and plant diseases attacking fruit and vegetables. Where may these books be procured? J. M. R.

Ans.—Small seeds may be placed between two sheets of blotting paper and kept moist for a few days, after which the percentage germination may be estimated. Another method frequently used is a flat box partially filled with sawdust and covered with a piece of white cotton, which is marked off into squares. Where a number of varieties are being tested, each square may be used for one variety. A cloth is placed over this, and the sawdust moistened. Keep the box in a warm place until the seeds germinate. The following books are recommended and may be secured through this office post paid for the price mentioned: Diseases of Economic Plants, by Stevens and Mall, \$2.10; Insects Injurious to Fruits, by Saunders, \$2.15; Insects Injurious to Vegetables, by Chittenden, \$1.50.

Seed Per Acre—Green Feed.

1. What is the right amount of seed to sow per acre of the following crops: Oats, carrots, sugar beets, turnips, corn for silo sown in hills and in rows 3 feet apart, potatoes, timothy and red clover sown with oats for hay, oats, vetches and clover sown for green feed, red clover sown with oats to plow under for green manure; the land is heavy clay?

2. What would you advise me to sow on heavy clay land in order to have green feed for milch cows before pasture gets low and dry? G. G.

Ans.—The amount of seed to sow per acre depends somewhat on the fertility of the land, condition of seed bed, size of seed, stooling qualities of different varieties and vitality of the seed. An approximate amount of seed to sow per acre would be oats 2 to 3 bushels; carrots 3 lbs.; sugar beets, 6 to 8 lbs.; turnips, 1½ to 3 lbs.; corn, in hills, 1 peck; corn in drills, 2 pecks; potatoes, 12 to 18 bushels; for hay, 6 to 10 lbs. of red clover and 4 to 6 lbs. of timothy; green feed, oats 1½ bushel, vetch 1 bushel, clover 6 lbs., green manure, 6 to 8 lbs. of clover.

2. The annual pasture mixture composed of 51 lbs. oats, 30 lbs. Early Amber sugar cane, and 7 lbs. red clover seed per acre is highly recommended. Sow at the ordinary time of seeding. A mixture of oats and peas is grown by some stockmen for green feed.

Seeding With Rape or Millet—Weight of Pigs.

1. Will seeding down with rape prove satisfactory? If so, how much rape is it advisable to sow per acre?

2. Will seeding down with millet prove satisfactory, and how much millet is it advisable to sow?

3. Will millet do well on heavy land, and is it good for sheep when cut for hay?

4. How many sheep will an acre of land pasture, providing grass grows well?

5. Why are Berkshire pigs done away with in many sections of the country?

6. What should a good, registered Berkshire weigh at 7 months of age? W. B. P.

Ans.—1 and 2. We think not. 3. Heavy land is quite suitable for millet. Mule hay is considered to be poor feed for sheep.

4. It would depend on the pasture. Possibly two-thirds of an acre would supply for one sheep through the season, but this varies. Sheep do better if they have a few weeks from one pasture to another.

5. The reason for getting rid of which I am not sure. I have never seen a Berkshire pig of any size, possibly they are too heavy, which is to make them hard to handle.

6. It will depend a good deal on the feed and care given. A pig at seven months should weigh 100 lbs. up.

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CERTAIN-TEED is exactly what you want on your farm buildings. It's safer than wood shingles; it looks better than galvanized iron or tin, is easier to lay and cheaper than either. It is guaranteed for 5, 10 and 15 years, according to ply—actually lasts longer. This guarantee is backed by the biggest roofing concern in the world, and is as dependable as CERTAIN-TEED itself. CERTAIN-TEED is very different from the cheap roofing sold by mail. Get Certain-teed from your local dealer, whom you know and can rely upon. It will save you money in the end. Certain-teed is sold by good dealers all over Canada, at reasonable prices.

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1000 bus. good clean oats, grown from prize-winning seed on clean land. Write for samples and price.

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Belgian Horses Stallions, mares and fillies any age. From Canadian-bred mares and fillies any age.
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Also be sure to send for our catalog describing fully the Natco Imperishable Silo.

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Tell us what you are thinking of building. We have plans for barns, corn cribs, garages, etc., free.

Questions and Answers. Veterinary.

Nail Puncture.

Mare had foot punctured by a nail I pulled the nail out and it bled freely, and she seemed all right for a couple of days, but now has gone lame again. There is nothing to be seen. How should she be treated, and is there any danger of lock jaw? F. D.

Ans.—The sole of the foot at the seat of puncture must be pared right down to the sensitive parts to allow the escape of pus that has formed. A free opening must be made for escape of pus. Then fill the opening with 1 part iodoform acid and 3 parts boracic acid, and put a cloth on to keep the dressing in and dirt out. Clean out and put on fresh dressing three times daily until the lameness disappears and the opening closes. Some apply poultices, but we favor the dry dressing. There is danger of lock jaw. It would be good practice to get your veterinarian to inject her with an immunative dose of anti-tetanic serum. V.

Partial Paralysis.

Last summer a colt got down in a plowed field, and could not rise. I sent for my veterinarian, and we got her to the barn, and he treated her. I had to assist her to rise for a long time. She can now rise without assistance, but I am afraid to let her out for fear she will fall. Do you think she will ever get right? E. J.

Ans.—No doubt your veterinarian did all that could be done for her. His opinion as to probable recovery should be more valuable than ours. The prospect of recovery, of course, depends upon the nature and severity of the cause of paralysis. The fact that she can now rise without help, indicates that there is at least a probability of continued improvement. It is doubtful whether medical treatment will help, but we would advise keeping her quiet in a comfortable box stall, feeding on laxative, easily digested food, and giving her 1 dram nux vomica three times daily until the grass is fit to turn her out on pasture, then turning her out where she will not be interfered with by other horses or other stock, and give her a chance for a few months. If no improvement is noticed by fall, it is not probable that she will recover. V.

Miscellaneous

Drawing Up a Lease.

What provision does the law or the usual practice make in regard to the drawing up of a lease? Provided there is no agreement made at the time the lease is drawn up, who pays for the drawing up of the papers, the lessor or the lessee? E. W.

Ans.—There are regular printed forms on which to draw up a lease, or an agreement may be written and signed by both parties before a witness. In regard to any expense incurred, we believe both parties should pay an equal amount.

Rape Seed Per Acre—Flax With Grain—Top dressing After Grain is up.

1. Which is preferred by majority of judges of Berkshires, heavy, coarse hair, or a light, fine coat?
2. How much rape seed per acre should be sown with grain?
3. Is one pound of flax seed a good thing to sow with grain?
4. Is it a good plan to spread manure lightly with a spreader after the grain is sown, and perhaps up through the ground an inch?
5. When stubble is to be plowed in spring, is it best to plow it shallow or deep? W. B. P.

Ans.—1. The fine, silky hair is usually preferred.

2. From 6 to 10 pounds.
3. Many farmers make a practice of sowing flax seed with their spring crops. Flax fed in conjunction with grains is beneficial to stock. If any of the grain is not for feeding purposes, the flax seed may easily be separated with the fanning mill.

4. It is a practice followed by some farmers, with satisfactory results. It not only adds fertility to the soil, but acts as a mulch and prevents evaporation of moisture.

5. Shallow plowing would be preferable, so long as it is deep enough to make a good seed-bed.

PULL OUT THE STUMPS!



The HERCULES—All Steel Triple Power Stump Puller pulls an acre of stumps a day—increases the value of your land 100%. Makes room for money crops. Guaranteed for 3 years against breakage from any cause. Send name for the free book, 20 days free trial offer and special low price proposition. HERCULES MFG. CO. 1986 22nd Street, Centerville, Ia., U.S.A.



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Growers of high-class seed grain: Above varieties our specialty. Many prize-winning fields have been grown from our seeds during last seven years against strong competition. Present supply excellent.

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NONE-SUCH SEED CORN

Our Guarantee

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

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

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

20 bus. Ontario grown Alfalfa Grade No. 2, 500 bus. O. A. C. No. 72. Oats at 75c. per bus. Bags 25c. extra.

W. H. BRADSHAW, R. R. No. 1, Canfield, Ont.

O. A. C. No. 72 OATS

Improved seed, clean and pure. Heavy yielder. \$1.00 per bushel. Bags free.

W. H. BRADSHAW, Canfield, Ont.

O.A.C. 72, and reg. Banner oats, and O. A. C. 21 Barley for sale. Out of 1st prize standing crop and grown from 1st prize seed.

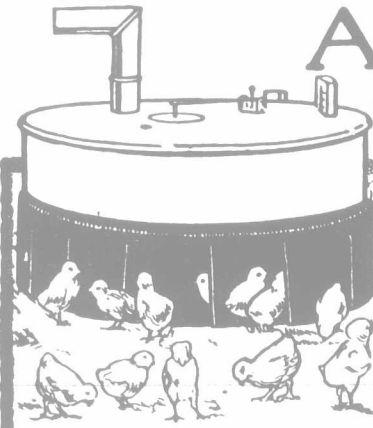
Seed Corn — Prize-winning Wisconsin No. 7 and Longfellow, the best for the silo.

GEORGE R. WEST & SONS Northwood, R.R. No. 3, Ontario

Seed Oats For Sale O.A.C. No. 72, free from wild oats and noxious weeds. Heavy yielder, good strong straw. Price 80c., bags free.

TOOLE BROS. Mount Albert, Ont.

Anyone Can Raise Chicks



Yes, anyone—and with very little trouble.

Three weeks' feeding of Pratt's Baby Chick Food will give the youngsters a start which will bring them through the danger period and keep them growing steadily.

Bowel trouble need never appear. Pratt's is a partly-cooked predigested food—a baby food for baby chicks.

The amateur with his first batch of chicks can be sure of success by feeding Pratt's Baby Chick Food as we direct. Give Pratt's a trial and satisfy yourself.

25-cent packages and larger money-saving sizes up to 100-lb. sacks.

SOLD AT ALL DEALERS ON OUR MONEY BACK GUARANTEE

Pratt's White Diarrhea Remedy. A few tablets in the drinking water from the first day will prevent this trouble. Sold on our Money Back Guarantee, at all dealers, in 25c and 50c boxes.

Pratt's Disinfectant. Use freely in brooders, coops, and incubators to prevent disease.

FREE Poultry Wrinkles—a 64-page book that will show the way out of many troubles. Write for copy TO-DAY.

PRATT FOOD CO. of Canada, Limited

68G Claremont Street, Toronto 7

with Pratt's Baby Chick Food



MONEY IN YOUR SUGAR BUSH

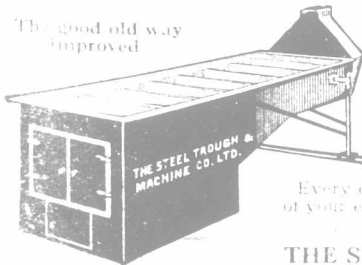
Preserve the most valuable in your maple syrup by boiling it down in the PERFECT MAPLE EVAPORATOR

Simple to operate, the so moderate that anyone can use. Made of first quality material. Sold you direct, makes the small bush profitable.

Every one recommends. Order now and be ready to take care of your early runs or sap the best and most profitable to you get.

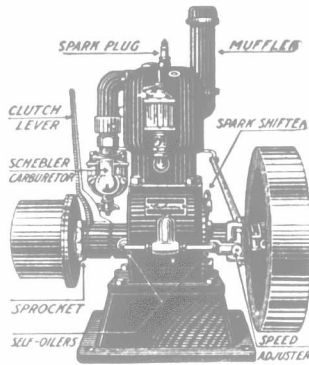
Please see pamphlet today

THE STEEL TROUGH & MACHINE CO., Ltd. 100 James Street, Tweed, Ontario



**4 H.P. Cushman Weighs Only 190 lbs.
8 H.P. 2 Cylinder Only 320 lbs.**

Cushman Engines are the lightest weight farm engines in the world, yet they are even more steady running, quiet and dependable than most heavy engines, because of Throttle Governor, perfect balance and almost no friction nor vibration. The simple Cushman Governor releases just enough fuel to take care of the load at any moment, thus avoiding the fast and slow speeds at which most engines run. While Cushman Engines are only about one-fourth the weight, per horsepower, of most other stationary engines, they will deliver as much or more steady, reliable power, per rated horsepower, than any other farm engine made.

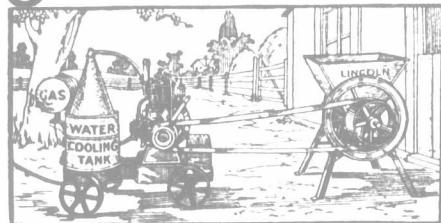


Note the Many Special Advantages Not Found On Other Engines.

**Cushman Light Weight Engines
For All Farm Work—4 to 20 H. P.**

Are not cheap engines, but they are cheap in the long run, as they do so many things heavy engines cannot do. May be attached to machines such as binders, balers, etc., to save a team. Easy to move around. Moving parts enclosed and run in bath of oil. Run at any speed—speed changed while running. Direct water circulating pump prevents overheating. Schebler Carburetor and Friction Clutch Pulley.

Farmer's Handy 4 H. P. Truck
Easy to Move Around from Job to Job.
Same Engine Used on Binder.



The ONE Binder Engine

The Cushman 4 H. P. is the one practical binder engine. Its light weight and steady power permit it to be attached to rear of binder. Saves a team during harvest.

Dave Linton, Ransom, Ill., says: "I can do everything with the 190-lb. Cushman that I could with an engine that weighed 1000 lbs., and do it better and with a lot less noise."

Ask for our Light Weight Engine Book, sent free.
CUSHMAN MOTOR WORKS OF CANADA, LTD.
281 Princess Street, Winnipeg, Man.

EXCLUSIVE SELLING AGENTS FOR

Fanning Mills—Smut and Pickling Machines—Vacuum Washing Machines—Lincoln Grinders—Lincoln Saws—Incubators—Universal Hoists—Automatic Cream Separators—Champion Cream Separators—Portable Grain Elevators—Wagner Hardware Specialties—Mountaineer and Little Giant Neck Yoke Centers.

DISTRIBUTING POINTS FOR ONTARIO:

Foot of George Street
TORONTO

143 York Street
LONDON, ONT.

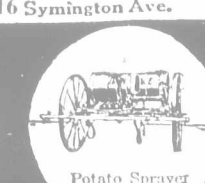
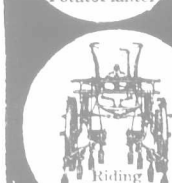
More Profit

THROUGH better, more intelligent, more economical use of good tools will come the profit that is so hard to find each year on many crops. Plant right so you will get full benefit. Work faster with better tools so you can cultivate and spray often. Study whether there isn't some tool that will do your work better.

IRON AGE

Potato machinery, spraying machinery, garden tools, etc., are built to give you just what you need to do things right. The most any combination you can think of in each line. Forty years of factory and farm experience behind their manufacture.

Ask your dealer to show them, but write us for our catalogue book. In July describing lines in which you are interested. Let us make good our claims.
The Bateman-Wilkinson Co., Ltd.
416 Symington Ave. Toronto, Ontario



- Garden Seed Drills
- Wheel Hoes
- Potato Planters
- Flows
- Riding Cultivators
- Walking Cultivators
- Potato Sprayers
- Locket, Barrel and Lower Sprayers
- Potato Diggers
- Ensilage Cutters
- Fertilizer Distributors
- Root Pulpers
- Straw Cutters
- Turnip Drills
- Drag Harrows
- Land Rollers

CANADIAN PACIFIC

For WINNIPEG and VANCOUVER
LEAVE TORONTO 6.40 P.M.
DAILY
VANCOUVER TRANS-CANADA
LEAVE VANCOUVER 1.20 P.M.

**Questions and Answers
Miscellaneous.**

Yeast Treatment for Barren Cow.

I have a cow I would very much like to keep, but she has failed to breed this last year. Although she has been bred several times. Is there any practical treatment?
V. B.

Ans.—The yeast treatment is worthy of a trial in such a case. It has often resulted in causing an apparently barren animal to conceive. Mix an ordinary two-cent cake of yeast to a paste with a little warm water and allow to stand for 12 hours in a moderately-warm place; then stir in one pint of freshly-boiled lukewarm water and allow to stand for 8 to 12 hours. Mixture will then be ready for use and the entire quantity should be injected into the vagina of the animal to be bred. Use the next time when period of heat is just noticed and breed when period is about ended. It would be well to commence preparing the mixture some hours before the animal was expected to show oestrus.

Swollen Sheath.

I have a gelding 10 years old that has a foul sheath, the inside and as far as the navel, being swollen and sore. The inside of sheath is wrinkled and hard, although I keep it well washed and greased it does not get any better. He had a kind of a watery sore on the near side in front of sheath which formed into a hard scab, dried up and healed. Also had lumps on shoulders which got sore when worked, but are now pretty well healed. Kindly let me know the price and quantity of remedy required, as I live a long way from any drug store, and shall have to get it by mail. The horse looks and feels well.
H. E.

Ans.—Where water contains a considerable quantity of lime, calculus frequently forms in the sheath, which causes irritation and swelling. Sometimes a mucous matter forms in the sheath. Remove any hard secretions, then wash the inside of sheath thoroughly with castile soap and warm water. Follow this with a four-per-cent. solution of carbolic acid, after which sweet oil may be used. The watery sore may have been caused by the animal's system being a little out of condition. Horse's shoulders should be closely watched in the spring, when work commences, to prevent scalding.

Thumps—Ringbones.

1. We have a pig, four weeks old, that seems to have a hard time to breathe. It is very fat about the throat and shoulders, but is thin about the hips. When it breathes, its sides go something like a horse with the heaves. The pig makes a noise when it breathes and lies around in the nest nearly all the time. It is the only pig the sow has left from a bunch of six. The sow is being fed corn, with a drink made up of skim-milk and dish-water.

2. We also have a young colt nearly two years old with ringbone on each hind foot and on one front foot. We think they were caused by letting the hoofs grow too long and then taking the colt on a long trip over hard and frozen roads. We have done nothing with them. What treatment would you advise?
A. J. C.

Ans.—1. We judge the pig is suffering from thumps due to liberal feeding, with insufficient exercise, which causes fat to accumulate about the heart and lungs, hindering the free circulation of blood, and resulting in congestion. Corn is a little too heating feed for a sow. Add oat chaff, shorts and roots to the ration and force the sow and pig to take some exercise. Treatment consists in giving 2 to 4 ounces of Epsom salts, according to the size of pig, and in giving a lot of exercise. 2. See that the hoofs, starting with the hind feet, are kept in good shape and that the colt is not allowed to travel on hard roads.

Ovatum

**Makes Hens Pay,
for it
Makes Them Lay!**

The cost of a daily ration of Gardiner's Ovatum for every hen in your flock would be covered by one extra egg per hen per month.

The gain from feeding Ovatum will average several times that much. Very often, especially in winter, Ovatum will start a good daily production from a flock that has not been laying at all.

This it does by invigorating the digestion and the reproductive organs, so that the hens get more good out of their feed, and turn more of it into eggs.

It will certainly pay you to feed Ovatum. Get it from your dealer in 25c. and 50c. packages or 10-lb. bags. If he hasn't it, write us for prices on Ovatum, Ontario Feeders' Cotton Seed Meal, Sac-a-Fat, Pig Meal and Calf Meal.

GARDINER BROS.,
Feed Specialists, SARNIA, Ont.

**CREAM
WANTED**

We think we have the longest experience.
We try to give the best service.
We need your cream and will make it "worth your while" to ship to us. A card brings particulars.

Toronto Creamery Co., Ltd.
TORONTO

CREAM

Where are you shipping now?
And what are you getting for your cream?
We want more individual shippers and more men to gather cream for us.
Write for our proposition.

Silverwoods Limited
LONDON, ONTARIO

CREAM

We pay express charges and furnish cans.
Remit promptly. Take all you can make. Write us.

THE BERLIN CREAMERY CO.
Berlin, Canada

Sarnia Creamery

Pays express, furnishes cans and remits weekly.
Pay Highest Price.

Sarnia Creamery Co., Ltd.
Sarnia, Ont.

Brant Creamery

Pay Highest Price.
Furnish Cans and Remit Weekly.

Brant Creamery Co., Ltd.
Brantford, Ont.

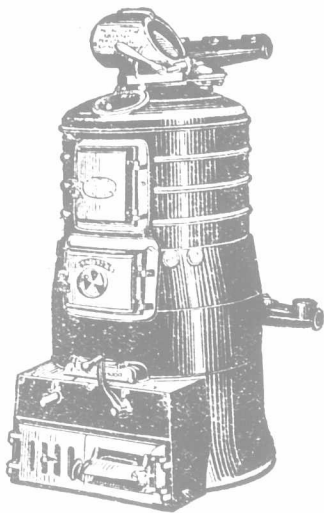
Reference: Bank of Nova Scotia

A Plan

Following Canada to be taken to the conclusion of the Society of Ontario having plans "Seeing proved unan in the work at the congle, to unitiona fed the nation The world i "The re peace car being prep denly explo ment man against nat patent. Th ambitious r men at his to the rest "Any successful and men "We sa ing, to tak a part of adjustment at the con "There s "1st. A tion signed "2nd. A purposes o "3rd. I each nation articles th for such "4th. A "It shou ambassa of any or and in are to an when app ternati trate the the offi is still

Is Your Home Anything Like This? Or are You Planning to Build One Like It?

NO matter how fiercely bleak winter rages, this house is bound to be comfortable, because the plans call for Gurney-Oxford Hot Water Heating. This is the comfort-yielding, blizzard-defying warmth that fills the whole house with a "homey" June-like atmosphere—healthful because the moisture is not burnt out of the air as with old-style heating.



The Gurney-Oxford Hot Water Boiler

Generally put in the cellar. Only one place in the house to carry fuel to and ashes away from. Needs fuel, from 1 to 3 times only, in 24 hours, depending on the cold. Scientific, yet as simple as a plow.

Gurney-Oxford Hot Water Heating

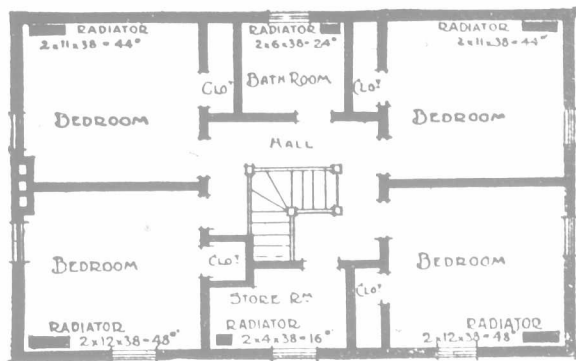
unfailingly sends an ample, gentle, healthful volume of warmth to every room, hall-way or corner. Just one fire is needed—in the Boiler—and it sends the water circulating constantly through all the piping and radiators.

If more heat is needed to meet the cold, the faster will be the flow. It is entirely independent of any water system. A few buckets of water in the pipes and radiators are all that is needed for the winter. Use either coal or wood as you select. The Gurney-Oxford "Economizer" is a wonderful, patented system of draft control which makes the boiler almost self-managing.

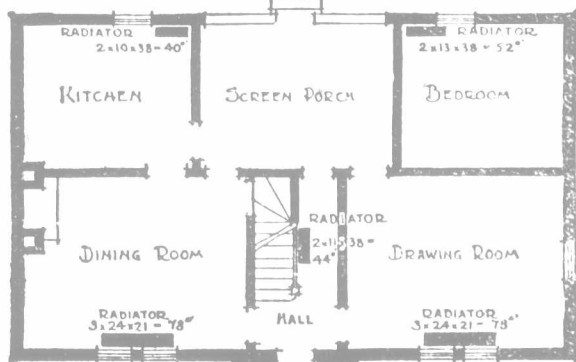
HOW ABOUT THE COST?

Depends on the size of the house. Any house can be equipped, new or old. For a house like the plans shown here, with 516 feet of radiation, the cost for Gurney-Oxford Boiler, pipes, radiators, valves, fittings, etc., will be \$350.00 F.O.B. Toronto, bought of any competent fitter. Labor and freight will be moderate extras.

The wonderful comfort, the method of operation and installation of the Gurney-Oxford Hot Water System are fully explained and illustrated in our new booklet "City Comfort for Country Homes," which also shows letters and photos from many satisfied users. The book is free, you should have a copy to-day and make up your mind that your home is going to be comfortable next winter. Address:



No ice-cold bedrooms. Every room cozy and warm at 6 a.m. Get breakfast on the oil stove.



Be up-to-date. Be progressive. Make your home more valuable.

Your present home can easily be equipped.

GURNEY FOUNDRY COMPANY, LIMITED

Dept. 23 476-534 King Street West, Toronto

Also at Montreal, Hamilton, Winnipeg, Calgary, Edmonton, Vancouver



A Plan for Peace After the War.

Following a Plea to the People of Canada to consider steps which should be taken toward permanent peace at the conclusion of the present conflict, the Society of Friends at Coldstream, Ontario have again set forth the following plans for world-wide peace:

"Seeing that all past plans have proved unavailing in establishing peace in the world, it behooves 'The Powers,' at the conclusion of the present struggle, to unite in some sort of international federation that shall bind all the nations into a lasting peace. The world is fully ripe and ready for it.

"The recently popular idea that peace can be maintained only by being prepared for war, has been suddenly exploded. The intrigue of armament manufacturers in inciting nation against nation for selfish ends is all too patent. The absolute power of one ambitious monarch, with arms and the men at his bid, is constantly a menace to the rest of the world.

"Any scheme to be adequate and successful must strike at these defects and menaces.

"We sanction and advise the following, to take effect and be applied, as a part of the stipulations in the readjustment of international relations at the conclusion of the present war.

"There shall be:

"1st. A universal system of arbitration signed by all nations.

"2nd. An international force for police purposes contributed to by all nations.

"3rd. The government control by each nation of the manufacture of all articles that may be used in any way for such purposes.

"4th. A disarmament of all nations. It shall be part of the duties of all ambassadors to see that no violation of any of the above stipulations occur, and in case of such violation they are to advise their home governments, when action can be made to the 'International Court,' which shall arbitrate the case, and pass judgment upon the offending nation. If the violation is still insisted in, as a final resort,

Sydney Basic Slag

Costs the farmer \$20 per ton

If you can get a fertilizer that will grow you increased crops and leave a handsome profit after paying for the outlay, is it not worth your while to investigate? Think it over, and if you let us have your name and address our representative will be pleased to call on you.

The Cross Fertilizer Co., Limited

Sydney, Nova Scotia

said nation shall be penalized by withdrawing from it all trade on the part of the rest of the world, but in other respects friendly relations are to be maintained.

"We trust and pray that sufficient pressure may be brought to bear upon the authorities of all nations that such a consolidated international body shall be formed, and laws provided for its guidance that shall speedily insure a lasting peace.

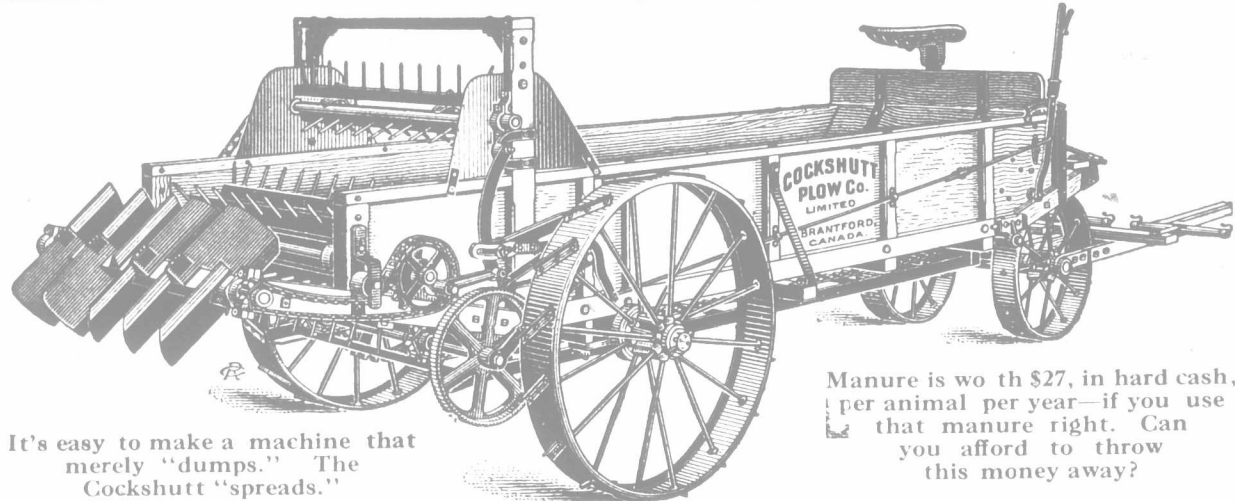
"In the meantime, and in earnest of our desires, let all peace lovers strive to check and mitigate as far as possible the disastrous feeling of bitterness and hatred that is being intensified between the warring peoples, and thus prepare them sooner for the new regime of universal brotherhood."

Questions and Answers. Miscellaneous.

Garget.

I would like to know if anyone has a cure or can tell me what effect garget will have on a cow when she freshens again. My cow developed a case of cow pox and at the same time had garget in the two hind teats. She had milked for ten months and gave 10,000 pounds. I did not milk her for a week and now she is dried except for water and chunky bits, like particles of butter, which come in small quantities from the affected teats. She is due to freshen again the first of May. Should I strip her of this or will she be all right when she comes in again. Anyone having had experience, please advise. E. A. S.

Ans.—As soon as garget is noticed, all contributing causes should be done away with. Purge the cow with 1 pound of Epsom salts and follow with a teaspoonful of saltpetre in a pint of water as a drench once daily for a week; or it could be given in the feed. Bathe the affected part of the udder with hot water, dry, and rub well with a mixture of spirits of turpentine and goose oil or lard. It is best to milk out the affected quarter at each milking.



It's easy to make a machine that merely "dumps." The Cockshutt "spreads."

Manure is worth \$27, in hard cash, per animal per year—if you use that manure right. Can you afford to throw this money away?

Here's a REAL MANURE SPREADER

Worthy of your money—worthy of the name Cockshutt—finest kind of investment

No matter what your experience with other manure spreaders has been—prepare for a pleasant shock when you learn about the Cockshutt.

Because we know how necessary good fertilizing is, because we know from investigation how many thousands of dollars are wasted through hap-hazard methods of manure spreading, we have never been satisfied until our experts turned out a Spreader that we could put the Cockshutt name on and sell to you as a real, perfect Spreader. Here it is—the picture above does it very scanty justice. Learn more about it.

There is all the difference in the world between having a load of manure pitch-forked in lumps and chunks on to the ground and having it pulverized and spread over the field like a blanket. The first way means waste—waste of time, work, fertilizer and crop. The second way is the Cockshutt way.

The Cockshutt Manure Spreader has chain drive—the strongest made.

Here is an implement that will very soon pay for itself on any farm. Write to-day to our nearest branch or head office for illustrated folder on the Cockshutt Manure Spreader.

COCKSHUTT PLOW CO. Limited
BRANTFORD, ONT. Sold in Eastern Ontario, Quebec and Maritime Provinces by **The FROST & WOOD CO.** Limited
Montreal, Smith's Falls, St. John

All levers are easy to work and right at driver's hand. Has the famous Cockshutt light-draft, yet it will give a lifetime of hard work over rough or frozen ground. Bottom of box is stationary, no clogging or breaking of slats or rollers. The emptying gear—heavy steel angles held together by endless chains—is simple yet positive and cannot get out of order.

Extra to the usual spike-studded distributing cylinders at box end, the Cockshutt has a special Distributor which breaks up even hard lumps and gives a wide distribution as well as perfect pulverizing of the manure.

Box is low, only 41 inches from ground, yet with 17 inches clearance underneath. Makes the heavy work of loading easy.

Smoothly and quickly the PAGE engine cleans up the farm work

Hitch a Page to your farm and keep track of the saving it enables you to make. Low in price, it is at the same time the most satisfactory of engines. Compared to a hired man—

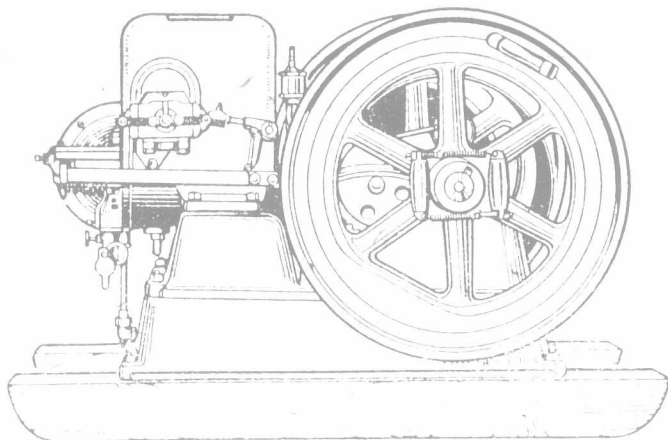
Well, there just isn't any comparison.

Because the Page engine never complains, no matter how much work you pile on to it.

With a Page engine on your farm you can get more work out of one hired man than you could with three men working without it.

And you can operate a Page for less money per week than you would pay a hired man for his week.

The Page stands out the undepreciated leader among engines, yet at prices that are justly low. That is partly because we sell you a Page for less than you would pay for a hired man for his week. It is also partly because we are so sure of its reliability that we will work for you.



Note These Prices :

1 1/2 h. p.	\$ 46.50
3 h. p.	68.00
5 h. p.	113.50
6 h. p.	168.00

See how the "Page" does its work. Write for particulars.

FARM POWER INFORMATION BUREAU

THE PAGE WIRE FENCE COMPANY LIMITED.

111 King Street West

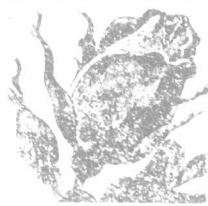
TORONTO

CENTRAL NURSERIES

For all kinds of fruit trees, shrubs, vines, and plants, we have the best selection and lowest prices.

We have a special offer on your lot for early Spring planting. 30 years old. No agents.

A. G. HULL & SON, St. Catharines, Ontario



Results of Good Seeds.

During the past three years the Commission of Conservation has conducted illustration work on a number of farms in Canada. The question of good seed and seed selection has received particular attention. From the reports of 23 of the farmers who have been doing illustration work in the five Eastern Provinces many valuable facts have been secured.

Sixteen of the men stated that they had not previously been sowing the varieties and strains of grain on their farms to give best results and eighteen say they are now sowing varieties which are more suitable to them and their neighborhood.

Only three claim to have been sowing selected seed before beginning work with the Commission, while now every man is sowing selected or registered seed and states that it pays him in bigger and better crops. All of the men say that good seed has become something of much greater importance to them than previously. This is something which cannot fail to have lasting and far-reaching results in each community.

The following are extracts from the letters received from the farmers themselves:—

Nelson Peterson (Kingsville, Ont.) "Three years ago I thought I was sowing good seed; now I find it pays to sow the best that can be had."

George R. Barrie (Galt, Ont.): "As to Indian corn—it is cheaper to pay \$10.00 per bushel for kiln-dried corn than to sow the shelled corn that is sold in the stores. Two acres sown with selected corn purchased on the cob, costing \$2.50 to \$3.00 per bushel, gave almost twice as much weight of silage as two acres sown with shelled corn in sacks and costing about \$1.50 per bushel."

W. T. Hands (Perth, Ont.): "We have not changed varieties of seed, but we are now sowing nothing but registered seed. We find we have better results and that it pays. Last spring we sold about 400 bushels of oats at \$1.25 per bushel and 200 bushels of barley at \$1.00 and \$1.25 per bushel."

Whittaker Bros. (Williamsburg, Ont.) "The tests with corn have proven to us that it is cheapest to buy the best seed corn possible; it matters not what the price may be."

Chester H. Keith (Corn Hill, N. B.) "I am now sowing the best of seed, whereas I used to sow seed of inferior quality. This is one way the Commission of Conservation has helped, not only me, but a number of neighbors, in obtaining good seed grain."

Taylor Bros. (Antigonish, N. S.): "We have been sowing selected seed for the past eight or ten years; on the average our yields have been a full 50 per cent greater than they were before."

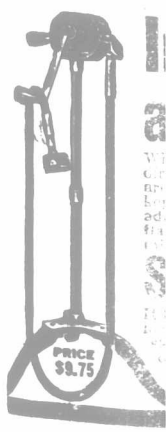
F. C. NUNNICK,
Com. of Conservation

Notice to Stallion Owners

The inspection of stallions, under the Ontario Stallion Enrolment Act will commence March 23rd, 1916. Stallion owners will notice that horses inspected in the fall of 1914 do not require to be inspected at this time, but all other horses inspected previous to the fall of 1914, which were not then eight years old, must be inspected in order to be enrolled for 1916. Application should be made at once to the Secretary of the Ontario Stallion Enrolment Board, R. W. Wade, Parliament Buildings, Toronto.

H. L. McConnell and Son, Port Burwell managers of the Lake View Fruit Farm, whose advertisement appears in another column, have issued an attractive catalogue describing varieties of strawberry and other small fruit plants, which they have for sale. Besides the description of varieties, the catalogue deals with cultural methods for small fruits.

In another column of this issue is a cut of "Oscar," a two-year-old Hackney stallion, sired by Terrington Semaphore and his dam is Braeside Lady Grace, an imported mare. Oscar is a showy animal, possessing good conformation and snappy action. He has been bred to twelve mares, nine of which are believed to be in foal. This stallion is offered for sale by W. W. Hogg, Thamesford. Mr Hogg says the price is right for a quick sale.



This Book

Shows How to Make Better Farm Improvements.

A copy will be sent to you free of charge.

If you intend making any kind of farm improvements—the building of a house, barn, hen house, root cellar, tank, silo, walk, fence or the many other things needed on every farm—then you need this book.

It contains instructions for building every kind of structure better and more economical than is possible in any other way.

This book is the standard authority on farm building construction. It has proved of untold value to more than 75,000 progressive Canadian farmers.

Concrete is practically indestructible—it cannot burn or rot out and never needs paint or repairs. If you haven't a copy of this valuable book, send the coupon now.

Canada Cement Company Limited,
Herald Building, MONTREAL.



Increases Value of Horses and Mules to Clip

When the heavy coat that holds the wet sweat and dirt is removed they get more good from their feed, are healthier and work better. They are more easily kept clean and their improved appearance greatly adds to their selling price. It also pays to clip the flanks and udders of your cows—you get clean milk. Clip them with the famous

Stewart Ball-Bearing Machine

It clips easier, clips faster and closer and stays sharp longer than any other. Gears are cut from solid steel. They are enclosed, protected and run in oil. Little friction, little wear. Has six feet of new double easy running flexible shaft and the celebrated Stewart single tension clipping head, highest grade. Price complete, only \$9.75.

Get one from your dealer or send \$2 and we will ship C. O. D. for balance. Money and transportation costs back if not satisfied.
CHICAGO FLEXIBLE SHAFT CO.
411 N. LaSalle St. CHICAGO, ILL.

Questions and Answers. Miscellaneous.

Plank for Horse Stalls.

How many feet of hemlock plank will it take for two horse stalls 8 feet long and 6 feet wide?
A. E. W.
Ans.—One hundred and ninety-two board feet or twelve two-inch plank one foot wide and eight feet long.

Holidays for Hired Man.

What are the legal holidays for a hired man?
O. C.
Ans.—New Year's Day, Good Friday, Easter Monday, Empire Day, Dominion Day, Labor Day, Thanksgiving Day, Christmas Day, and any other day or days set apart by official proclamation as holidays.

Timothy and Alsike.

1. When is the proper time to sow timothy seed?
2. Will it do if sown with alsike?
3. Will both crops be ready to cut next year if sown this spring?
J. C.

Ans.—1. It may be sown in the spring at the same time as ordinary spring crops.
2. Yes.
3. Yes.

Breach of Agreement.

A sells property to B and part of the agreement is as follows:
B receives the deed when the farm is paid for.

The purchaser agrees to preserve all timber on the property only excepting that required for building on the property, also what may be required for fuel and fencing.

If B cuts timber and sells it, will this break the agreement between A and B? Will B lose what he has paid on the place?
Can A claim damages for what timber B cuts?
Ontario. SUBSCRIBER.

Ans.—1 and 2. We do not think so.
3. Yes.

Obstruction in Milk Duct.

I had a heifer freshen about five weeks ago, and after milking about a week, it became so hard to draw milk from one teat that I had to use a milking tube. When I squeeze the teat, it seems as though something closed the hole. Would it be advisable to have a veterinarian operate on the teat, or what would it be advisable to do?
T. W. W.

Ans.—We are inclined to believe that there is a fibrous growth in the teat. If the duct becomes entirely closed, a veterinarian may be able to operate successfully with a special instrument, but in some cases an operation does not relieve the trouble. It might be advisable to allow the heifer to go dry in the affected quarter and not breed her again.

Root Cellar Under Barn Approach.
Under the approach leading to my bank barn is a space 14 feet by 12 feet which I wish to use for root cellar.

1. What is the best material to use in building the walls, so they will be frost-proof?
2. How can it be roofed to stand the strain of heavy loads?
A. E. H.

Ans.—1. A concrete wall is giving satisfaction on many farms. If the root cellar is in an exposed location, earth could be banked around the bottom to aid in keeping out the frost.

2. After the walls have been completed, a temporary ceiling can be built of lumber or scantling and securely braced from below, but it is best not to have it touch the walls in order to facilitate taking down again. Have the ceiling come to within about two inches of the top of the walls, and cover with cement to the level of the walls; then use old 60-pound steel rails, if they can be procured from a railway company, to strengthen the floor. These should be spaced about three feet and a half apart and have good footing on front and back wall. The space between the rails is filled with cement-concrete to very near the top, leaving slight depressions between the rails. Woven wire fencing is laid crosswise of the rails and the ends fastened to irons set in the side walls for that purpose. More cement is placed on top of the wire, making a cement floor about eight inches thick. A trap-door may be arranged for, at time of building if desired. After the cement has set properly, the supports and board ceiling may be removed from underneath.

There's Money in Your Maple Trees

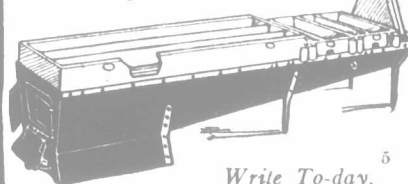
Get ready now to tap them in the spring. We will start you on the road to bigger profits by giving you the benefit of our experience and fullest particulars about the best equipment made—

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For all particulars apply to
AGRICULTURAL SUPERINTENDENT
Leinster House, Dublin, Ireland

Notice to Stallion Owners

The inspection of stallions under the Ontario Stallion Enrolment Act, will commence March 23rd, 1916. All applications for enrolment and inspection, accompanied by the proper fee, must be in the Secretary's office, Parliament Buildings, Toronto, by March 13th. In case of applications received after March 13th, inspection will only be made at increased expense to owners. Address all communications to

R. W. WADE
Secretary, Ontario Stallion Enrolment Board, Parliament Buildings, Toronto

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SPECIAL ROUND TRIP FARES

Long Limit—Stopovers
Asheville and Hot Springs, N. C.; Charleston, S. C.; Nassau, N. P.; Hot Springs, Ark.; French Lick, Ind.; Jacksonville and all Florida points; Havana, Cuba, and New Orleans, La.; via New York and rail for steamer, according to destination) or via Buffalo, Detroit or Chicago

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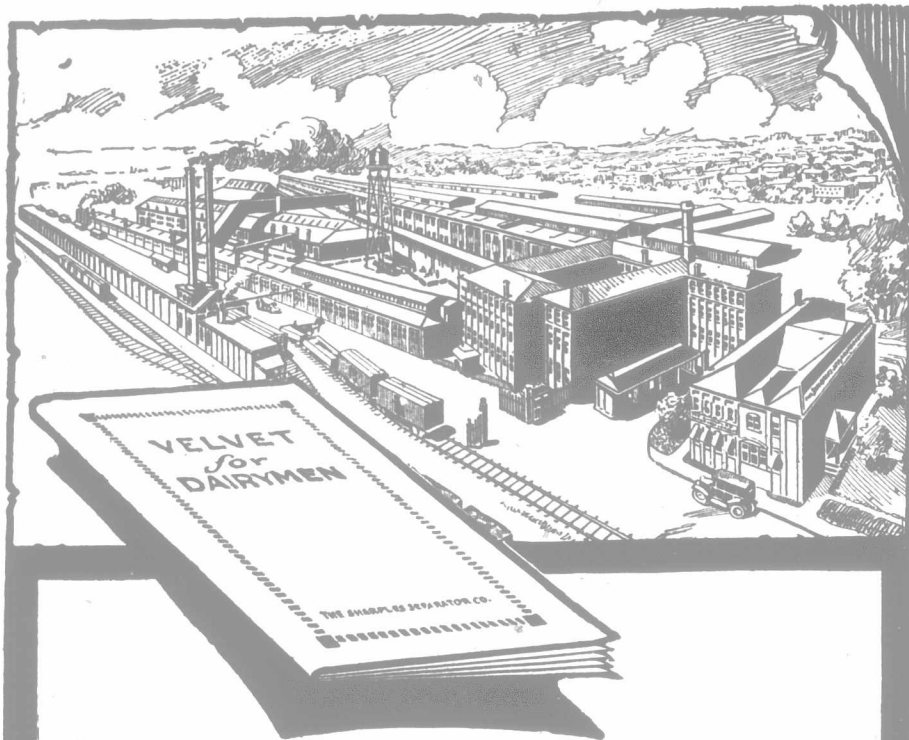
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Further particulars on application to Grand Trunk agents.

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Your separator is losing cream, no matter what the make. A famous experiment station says, "The use of the gravity can, a low speed of the separator, and an excessive rate of inflow cause heavy loss in butter fat." They have proven that 95% of all farm separators are turned below regulation speed. When the speed slackens, a lot of the cream escapes with the skim milk—and with the cream goes the profit.

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THE NEW SHARPLES SUCTION FEED

Separator you get all the cream at any speed.

A wonderfully simple invention enables the bowl to drink in just the right quantity of milk to insure the closest possible skimming. You may turn slow and make the work easy or you may turn fast and get through quicker. You simply won't lose cream with the "Suction Feed."

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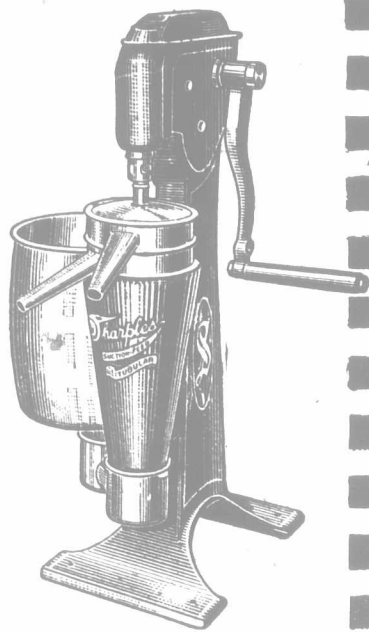
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Rack-cured Seed Corn—All varieties. Write us before placing your order for Seed Corn. We have quantity and quality. Our Seed Corn is all hand-selected and thoroughly rack-cured.

ST. JOACHIM CORN GROWERS' CLUB
St. Joachim, Ont.

Questions and Answers. Miscellaneous.

White Scours.

1. Why should a calf that has been fed whole milk right along have white scours?

2. Is white scours contagious and what is the treatment?

J. G.

Ans.—The age of the calf is not stated. It is believed that the germ supposed to cause the trouble may enter the system through the navel any time before the navel is completely healed. If for any reason the navel did not heal, the calf would be subject to infection if the germs of the disease were in the stable.

2. The disease is believed to be contagious. Cause and treatment of white scours are discussed in an article (Common Ailments of Calves) found in another column of this issue.

Thumps—Outlet—Binder on Shares.

1. On Dec. 31 our sow farrowed and the pigs thrived well until they were three weeks old; then it seemed difficult for them to breathe. On examination their nostrils appeared to be closing up, and we started at once to treat them. At first we dropped three or four drops of coal oil in each nostril, but it did not seem to do much good; then we used turpentine and sweet oil. One part of oil to three parts of turpentine. When we started using the last treatment, there were nine pigs left, four have died since, but the remaining five are now seven weeks old and are doing well. The sow and pigs were in a warm but well-ventilated box-stall; the sow was fed oats, barley and corn chop, with roots, skim-milk and dish water. We have raised pigs for a number of years, but never had a like experience before. Please state the trouble and also if the right treatment was used.

2. We have a piece of new land which we intend sowing to fall wheat next fall. There are a number of low places in the field which require draining. The only outlet is on to the road. Can we compel the Council to put a tile drain along the side of the road or only an open ditch? We prefer a tile drain. Will the Council bear all of the expense for the outlet on the road, or will we have to pay a share? If so, what would be our share?

3. A and B own equal shares in a corn binder. When the binder was purchased, the agreement was made that neither A nor B would do any cutting for others. If A rented his farm, could he let the man who rented it have the use of his share of the binder without first consulting B? Could A dispose of his share of the binder without first consulting B, who is willing to purchase A's share? As there is no written agreement could B stop A from cutting for those not having any share in binder?

CONSTANT READER.

Ans.—We are inclined to think that the pigs were affected with thumps. This trouble usually attacks the pigs that appear to be doing the best, and is caused by liberal feeding with insufficient exercise, which causes fat to accumulate about the heart and lungs, hindering the free circulation of blood and resulting in congestion. We doubt if your treatment would give results if the disease was thumps. Light feeding and plenty of exercise is the treatment recommended. Two to four ounces of Epsom salts, depending on the size of the pig, may be given each pig and rectal injection of soapy water is sometimes advisable. The ration fed the sow was a little too heating. Shorts is believed to be preferable to corn for a sow with a litter.

2. If the natural water course is along the roadside, we believe the township is supposed to give an outlet, but cannot be compelled to put in tile unless it is deemed to be preferable to an open ditch. All parties benefited by the tile drain or open ditch would be required to assist in meeting the expenses incurred. Your share will depend on the extent to which you are benefited, the length of the outlet and number of parties interested.

3. As A has an equal share in the binder with B, it is possible for him to do what ever he desires with his share, but it would be much more satisfactory to both parties if they would talk the matter over and come to some definite agreement.

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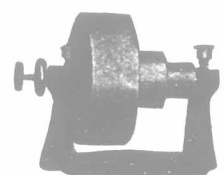
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MAIL CONTRACT

SEALED TENDERS, addressed to the Postmaster General, will be received at Ottawa until Noon, on Friday, the 17th March, 1916, for the conveyance of His Majesty's Mails on a proposed Contract for four years, six times per week, over London No. 6 Rural Route, from the 1st of July, next.

Printed notices containing further information as to conditions of proposed Contract may be seen and blank forms of Tender may be obtained at the Post Offices of London and all its sub offices, and at the office of the Post Office Inspector, London Post Office Department, Canada. Mail Service Branch, Ottawa, 4th February, 1916.
G. C. ANDERSON, Superintendent.



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If your stallion is for sale, send for special blank form to be filled and returned to us, and on receipt we shall be pleased to list him. Our services are entirely free to both sellers and purchasers.

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1915 Graham Bros'. Champion Stud 1916

At the great Guelph and Ottawa Winter Shows we showed in the Clydesdale classes, the grand champion, senior champion, junior champion, reserve grand champion, reserve senior champion, reserve junior champion stallions. Champion and reserve grand champion mare. The best five stallions, and the best stallion and two mares. We had 14 firsts, 6 seconds, 4 thirds.

We offer a great lot of big, young stallions and mares, imported and Canadian-bred, of the above breeds, the very best to be found in Canada, and at very reasonable prices.

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Importation With the addition of our 1915 importation of Clydesdale stallions we are particularly strong for this seasons trade. Prize-winners at all the leading shows, including championships. Up to a ton and over in weight, with breeding and quality unsurpassed. We can supply the wants of the trade, no matter how high the standard. Stallions from 1 yr. up to 8 yrs., in foal mares and fillies. Terms to suit.
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Up to a Ton in Weight CLYDESDALES Imp. Character & quality: If you are looking for a ton stallion on faultless underpinning, bred to produce the big high-priced horses, come and see what I have, there are none better and none priced easier.
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Clydesdale Stallions and Mares We are now offering for sale a number of extra good stallions, also mares in foal. Write or call on
JOHN A. BOAG & SON, Queensville, Ontario

Woodland Horses and Brown Swiss Cattle—We are now offering for sale the Clydesdale stallions, Lord Charming, Imp. [2264]. Barons Charm, Imp. [9238]. The Holsteins, Warwick Model, Imp. 304. Two registered Clyde. mares. High-class Shetland ponies, and Brown Swiss bulls of serviceable age.
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JAMES TORRANCE, Markham, Ont.

Questions and Answers. Miscellaneous.

Succession Duties. Will you kindly print in your valuable paper The Succession Duty Act? S. C. Ontario.

Ans.—The Act, including amendments, is about twenty-eight pages long. It is contained in the Revised Statutes of Ontario, 1914, Chapter 24 and Amending Acts, Chap. 10, Statutes of 1914 and Chap. 7 Statutes of 1915. It provides for payment of duties to the Provincial Treasurer on Estates of deceased persons, subject to certain exemptions and graduated according to amount of estate, relationship of beneficiaries to the deceased, and other circumstances. The rate varies from one per cent. to 20. There is no duty leviable on any estate the net value of which is not over \$5,000. Generally speaking, where the value of the property passing to one person does not exceed \$300, there is no duty. Nor is there any duty chargeable on property bequeathed or devised for religious, charitable, or educational purposes to be carried out in Ontario. If the estate does not exceed \$25,000 and passes to wife, husband, child, son-in-law, daughter-in-law, father, mother, grandfather, or grandmother, of the deceased, no duty is leviable. For further information, we must refer you to the statutes mentioned.

New School Section.

Five petitioners petitioned the Municipal Council to have a new school section formed taking land from all surrounding sections. The Council, after notifying all concerned and who did not come to the Council at the time set and raise any objections to the new section being formed, passed a by-law granting the new section.

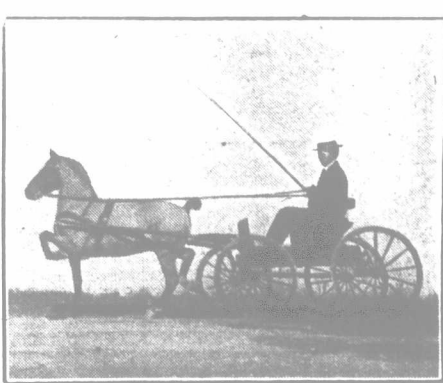
After the new section is formed there is strong objection to the school, and various ratepayers object to the school. Their land last year was assessed as a new section, and as they would not elect trustees, there was no one to demand any money from the Municipal Council. Thus no special rate was paid by the land in the new section. Nor has any money been paid by the surrounding sections to the new section as their portion of the assets. And the residents of the new section have no school to send their children to.

1. Can the trustees of the surrounding sections collect fees from those sending children out of the new section to their schools as provided for in the School Act as non-resident pupils?
2. Or as they have no school, can they send their children on to the schools where they went before the new section was formed, as they claim there is no new section and that they are not now non-resident pupils?

3. Should the land be laid back to the various sections after 2 years, can the section collect the back tax which has not been paid for that land so exempted by being in a new section for that period of time?

4. Can a ratepayer who sends his children and who will not pay the fees set by the trustees enter an action against the trustees for having the teacher send the children home?
Ontario. SUBSCRIBER.

Ans.—The questions are well put, but the statement of facts is not sufficient to warrant our answering them definitely. As to the first two, we think that they should be answered in the affirmative. As to the fourth, an answer in the negative would probably be right. But as to the third, and indeed all four, there ought to be a personal consultation with a solicitor.



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"EASTGATE JASPER," Imported
Red roan gelding. Twelve hands. This pony is considered by the leading horsemen in Canada to be the highest going pony for his inches on the Continent. He has never been beaten in the Show Ring. He has the best of manners, is quiet and gentle, and yet when asked is always ready to put up a marvelous show. He is absolutely sound in every respect, and does not have the first indication of any blemish. The owner has sold all his show horses and has decided to dispose of "Jasper" at a bargain; with the Pony will go his Show Ring Harness, Clothing, etc. For price, etc., address—
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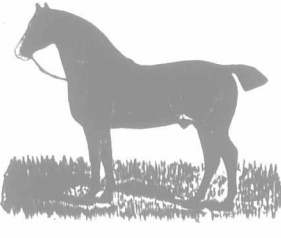
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 Cures the lameness from Bone-Spavins, Side
 Bones, Ringbones, Curbs, Splints, etc., and ab-
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I have a fine Clydesdale stallion
 bred from imported sire and dam
 from the best blood in Scotland,
 three years old in May. Has
 served a few mares and is sure.
 Price reasonable.

CHAS. CURRIE, Morriston, Ontario

Percheron Stallion For Sale

Am now offering for sale the black im-
 ported Percheron stallion, Mardi (No.
 4441) (109094); is rising 4 years and has
 done a very successful season in 1915.
 He was a winner in France as a two-
 year old. Terms cash.

WM. M. ATCHESON,
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Northland R.O.P. Shorthorns and Jerseys
 For Sale - our range of big milkers, St. Clair
 & St. Albans are the finest in the West. Several
 of the best in R.O.P. families also Shorthorns and
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G. A. JACKSON, Downsview P.O., Ontario,
 Weston Station

Imp. Percheron Dark grey stallion,
 born April 2, 1905.
Boy S. F. GARDNER, London, Ontario

For Sale IMPROVED PERCHERON
 Stallion - 4 years old - 15.2 hands -
 very good specimen of the breed.
GEORGE KEYS,
 100 W. Wolfe St. and 1st St., Ontario

Percheron Stallion for sale
 15.2 hands, 4 years old, very good
 specimen of the breed.
W. M. C. SMYTH,
 100 W. Wolfe St. and 1st St., Ontario

Gossip.

ELIAS RUBY'S HOLSTEIN SALE.
 Among the high-class cows to be sold
 at Elias Ruby's Holstein dispersion sale
 at Tavistock on Wednesday, March 8th,
 is Welcome Lee; record at 4 years, 26.60
 lbs. butter, 478 lbs. milk. This cow is a
 sister to Midnight Comet De Kol, 34.98
 lbs. She is a big straight cow, and will be
 bred to the great bull, King Lyons
 Hengerveld. Another of the good ones
 is Pieterje Beauty Posch. She calved in
 August as a junior 2-year-old. Three
 months later she was tested and made
 13.62 lbs., and in 5 months was tested
 again and made 14 lbs. She will be bred
 to freshen for the Guelph test next
 December. Still another is Graceland
 Miny Belle; she calved at 26 months of
 age, and in 10 months gave 10,000 lbs.
 milk, testing 3.5 per cent. and is due to
 freshen again. She is a daughter of Belle
 Mercedes Posch, record at 3 years, 75
 lbs. milk in one day, 21 lbs. butter in
 seven days. Susy Dewitt in 7 days
 made 525 lbs. milk, 23.12 lbs. butter,
 and in R. O. P. test made 18,000 lbs. milk
 and 807 lbs. butter. Out of this cow
 is a yearling bull and a daughter, Fanny
 Dewitt, 19 lbs; both sired by the great
 King Lyons Hengerveld. Another daugh-
 ter was sired by the equally richly-bred
 Sir Lyons Hengerveld. There are several
 others of equal merit and breeding, and
 parties wanting Holsteins above the
 average in individual merit and rich
 official breeding will not be disappointed
 in attending this sale, as everything will
 positively be sold.

THE COWAN SALE OF HORSES.

The great sale of Clydesdales and
 Standard-bred horses that will take place
 at Cannington, Ont., on March 14th, is an
 event of such importance in horse breed-
 ing circles that we can scarcely impress
 too strongly on horsemen the importance
 of their being present on that occasion.
 Horses are not selling high, so that you
 have every reason to expect good value
 for your money. Every animal has the
 best of breeding, so that you know you
 are safe in laying a foundation from the
 material offered. They are in the very
 nicest condition possible, so that you can
 judge of their merit; there is no guess
 work as to what they will make when
 they are fed a while. The great sires in
 use have proved themselves in Scotland
 and in America, you can see the proof in
 the sale. There are a lot of young things
 that can scarcely be duplicated any place,
 and you have a chance to buy them, as
 well as the sires and the mothers that
 produce them. There is a big lot of them,
 so that you have a splendid variety of
 choice, you can get anything there but
 a mediocre animal, and there is no place
 for them on this farm. There has been
 no time when horses could be bought
 better worth the money than they can
 now, and there has been no time when
 it was so certain that they would be
 needed at big prices to fill the gaps that
 are being created every day, just as soon
 as things become normal and men begin
 to get back to where they were before
 this war changed things so much. Horses
 were never so dear in England and
 Scotland as they are now. The men in
 Britain are the best buyers in the world,
 and they would be buying big horses for
 their farms and for breeding, at this
 moment if it were reasonably possible to
 get them across the sea. Freights are so
 high and restrictions are so difficult that
 it could not be done now or there would
 be no cheap horses in Canada, and Clydes-
 dales would be higher than they have
 ever been.

The Standard-bred horses have size
 and quality and speed. If you are a lover
 of the race-track, you can select some-
 thing that has all the speed you want.
 If you like to go in the show ring, you
 can choose one that has strength and
 beauty and grace - a winner that any
 person can see. If you would like to breed
 some of either kind, you can buy the
 sires that produced them and the mothers
 that reared them to such perfection.
 "Jim" Cowan has spent his life amongst
 good horses. Since he was a boy he has
 wished for a collection such as you will
 see at his sale. Not so young as he was
 some years ago, he feels that he has too
 many now in the pen, too many big
 things to attend to, so that he has to
 clear up where he can. This creates
 an opportunity for those that can use a
 good horse, and every man that under-
 stands the position should be at the

The Cowan Sale

AT CANNINGTON, ONTARIO

Tuesday, March 14th, 1916

Clydesdales

AND

Standard-breds

Absolute dispersion sale of the stud of 40 Clydesdales,
 headed by the great sire, "Pacific," proved one of the best
 sires in Scotland before importation. Another stallion of great
 value and merit, "Prince of Park by Hiawatha," with 38
 mares and young things of both sexes, imported or bred from
 imported stock, making an offering that has not been equal-
 led in any public sale made in America. Breeding, size,
 quality and condition such as have not been seen, combine in
 this great stud.

There are 15 Standard-breds, headed by the Great Peter
 Wilton, a wonderful horse and a grand sire, whose sire, Peter
 the Great, sold last week at 21 years old, for \$50,000. With
 14 mares and fillies with speed, size, conformation and every-
 thing to make them valuable. They all go at your price, for
 everything in sale must change owners that day. There has
 been no opportunity like this before to get so many of the
 very best at your own price.

TERMS: Nine months on approved notes, with 7 per
 cent. per annum off for cash.

Train from Toronto on Midland Division, G.T.R., leaves
 at 7.50 a.m. All parties met at Cannington and taken to
 sale and used right while there.

You are invited to write for catalogue and come to sale.

W. J. COWAN Cannington, Ontario

FOR SALE - 20 IMPORTED AND CANADIAN-BRED

Clydesdale Brood Mares

Fillies and Yearlings

Many prizewinners at Canadian shows. Entire lot will be
sold at a reasonable price.

THORNCLIFFE STOCK FARM

244 Don Mills Road TORONTO

Rosedale Stock Farm We are offering for sale one three-year-old Shire stallion,
 one imported 3-year-old Hackney stallion and one Hackney
 pony horse foal, all first prize winners at Canadian National Exhibition, Toronto, and at Winter Fair,
 Hackney pony gelding, a Toronto winner.
J. M. Gardhouse, Weston, Ont. G.T.R., C.P.R. and Electric Lines. Long-distance Telephone

ORCHARD GROVE HEREFORDS

Have several young bulls and heifers for sale. Satisfaction guaranteed.
L. O. CLIFFORD, Oshawa, Ont.

The Maples Herefords Having sold all our older bulls we are now
 offering an excellent bunch from 8 months
 up. We would also sell our two-year-old show and breeding bull, Superior Lad. He is
 sire and a great sire. Correspondence solicited. Phone 15.
W. H. & J. S. HUNTER Orangeville, Ontario

Meadow Lawn Shorthorns We are offering a select lot of Scotch bulls and heifers,
 from 10 to 18 months old, from the Claret Wimples
 Marth, Rose Lady families. Sired by Proud Monarch, No. 78792, by Blood Royal (imp.) You
 are invited to inspect this offering. Bell telephone, G.T.R. and C.P.R.
F. W. EWING, R.R. No. 1, Elora, Ontario

GLENGOW SHORTHORNS AND COTSWOLDS
 Pure Scotch in breeding, we have an exceptionally choice lot of bulls for this season's
 trade, ranging in age from 8 to 15 months, big mellow fellows and bred in the purple.
 Also lam and ewe lambs of first quality.
Wm. Smith & Son, Columbus, Ont. Myrtle, C.P.R., Brooklin, G.T.R., Oshawa, C.N.R.

"Maple Hall Farm" Shorthorns Three choice young bulls, eight to
 twelve months old; also younger
 ones and some young cows with calves at foot. Two-year-old heifers and younger ones.
D. BIRRELL & SON, Claremont, C. P. R., Pickering, G. T. R.

SPECIALLY
FARM
DELIVER
TO YOU
\$325

Here is
 comfort
 suitable
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Palmer's
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Elm P

Our herd

also fema

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M. G. RY

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Farm, O

SPECIALLY MADE FARM FOOTWEAR DELIVERED TO YOU \$3.25



Here is a light weight, durable and comfortable working shoe specially suitable for farmers, woodsmen, millmen, trackmen, laborers—all who require extra strong, easy footwear for working in. We make them of the splendid oil-tanned Skowhegan water-proofed leather that has made

Palmer's "Moose Head Brand"

famous for almost forty years. No need to suffer with tired, sore, aching, burning feet. Get a pair of these and find ease and comfort. If your dealer doesn't carry them, send us his name, enclosing \$3.25 and we will ship you a pair, all charges paid, to any address in Canada or U. S. Remit (stating size) by postal or express order. Same style as shown, 8 eyelets high, \$3.75. Write for catalogue.

JOHN PALMER CO., Limited, 27 Fredericton, N. B., Canada.

BITTER LICK MEDICATED Salt Brick



Great Conditioner & Worm Destroyer

Bitter Lick is a compressed salt brick, medicated with roots, herbs, etc., in such proportion as will keep horses in excellent condition and free from worms. Bitter Lick keeps the appetite keen; all horses like it; tones the digestion and prevents colic. It has no cheap filler and takes the place of worm and condition powders, etc., keeps horses healthy for only one cent a week.

Ask your dealer or write for booklet to STEELE BRIGGS SEED CO., Winnipeg, Man. and Toronto, Ont.



Contains over 35% protein Contains over 33% carbohydrate Keeps all live stock healthy if fed daily



WRITE TO-DAY FOR FREE SAMPLE & PRICES THE CANADALINSEED OIL MILLS, LTD. TORONTO & MONTREAL

ALLOWAY LODGE STOCK FARM Angus, Southdowns, Collies

Special this month:

Southdown Prize Rams

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

Elm Park Aberdeen-Angus

Our herd is headed by Beauty's Erwin = 5736 = grand champion bull at Edmonton 1914 and London 1915. He is out of our champion cow Beauty 4th = 1852 =, and sired by Erwin C. = 5735 =; grand champion bull at Chicago 1913. He is assisted by young Leroy, sired by grand champion bull Chicago 1912. We have stock by these bulls for sale.

JAMES BOWMAN, Elm Park, Guelph, Ont.

Springfield Aberdeen - Angus

Choice young bulls of serviceable ages. Females all ages for sale. Kenneth C. Quarrie, R. R. No. 5, Belwood, Co. Wellington, Ontario. Bell Phone

Tweedhill - Aberdeen-Angus.

Choice young bulls of serviceable age; also females. If you want anything in this line write: James Sharp R. R. 1, Terra Cotta, Ontario Cheltenham, C.P.R. & G.T.R.

The Glengore Angus

Some choice bulls, from 7 to 15 months, for sale. For particulars write: GEO. DAVIS & SONS, R. R. No. 1, Erin, Ont.

Beaver Hill Aberdeen-Angus—Bulls fit for service.

Females all ages. Cows with calves at foot. Prices reasonable. ALEX. McKINNEY, R.R. No. 1, Erin, Ontario Cheltenham, G. T. R. Erin, C. P. R.

ANGUS BULLS

4 young Aberdeen Angus bulls, well bred, from 10 to 19 months old. Reasonable price for quality. Write: M. G. RANSFORD, Clinton, Ontario

2 Shorthorn Bulls 15 mos. old, 1st prize animals.

Would consider a good Clydesdale exchange. Burlington and Blanshard, Freeman, Ont.

REGISTERED HEREFORDS FOR SALE

Have 10 bulls and a few females of good breeding at moderate prices. Write, or better, come to see them. E. W. Gorsline, Lake View Farm, Oshoreville, Ont.

Gossip.

The post office address of Wm. M. Atcheson, who is advertising a Percheron stallion for sale in these columns, is Bognor, Ont., instead of Owen Sound, as intimated in his advertisement. He cannot show prospective purchasers the get of this horse, as he was only stood for service one year by Mr. Atcheson. That was in 1915, and a large percentage of the mares are in foal.

Attention is directed to the advertisement in another column of this issue of Blatchford's Calf Meal. The manufacturers claim that this meal is equal to milk, and that it solves the problem of the cheapest and best way to raise calves. Feeders know that calves must be raised well, and in order to accomplish this, some substitute for milk is necessary. Look up the advertisement.

THE ISAAC SALE OF SHORTHORNS.

Robert Miller, of Stouffville, writes THE FARMER'S ADVOCATE as follows regarding the Shorthorns to be sold at the Isaac sale:

"The writer has seen the cattle being offered by W. J. Isaac, at Harwood, on March 8th, and there is no question but this will be a good chance to get some real well-bred and good cattle at fair prices. The tribes represented in the sale are good standard Scotch kinds, and they have been 'making good' for Mr. Isaac, so there is no reason why they should not 'make good' for those that buy them. Shorthorns are very much in demand, and they will continue to be so, for they are the one breed that has, through good report and evil report, continued to improve the cattle of the country and make for their owners reasonable returns in both beef and milk. Harwood is quite a long drive from Cobourg; those that make it on sale day will be well repaid, for there will not be so much competition for the cattle as there would be under conditions of easy access to the farm from the railway. There are some good bulls and some good females of different ages, and the men that are selling have a name that sounds well at the top of a pedigree; it is a certificate of good judgment being used in mating the ancestors of the animal. Read the advertisement and make an effort to be at the sale."

AYRSHIRE RECORDS.

The following is a summary of the records of 683 Ayrshire cows and heifers that have qualified in the Record of Performance test from commencement to December 31st, 1915:

202 mature cows gave a yearly average of 10,277.32 lbs. milk and 412.26 lbs. butter fat; 66 four-year-olds gave 9,281.50 lbs. milk and 378.06 lbs. butter fat; 136 three-year-olds gave 8,310.84 lbs. milk and 341.25 lbs. butter fat; 279 two-year-olds gave 7,501.65 lbs. milk and 319.27 lbs. butter fat.

W. F. STEPHEN, Sec.-Treas.

The beautiful pony, Eastgate Jasper, advertised for sale in these columns by George Allan, Hamilton, was imported from the Old Country. His owner states that he has never been beaten in the show-ring, and he has been shown at the Olympic, at the London Hackney Show; in fact, at all the leading shows in England, Ireland, Scotland and Wales as well as at The Hague in Holland. He has excellent conformation, action, and manners. Whether in the show-ring or on the street, he never fails to attract attention from every passer-by.

Anyone who, up to the present, has not informed himself as to the quality of stock offered by John Tuck, Breslau, Ont., at his dispersion sale on Wednesday, March 8th, should do so at once. Twenty females and three bulls, of the Shorthorn breed, will be sold, and there will also be included in the sale 20 head of well-bred steers and heifers. A Clydesdale gelding, 5 years old, and a filly, rising 3 years, both by Lord Charming, are included in the list, as is one good driver 8 years old. Two Yorkshire sows in pig, and 27 pigs, along with 10 Leicester sheep are advertised. See the advertisement and write the proprietor for details to R. R. No. 2, Breslau, Ontario.

Charlie Currie, Morrison, Ont., is offering for sale a Clydesdale stallion, bred from imported sire and dam, from the best blood in Scotland. The horse will be three years old in May. See the advertisement.

Profits from the Deering Disk



Deering Tillage Tools

THERE is more than one good reason why so many farmers use Deering disk harrows and other Deering tillage implements, but all those reasons can be summed up in one word—Profits.

There is profit in disking some fields before plowing. There is profit in a well-disked seed bed for grain. There is profit in making surface mulch to conserve moisture. The fact that these profits show only at marketing time, takes nothing from the credit of the Deering disk harrow which is really responsible for them. The Deering disk, with its bowed set-lever bars, its easily adjustable snubbing blocks, and its direct, right-angle pull on the bearings, does the work that finally results in a heavier stand of better grain, which sells at a higher price and better profit, than if the Deering disk had not been properly used. Think it over and buy your tillage implements from the Deering local agent for this spring's work. Quality counts, and quality runs through the whole Deering line of disks, peg and spring-tooth harrows, cultivators, scufflers and land rollers. Write us at the nearest branch house for catalogues but do not fail to see the Deering tillage line before you buy.

International Harvester Company of Canada, Ltd.

BRANCH HOUSES

At Brandon, Calgary, Edmonton, Estevan, Hamilton, Lethbridge, London, Montreal, N. Battleford, Ottawa, Quebec, Regina, Saskatoon, St. John, Winnipeg, Yorkton.

Dairy Shorthorn Bulls

From 12 to 14 months old, from good dams and by our stock bull, College Duke = 85912 =. Address—

Weldwood Farm

Farmer's Advocate London, Ontario

Escana Farm Shorthorns

For Sale: 15 bulls—8 to 14 months old, several of them prize-winners at Toronto and London, sired by the noted imported bulls, Right Sort and Raphael. Also for sale: 20 heifers and cows of choice breeding and quality for show or foundation purposes. State your wants and we will send copy of pedigree and prices. Mail orders a specialty, satisfaction guaranteed.

MITCHELL BROS. Burlington P.O., Ontario

Jos. McCrudden, Manager. Farm 1/4 mile from Burlington Jet.

THE AULD HERD

Two good young bulls for sale, one fourteen and one seventeen months old, also a couple younger. Intending purchasers met at station on request.

A. F. & G. Auld, R. R. 2, Guelph, Ont.

Robert Miller Still Pays the Freight—And he is offering in Shorthorns some of the best young bulls and heifers that can be produced. Young bulls fit for service, some younger still; heifers fit for service and younger, and some in calf. They are of the best Scotch families, and some of them from great milking families. They are in good condition and made right, just what you want to make a proper foundation for a good herd, and suitable to improve any herd in the land. They will be priced so that you can afford to buy, if you will tell me what you want. Our business has been established 79 years, and still it grows. There is a reason. ROBERT MILLER, Stouffville, Ontario

Maple Grange Shorthorns

Pure Scotch and Scotch-topped breeding unsurpassed. A nice selection in young bulls, and a limited number of thick, mossy heifers. R. J. DOYLE, Owen Sound, Ontario

Willowbank Stock Farm Shorthorn Herd

Established 1855. This large and old herd has at the head the two great bulls: Imported Roan Chief = 60865 = a Butterfly and the prize-winning bull, Brown Dale = 90112 = a Mina. An extra good lot of young stock to offer of either sex. Splendid condition. Good James Douglas, Caledonia, Ont. families of both milking strain and beef.

Walnut-Grove Shorthorns

Sired by the great sire Trout Creek Wonder and out of Imp. cows and their daughters of pure Scotch breeding and others Scotch topped. For sale are several extra nice young bulls and a few heifers. Let us know your wants. DUNCAN BROWN & SONS, R. M. D. Shedden, Ont., P. M. & M. C. R

SHORTHORNS AND CLYDESDALES

10 Bulls serviceable age, all good ones (some herd heifers) and are offering females of all ages. Have a choice lot of heifers bred to Glanman = 87809 = and a few choice fillies all from imported stock. A. B. & T. W. DOUGLAS Long-Distance Phone STRATHROY, ONTARIO

Bog Spavin

Cure the lameness and remove the bunch without scarring the horse—have the part looking just as it did before the blemish came.

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

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

FLEMING BROS., Chemists
75 Church Street, Toronto, Ont.

PLEASURE CRUISES BY R.M.S.P. TO WEST INDIES

FORTNIGHTLY SAILINGS
By Twin-Screw Mail Steamers.

SPECIAL FACILITIES FOR TOURISTS.

Next Sailing from HALIFAX:
R.M.S.P. "Chignecto" March 10, 1916

APPLY TO
The Royal Mail Steam Packet Co.,
67-69, Granville Street, HALIFAX (N.S.)

OR TO THE
Local TICKET AGENCIES.

DISPERSION SALE OF Shorthorns

As I am retiring from active farming, I will sell, positively without reserve, on

WEDNESDAY, MARCH 8, 1916

my entire herd of Shorthorns, consisting of 23 head—20 females and 3 bulls (2 yearlings and 1 two-year-old). There will also be included in the sale 20 head of well-bred grade steers and heifers.

One Clydesdale gelding, rising 5 years, by Lord Charming; one Clydesdale filly, rising 3 years, by Lord Charming; one good driver, 8 years old.

2 Yorkshire sows in pig, and 27 pigs from 3 months to 5½ months old, 10 Leicester sheep in lamb.

Mosborough, G.T.R., is half a mile from farm. Trains arrive from west 10.15 a.m., depart 6 p.m.; from east 11.20 a.m., depart 6.11 p.m.

TERMS: Twelve months' credit on endorsed notes; 4 per cent. off for cash. Certificates on day of sale.

John Tuck, R.R. No. 2, Breslau, Ont.

Shorthorns high-class young bulls from 7 to 18 months, 15 young cows and heifers, straight, smooth, big kinds of choicest breeding, including several families that have produced dairy test winners. I never was in a better position to supply you with a good young bull at a more reasonable price. Write me or come and see them.

Stewart M. Graham

Long-distance Phone **Lindsay, Ont.**

SHORTHORNS

ret bulls in the sale, London, March 29th, the only ones I have for sale except calves. Would price a few females. Inspection solicited.

J. T. GIBSON, DENFIELD, ONT.

LABELS
Live stock labels for cattle, sheep and hogs, manufactured by the Ketchum Manufacturing Co.



Box 501, Ottawa, Ont. Write for samples and prices.

FLETCHER'S SHORTHORNS

Our herd of pure Scotch Shorthorns are mostly sired by Nonpareil Lord = 87184 =. Dam Blythsome Girl 5th, = 66982 =. Master Ramsden, red roan, calved, May 1915, sired by Nonpareil Lord = 87184 =, dam, Miss Ramsden 144th, by Lord Lavender = 70558 =. Fifteen choice yearling heifers.

A. J. HOWDEN, COLUMBUS, ONT. Myrtle, C. P. R. & G. T. R. Oshawa, C. N. R.

Shorthorns Bull: Deane's, red roan, sired by Nonpareil Lord = 87184 =. Dam Blythsome Girl 5th, = 66982 =. Master Ramsden, red roan, calved, May 1915, sired by Nonpareil Lord = 87184 =, dam, Miss Ramsden 144th, by Lord Lavender = 70558 =. Fifteen choice yearling heifers.

For Sale—The above is a list of the best of the herd. Write for particulars to

WM. GRIMSLEY & SONS, R.R. No. 1, Ashburn, Ont. By 11:20 a.m. 3-10

Questions and Answers. Miscellaneous.

Sweet Clover.

1. What is your opinion of sweet clover?
2. How does the percentage of protein in sweet clover compare with other clover?

W. Y.

Ans.—1. If properly handled, sweet clover is suitable for hay or pasture; and as a soil renovator, it is in a class with the other legumes.

2. Sweet clover in the green stage contains about the same percentage of protein as does other clovers. In the dried stage sweet clover contains 14.5 per cent. protein; Red clover 12.8 per cent., Alsike clover 12.8 per cent., and Alfalfa 14.9 per cent.

Eggs In Winter.

1. Does the grit and gravel eaten by a hen go to make egg shells or to aid digestion?
2. What is the most suitable method of feeding for eggs in winter?
3. How does a chicken get out of its shell?

WM. MCG.

Ans.—1. Both grit and gravel aid the hen in digesting its feed. Any lime or shell combined with the grit goes to produce shell. Oyster shell is fed hens during the winter for that purpose.

2. House the hens in dry, well-ventilated quarters, free from draft, and feed grain in a deep litter for the morning feed. Wheat, corn and buckwheat are quite suitable. At noon give some form of green feed, as a mangrel, cabbage or clover leaves, also sour milk if it is available. At night feed grain again, so that the birds will go to roost with full crops. Clean water, rolled oats, grit, oyster shell and a dust bath should be in the pen at all times.

3. When the time arrives, a normal chick has sufficient strength to break the shell with its beak. It continues breaking away the shell until finally it becomes free.

Veterinary.

Partial Dislocation of Patella.

Colt slipped on ice in December and was kicked on the stifle of right leg the same night. It went lame, and I treated it and it got over the acute lameness, but now at each step I can hear a click in the stifle.

F. G. S.


Ans.—The patella (the stifle bone) slips partially out and the click that you hear is made by the bone slipping back into place. Get a blister made of 2 drams each of biniodide of mercury and cantharides mixed with 2 ozs. vaseline, clip the hair off the front and inside of the joint. Tie the colt so that it cannot bite the parts. Rub well with the blister once daily for two days; on the third day apply sweet oil and turn loose in a box stall. Oil every day until the scale comes off. Then tie up and blister again, and after this blister once every month until turned out on grass. In the meantime keep quiet in a well-bedded box stall and do not feed too highly.

Umbilical Hernia.

Nine months' old Clydesdale colt has a soft lump the size of a large hen egg just in front of his sheath.

C. H. K.

Ans.—This is a hernia (rupture). In many cases they disappear without treatment, but in this case the fact that it has not yet disappeared indicates that it probably will remain. A bandage or truss arranged to go around the body, with an elevation about the size and shape of half a baseball fastened to the center of the bandage and pressing the hernia back into the abdominal cavity, and kept on for about three weeks, will generally effect a cure. The truss will have to be attached by straps or cords both above and below to a strap or collar around the neck in order to prevent it slipping backwards. If this does not effect a cure, it will be necessary to get a veterinarian to operate. While it is possible that it left alone it might never get any worse, there is a danger, especially if the animal be put at heavy teaming, and of course the presence of the hernia reduces his market value.



Now is the Time to Plan for Your Silo

Settle the silo question now before the rush of spring and summer work comes on. You need a silo. Decide now to have one for next winter. It will pay you. Silage increases milk flow at least 20% and reduces feed cost 15 to 20%. It is the best investment you can make.

IDEAL GREEN FEED SILOS

insure better silage and cost less for the service they give than any other silo. Do not make the mistake of buying a "cheap" silo, or "cheap" silo material. You cannot save money that way. Silos that are offered to you with emphasis on their low price are expensive and wasteful. They do not preserve the silage as well and do not last as long as an Ideal. Every dollar you invest in an Ideal brings greater returns than money invested in any other. Ask for catalogue and all the facts that prove that you get by far the most for your money in the Ideal.

DE LAVAL DAIRY SUPPLY CO., Ltd.

LARGEST MANUFACTURERS OF DAIRY SUPPLIES IN CANADA
Sole distributors in Canada of the famous De Laval Cream Separators and Alpha Gas Engines. Catalogues mailed upon request.

MONTREAL PETERBORO WINNIPEG VANCOUVER

20 Imported Bulls

These imported bulls, along with 10 home bred bulls may now be seen at our farms. There are some choice ones among them. We also imported four cows and a heifer, all of which are forward in calf. An invitation is extended to anyone interested in this class of stock to visit us at any time. Correspondence will receive our most careful attention.

Burlington Jct., G. T. R.
Burlington Phone or Telegraph

J. A. & H. M. PETTIT.
Freeman, Ont

SHORTHORNS and SHROPSHIRE

T. L. MERCER
Markdale, Ontario

With 125 head to select from, we can supply young cows in calf, heifers from calves up and young bulls from 9 to 18 mos. of age, richly bred and well fleshed. In Shropshires we have a large number of ram and ewe lambs by a Toronto 1st prize ram high-class lot.

Pleasant Valley Farm Shorthorns For Sale—9 bulls of serviceable age. We can interest you in a real good bull at a right price, for herd headers or use on grade herds. Some sired by (Imp.) Loyal Scot, also females. Write us before buying.

GEO. AMOS & SONS, Moffat, Ont. Stn. C.P.R. 11 miles east of Guelph

Spring Valley Shorthorns

Herd headed by the two great breeding bulls. **Newton Ringleader**

(imp.) 73783, and Nonpareil Ramsden 83422. Can supply a few of either sex.

KYLE BROS, Drumbo, Ont. Phone and telegraph via Ayr

10 Shorthorn Bulls

and 40 females. Shropshire and Cotswold ewes for sale at prices within the reach of all.

JOHN MILLER, Ashburn, Ont. Myrtle Sta., C.P.R. & G.T.R.

Shorthorns PRESENT OFFERING Master Butterfly, red roan, calved, June 1915 sired by Nonpareil Lord = 87184 =. Dam Blythsome Girl 5th, = 66982 =. Master Ramsden, red roan, calved, May 1915, sired by Nonpareil Lord = 87184 =, dam, Miss Ramsden 144th, by Lord Lavender = 70558 =. Fifteen choice yearling heifers.

A. J. HOWDEN, COLUMBUS, ONT. Myrtle, C. P. R. & G. T. R. Oshawa, C. N. R.

The Salem Shorthorns

One of the largest collections of Scotch Shorthorns in America. Can suit you in either sex, at prices you can afford to pay.

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ELORA, ONT.

Spruce Glen Shorthorns

When in want of Shorthorns visit our herd. We have 70 head to select from. Many famous, Miss Ramsden, Florence, Emils, etc. Many of them one and two-year-old heifers. Also several young bulls of breeding age—level, thick, mellow fellows, and bred just right.

JAMES McPHERSON & SONS, DUNDALK, ONT.

OAKLAND SHORTHORNS

67 males and females (milk strains) grand choice of bulls from \$125 to \$175. Young cows and heifers from \$100 to \$200, nearly all sired by one of Ontario's best bulls (still a head of herd). All good individuals. Write or come and see.

JOHN ELDER & SONS, HENSALL, ONT

Questions and Answers. Miscellaneous.

Marriage Law.

Is there a law in Ontario that compels a couple, wishing to get married, to live in the same county at least fifteen days before the ceremony can be performed?

SUBSCRIBER.

Ans.—At least one of the contracting parties is required to live in the county or the length of time stated.

Urinary Trouble.

A four-year-old mare passes thick white urine in small quantities. I would like to know the cause and also a remedy for the trouble.

SUBSCRIBER.

Ans.—The kidneys are slightly inactive. Give a tablespoonful of nitrate of potassium once daily in damp feed for three or four days.

Navicular Disease.

We have a young driving horse, five years old, that went lame last fall in one front foot. We had the blacksmith and veterinarian examine him, and the only thing we can find is that his fetlock swells a little and he turns his toe outward when standing or driving.

G. S.

Ans.—The symptoms indicate navicular disease, and there is little hope of a recovery. The symptoms can be relieved slightly by repeated blistering. Take 2 drams each of cantharides and biniodide of mercury, and mix with 2 ounces of vaseline. Clip the hair off about two inches high all around the hoof. Tie so he cannot bite the parts; then rub well with the blister daily for two days. On the third day wash off and apply sweet oil. Let him loose in a box stall and oil the parts, blistered, every day. Repeat the blistering every four weeks for a few months.

Locatee of Land.

In September, 1902, Mrs. _____ personally applied for land in Merritt Township to Mr. _____ in his office, Provincial Buildings. Was told to do so and that the land would not be sold over her head. Located on land in April, 1903, and has lived on the land ever since, making the most of living therefrom, by cultivation thereof improving the same and making a home as fast as circumstances would allow.

P. J. C.

Ans.—We do not think so. See your local representative in the Ontario Legislature about the matter. He ought to be able to obtain satisfactory assurances for you from the Department of Lands. If not, then employ a solicitor.

Difficulty In Churning.

We only keep one cow, and the last two or three weeks I cannot get the cream to churn into butter. After I have churned for 15 or 20 minutes, it gets like whipped cream, and just keeps that way no matter how long I churn. After churning for an hour, with the temperature from 64 to 68 degrees, I have raised it to 75 degrees and churned for another hour, but the cream still remained as it was the first 15 minutes.

SUBSCRIBER.

Ans.—Evidently every precaution has been taken regarding ripening the cream and churning has been tried with the cream at different temperatures. In winter, cream or milk is more viscous than in summer, and consequently it is more difficult to separate the fat from the cream. The same peculiarity prevails in the milk of cows long gone in lactation, and dry feed is supposed to encourage this condition. The fact that the cow is nearing the end of her lactation period may be the cause of cream not churning into butter. Give the cow succulent feed, if possible, as roots and silage. A little bran, gluten meal or oil-cake meal might profitably be added to the ration. Ripen the cream quickly before churning.

A Good Seed Bed and the Seed Properly Sown if you use Massey-Harris Implements

Massey-Harris Drills

¶ The Reliable Force-Feed Runs sow uniformly and without injury to the seed.

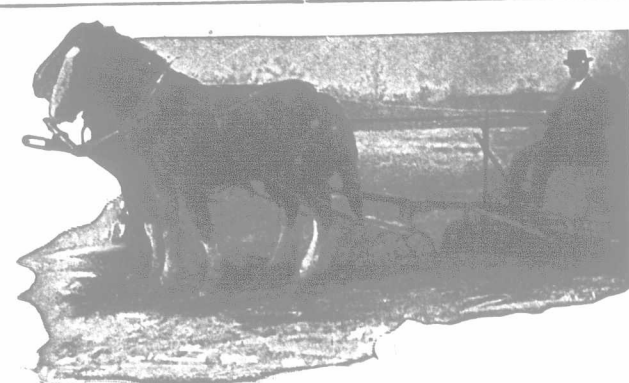
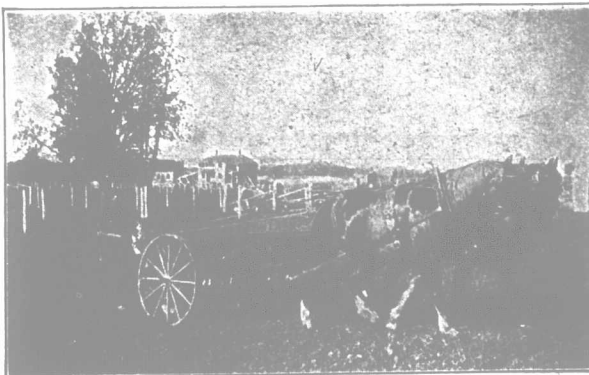
¶ Strong Steel Frame holds all parts in proper relation.

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¶ Simple and easy control—one motion of a Lever lowers the Furrow Openers, applies pressure and starts the feed—the opposite motion raises the Furrow Openers and stops the feed.

Massey-Harris Drills are made in a wide range of sizes and with Hoes, Discs or Shoes.

Grass Seed Boxes, when ordered.



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¶ Being equipped with Pressure Springs, the Gangs are held to their work on rough and uneven ground, on ridges and in furrows, so that the entire surface is cultivated.

¶ Should one Gang strike an obstruction, it may rise and pass over it without disturbing the other Gang, or without danger of injury to the machine.

¶ Angle of Gangs is readily controlled by a single, easily-operated Lever.

¶ Bearings have oil-soaked Maple Bushings and Spring Oil Caps.

¶ The Low Hitch takes all the weight from the horses' necks.

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MAPLE SHADE FARM SHORTHORNS

The products of this herd have been in very strong demand. There's a reason. Can always supply a good young bull at a price which will make him well worth the money. Not many females for sale but can show a few which should interest you.

W. A. DRYDEN, Maple Shade Farm, Brooklin, Ont. Brooklin, G. T. R. C. N. R., Myrtle, C. P. R.

Shorthorns

Pure Scotch and Scotch topped—Booth. Also five (5) young bulls from ten to twenty months old, of the low down, thick kind, good colors—reds and roans. Prices reasonable.

G. E. Morden & Son, Oakville, Ontario

Shorthorns

Have still left one bull (15 months) by Sittyton Victor (Imp): two spring bull calves by Newton Sort =93019=; a few young cows; and a few heifers among which is a junior yearling show proposition. Come and see them.

Wm. D. Dyer R. R. No. 3, Oshawa, Ontario. 2 1/2 miles from Brooklin, G. T. R. 4 miles from Myrtle, C. P. R.

Holstein Cattle

The only herd in America that has two sires in service whose dams average 110 lbs. milk a day and over 35 lbs. butter a week. Cows that will give 100 lbs. milk a day are what we are trying to breed. At present we have more of them than any other herd in Canada. We can supply foundation stock of this breeding. Visitors always welcome. Long-Distance Phone.

D. C. FLATT & SON, R.R. 2, Hamilton, Ont.

Pioneer Farm Holstein Herd Offers a handsome bull 14 months old, 3/4 white, from Duchess Aaggie Wayne Mechthilde, at 1 yr. 11 mths 2 dys. 16,878 lbs. butter in 7 dys., and 16,700 lbs. milk in 1 yr. in R.O.P. Another from a 20,000 lbs cow, also other bulls of like breeding all sired by Canary Hartog whose 3 nearest dams average 30 lbs butter in 7 dys. and 108 lbs. milk in one day. Write for prices or come and see them. Walburn Rivers, R. R. No. 5, Ingersoll, Phone No. 343 L., Ingersoll Independent.

Clover Bar Holsteins My special offering just now are some choice young bulls out of official record dams and sired by Count Mercedes Ormsby, whose dam has 3-30 lb. sister, and a 24 lb. 4-year-old and a 21.06 lb. 3-year-old daughter and his sire was the great Sir Admiral Ormsby. Also a few females. PETER SMITH, R. R. No. 3, Stratford, Ont. Stratford or Sebringville Stations

QUEEN CITY HOLSTEINS

Present Offering is 10 young bulls, from 6 to 14 months of age, the records of whose dams sires dam and her full sister, range from 28 to 32 lbs. They are sons of King Lyons Hengerveld Segis. R. F. HICKS Newtonbrook, Ont. On T. & Y. Railroad Line

Advertisement for American Cream Separator featuring a large '15' and an illustration of a woman using the separator. Text includes '95 UPWARD ON TRIAL Fully Guaranteed' and 'AMERICAN SEPARATOR CO. Box 3400 Balbridge, N. Y.'

Burnfoot Stock Farm, Caledonia, Ont. Breeders of heavy milking dual-purpose Shorthorns. We offer now a handsome roan bull, calved Aug. 13, 1915, out of Jean's Lassie, the champion 2-year-old in the R.O.P., and sire as good. S.A. Moore, Prop., Caledonia, Ont.

Shorthorn Bulls and Heifers—Have eight bulls and ten heifers, from eight to twenty months, for sale. The best of breeding and prices moderate. Write me your wants before you buy. Oshawa, Bell phone. C. E. BAIN, Woodbine Stock Farm, Taunton, Ont.

Shorthorns—"Pail Fillers"—Our Shorthorns are bred and developed for big milk production. If you want a stock bull bred that way, we have several; also Clyde, stallion rising 3, won 2nd at Guelph the other day in a big class. P. Christie & Son, Manchester, Ont.

Shorthorns and Swine—Have some choice young bulls for sale; also cows and heifers of show material, some with calves at foot. Also choice Yorkshire sows. ANDREW GROFF R. R. No. 1, ELORA, ONT.

Please mention "The Farmer's Advocate."

TOP dress all your crops with Nitrate of Soda alone, no matter what other fertilizers you may have used. 100 pounds to the acre for seeded, and 200 pounds to the acre for cultivated crops will do the work. The increase will yield large profit over the cost.

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HOLSTEINS

Two bulls over a year old, three more fit for service. Two grandsons of "Rag Apple Korndyke 8th" (May) and several sons of "King Segis Pontiac Duplicate," one of the best.

R. M. Holthby, R.R. 4, Port Perry, Ont.

Walnut Grove Holstein

Herd headed by May Echo Champion, full brother of May Echo Sylvia, who made 36 lbs. butter in seven days. Females for sale from one year old upwards. Price right for quick sale.

C. R. JAMES, Langstaff P.O. Ontario Phone Thornhill.

Holsteins, Yorkshires and Cotswolds

Minster Farm makes a special offering of bulls any age (partially serviceable) from R. O. P. Dams with records up to 15,016 lbs. milk 1 yr. for 2 yr. olds. Also swine of both sexes. For full particulars write.

R. HONEY & SONS, Dartford Ont.

BULLS, BULLS. We have several young Holstein Bulls for sale. Just ready for service. Sired by the Great Bull, King Segis Pontiac Duplicate, and out Junior Bull, Pontiac Hengerveld Beauty, and from High Testing Dams. Prices low for the quality. Write and get them. M on Lester, G. I. R. and Merkle, C.P.R. stations. Bell Phone.

R. W. Walker & Sons, R.R. 4, Port Perry, Ont.

A CHOICE BULL FOR SALE Ten months old, sire, Earl Korndyke, Hengerveld No. 13429. Sire's dam's record at five years, milk 716 lbs., butter 29.97. D m. Lydia Wallace De Kol No. 22187; her dam has a private record of 2000 lbs. milk in year, at twice-a-day milking. Also has 7-day record of milk 88.8, butter 23.25. This is a fine thirty fellow half white and half black. Price \$100. F. Leeson & Son, Aylmer West, Ont.

HOLSTEIN BULL

Well bred, fine, full bull from a good sire. 18 months old. Price \$100. M. G. RANSFORD, Chinton, Ontario



KANT-KLOG SPRAYER - Business Express from anywhere. Starts or stops a family's insect solution and kills them on sight. Applied by mail. Rochester Spray Pump Co. 191 Broadway, Rochester, N. Y.

Questions and Answers. Miscellaneous.

White Beans - Breeds of Ducks.

1. How much seed of little white beans is required for one acre? 2. When is the correct time to plant? 3. How many sheep can a farmer take care of properly on an eight-acre farm? 4. Name the different breeds of ducks? 5. Give information in feeding and housing ducks.

J. J. McN.

Ans.—1. About three pecks per acre. 2. The time of planting depends upon various circumstances, such as quality of soil, locality and variety of beans. Under ordinary conditions seeding might take place the last week of May or the first week in June. It is important to plant at the right time, so as to give the beans a quick start and a rapid continuous growth.

3. The number of sheep will depend on the productiveness of the soil and just how much attention can be given them. It will be necessary to produce feed for wintering the sheep, besides pasture for summer. We would not advise going too strongly into sheep raising on an eight-acre farm. Probably six or eight ewes could be kept, providing the increase was sold off each year.

4. Pekin, Aylesbury, Rouen, Cayuga, Muscovy and Indian Runner ducks.

5. Duck houses are built on much the same principles as used for chickens. Drinking fountains, feed troughs, boxes for shell and grit are all the furnishings required. Cleanliness is important. The yards should be scraped occasionally to remove the droppings. It is a good plan to plow the yards each year. In handling a flock, gentleness and quietness are essential at all times. Feed grain night and morning and all the green feed they will eat during the day. Keep them supplied with water. Some poultry men give the ducks no water except for drinking. Others believe ducks do better if they have access to a pond or stream of water.

A Real Estate Matter.

A man gave me permission to build a house on the corner of a certain piece of land. He had his fence around it. The same portion of land belonged to a company here, and he gave me the land which my barn is built on and enough beside for a garden. Of course, I have no paper of this. I have been living in the said house for two years now. And the said man turned around and bought the land from the company about November last. Now he wants me to pay rent or move off the property. I got no paper of any arrangement between him and me, but I have three or four good witnesses. Shortly after he gave me this property he was blowing about giving me this piece of land to everybody. Now, I wish you would give me your advice, and say whether he can put me off or not.

I offered him to buy it at a fair price but he will not. He wants about four times what it is worth. When he gave me the land, it was all bush and I cleaned it all up. And I've paid my school taxes and road work. I knew nothing about the land belonging to the company till about the time he bought it from them.

W. C.

Ans. We do not think that he is in a position to put you off. He certainly is not entitled to do so without compensating you for the building and other improvements. You should continue to hold possession, pay taxes and do statute labor; and if served with a writ or other legal process, take it at once to a lawyer and instruct him to defend you. Make no further offer. It was, perhaps, a mistake on your part making the offer mentioned and undoubtedly before clearing, building, etc., you should have had an agreement in writing duly signed and witnessed and an examination of the title. Deal no further with the man otherwise than through your solicitor. You have the considerable advantage, in the event of legal proceedings, of being in actual possession of the land.

Attention is directed to the advertisement of A. J. Howden, Columbus, Ont. Some young bulls and fifteen choice yearling heifers are being offered for sale. Communicate with Mr. Howden and get full particulars.

Second Annual Consignment Sale OF 50 Holstein-Friesian Cattle In AYLMEER, at 1 o'clock on Tuesday, March 14th, 1916 The offering is gilt-edge—by the members of the East Elgin Holstein Breeders—and we say NOW is the time for the young breeder to make the start. Send for catalogue to Secretary of sale. H. V. MANN, Secretary, AYLMEER, ONT. Box 220 R.R. No. 4

COMPLETE DISPERSAL OF 15 Pure-bred Cows 5 Pure-bred Bulls ON Thursday, March 9th, 1916 Look here—a herd sire by King Lyons Hengerveld and out of Lucy De Witt, 23.12 lbs., 7-day butter record; one year record 807 lbs. Another sire: Dutchland Colantha Sir Abbekerk; dam, Calamity Teake De Kol, at 4 years 23.37 lbs. Cows such as Weicome Lee, at 4 years old 26.60 lbs. in 7 days; Lucy De Witt, 807 lbs. butter in a year. Lucy's daughter and granddaughter, sired by King Lyons Hengerveld a daughter of Sir Lyons Hengerveld Segis, the \$1,500 bull at Toronto. Cows in calf to King Lyons Hengerveld and King Lyons Colantha. TERMS of sale cash, or time with bank interest on bankable paper. Bring letter of credit. Catalogues are now ready. Trains met. Apply to Auctioneers: M. MOORE and M. R. ROTH ELIAS RUBY, Proprietor Tavistock, Ont. (See advt. issue of Feb. 24.)

King Segis Pontiac Paul 15940 WE have for sale a few sons of the above bull, ready for service, and whose dams are large heavy producing cows. Here is an opportunity to get the blood of KING SEGIS and KING OF THE PONTIACS at reasonable prices. Correspondence solicited. Also Berkshire and Yorkshire Swine Larkin Farms Queenston Ontario

CHOICE HOLSTEIN-FRIESIANS Herd headed by Lakeview Dutchland Heng. 2nd. 1st prize 2-year old C. N. E. 1915. His sire's full sister world's champ. as junior 3-year-old with 22,645 lbs. milk in yearly record. Junior Herd sire Pietertje Ormsby Beauty. His dam's breeding produced Duchess Heng. Korndyke 1129.4 lbs. butter, world's record at 3 years. His sire has 3 generations of over 30-lb. cows at his back. Write for extended pedigrees and prices of bulls for sale. OAK PARK STOCK FARM W. G. Bailey, R. R. No. 4, Paris, Ont. Can

LYNDEN FARM HOLSTEINS Offers choice bulls with 20,000-lb. breeding, including Pontiac Korndyke Plus, 2 years old, out of Plus Pontiac Artis, 20,900 lbs. milk, 985 lbs. butter, champion 3-year-old of Canada in R.O.P. test, and sired by Luka Sylvia Beets Posh, the sire of May Echo Sylvia, champion milk cow of the world for 120 days, and the only bull in Canada with two 33-lb. daughters. Also the champion yearling bull at Guelph, by the same sire, and another yearling with four 20,000-lb. dams in his pedigree. Also a few richly-bred young females. S. LEMON & SONS, Lynden, Ont

QUALITY AND PRODUCTION are combined in the dams of the young bull for sale; dams average from 25 to 31 lbs. butter in 7 days. Also females of all ages for sale. M. L. HALEY, SPRINGFORD, ONT. M. H. HALEY Dumfries Farm Holsteins Think this over, we have 175 head of Holsteins, 60 heifers from calves up to 2 yrs. as well as a 1/2 in yearling bulls, and anything you may select is for sale. Breeding and individuality the very best. S. G. & FRLE KITCHEN, St. George, Ont

Lakeview Stock Farm Branté, Ont. BREEDERS OF HIGH TESTING HOLSTEIN - FRIESIAN CATTLE, OFFER FOR SALE A FOUNDATION HERD, consisting of one male and 3 females all bred in the purple and backed by officially tested dams. Terms to suit purchasers. T. A. DAWSON, Manager HOSPITAL FOR INSANE, Hamilton, Ont. For Sale—Holstein Bulls, varying in age from 1 to 11 months from Record of Performance or Record of Merit dams and the grand bulls Sir Korndyke Count Hengerveld and D. S. L. P. S. Apply to SUPERINTENDENT.

Evergreen Stock Farm—REGISTERED HOLSTEINS Present offering: Several bull and heifer calves, also a few yearling heifers bred and ready to breed. Write for A. E. Hulet, Norwich, Ont. prices and descriptions. Bell phone.

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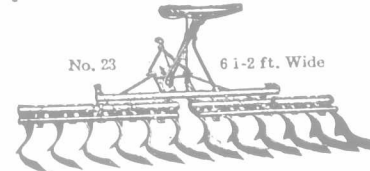


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Calf Meal is the latest addition to the PURINA FAMILY. Like the other feeds bearing this name,

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THE CHISHOLM MILLING CO., LIMITED Toronto, Ont.

Cotton Seed Meal

LINSEED MEAL AND FLAXSEED

H. Fraleigh, Box 1 Forest, Ont.

For Sale Two Jersey bulls, grandson's Fairy's Raleigh dam of one Junior Champion, Toronto, 1915. Several Berkshire pigs from prize winners at Toronto and Guelph. IRA NICHOLS, Woodstock, Ont.

Questions and Answers. Miscellaneous.

Cattle at Large—Wires Across Highway.

1. If a farmer allows his stock to run at large on the King's highway, and it does any damage, and you go and notify the Council in your town about his stock running at large, and they tell you that they have nothing to do with it, can you sue the town for damages after they have been notified?
2. Also, how far from the King's highway are telephone and electric wires supposed to be when they are going from one side of the road to the other? Some of them are so low that you have to watch when you are on a load of hay or they will pull you off.

QUEBEC.

Ans.—1. Not successfully.
2. The wires must be high enough above the road to amply clear the highest loads that may reasonably be expected to be drawn thereon, including, of course, the drivers standing upon such loads.

Scalding Pigs—Charcoal—Smoking Meat.

1. What is the temperature used in scalding pigs?
2. What effect, if any, has the addition of wood ashes to the water?
3. What is the best wood for making charcoal for stock? 4. How is charcoal prepared?
5. Are charred lumps of wood from the stove good for stock?
6. Which is most suitable to use in a smoke house—Alder, Maple or Willow?
7. Has the variety of wood much effect on the flavor of hams and bacon?
8. Where would be the best place to keep hams and bacon during the summer? I have neither refrigerator nor house cellar. Would a root cellar be too damp?
9. Would the fact of a barred rock cock's comb being frozen affect his usefulness for breeding purposes?

W. T. W.

Ans.—1. The temperature used for scalding hogs at large packing houses varies from 140 to 150 degrees.
2. It is claimed that wood ashes, added to the water, tends to make the hair slip.

3. Any kind of wood may be used. Hardwoods are probably preferable to the soft woods.

4. Wood is stood on end so as to form a conical pile. Openings are left at the bottom to admit air, with a central shaft to serve as a flue. The whole is covered with turf or moistened soil. The fire is started at the bottom of the flue and gradually spreads outward and upward. The success of the operation depends upon the rate of combustion. Around the bottom of the heap small openings are made for the admission of air and escape of volatile products, and as the charring process proceeds, these small openings are closed, and new ones made nearer the top of the heap, or in other places, as is found desirable to check the process in some parts or hasten it in others.

5. Charcoal from the stove is quite satisfactory for stock.

6. Maple would be preferable to the other woods mentioned.

7. The kind of wood used makes a considerable difference to the flavor of meat.

8. The smoke-house is a very satisfactory place in which to keep smoked meat, or the meat may be placed in a cotton sack and hung in a dark, cool place in the house. There is a danger that the root-cellar would be too damp.

9. We do not see how it could have any effect.

"Ye have turned very industrious lately, Tim," said one Tipperary man to another.

"That I have, be-dad," replied the other. "I was up before the Magistrate last week for batt'erin' Cassidy, and the Judge told me if I came back on the same charge he would fine me tin dollars."

"Did he?" said the first speaker. "And ye're working hard so us to kape yer hands off Cassidy?"

"Don't ye believe it," said the industrious man. "I'm working hard to save up the tin dollars."

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Make your home more attractive, and protect it from fire with these beautiful, sanitary

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They will out-last the building and are very inexpensive. They can be brightened from year to year with a little paint at a trifling cost. Made in innumerable beautiful designs suitable to all styles of rooms. Can be erected over old plaster as well as in new buildings. Write for catalogue.

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Peerless Perfection is one of the easiest fences to erect, because it stays "put." It can be erected over the most hilly and uneven ground, without buckling, snapping or kinking. Every joint is locked together with the well-known "Peerless Lock." The heavy stay wires we use prevent sagging and require only about half as many posts as other fences.

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Send for catalog. It also describes our farm gates, poultry fencing and ornamental fencing.

Agents nearly everywhere. Agents wanted in unassigned territory.

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Brampton Jerseys

B. H. BULL & SON,

We are busy. Sales were never more abundant. Our cows on yearly test never did better. We have some bulls for sale from Record of Performance cows. These bulls are fit for any show-ring.

BRAMPTON, ONTARIO

THE WOODVIEW FARM JERSEYS

CANADA'S MOST BEAUTIFUL JERSEY HERD Half the herd imported from the Island of Jersey. Several cows in the Record of Merit, and others now under official test. Some very choice stock for sale. When writing, state distinctly what you desire, or, better still, come and see them. Farm just outside city limits. We work our show cows and show our work cows.

LONDON, ONTARIO John Pringle, Proprietor

Jerseys, Shropshires, Tamworths

We are offering now for the first time a limited number of high-class and noble bred heifers and young bulls. Shropshire ewes. Ram and ewe family by Imp. Sire. Tamworths both sexes from breeding and chosen for entire offering is high class and prices no higher than the other fellow.

J. B. COWIESON & SONS, Queensville, Ont., Toronto and York Radial

Stonehouse Ayrshires Hector Gordon, Howick, Que.

Are a combination of show-yard and utility type seldom seen in any one herd. A few choice young males and females for sale. Write or phone your wants to Stonehouse before purchasing elsewhere.

Glenhurst Ayrshires

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

James Benning, Williamstown, Ont.

Ayrshires

ALEX. HUME & CO.

\$100.00 will buy our choice nearly white bull calf dropped last Oct. bred from our stock by cow "Space" 1st year who gave 27.6 galph 1915, 179 lbs. during 4 1/2 B.F. Dec. 1915 gave 1721 lbs. of milk of 4 1/2 B.F. rather stock of normal merit.

Campbellford R. 3, Ont.

GLADDEN HILL AYRSHIRES

Some choice bulls of breeding age from record cows. Bull crossed by Fairview Milkman, a son of Milkmaid 7th, Canada's Champion Record of Performance cow, for sale. Also a few females.

LAURIE BROS., Agincourt, Ont.

Market the Milk

Raise your calves and get the bigger money to which you are entitled. But do not feed the calf whole milk, with butter fat worth \$600 a ton.

You can sell all the mother cow's milk or butter and make your calf pay you a big profit on its feed, by raising it on

RAISE YOUR CALVES

WITH BLATCHFORD'S CALF MEAL

Blatchford's Calf Meal

The Recognized Milk Equal You get 100 gallons of rich milk from 100 pounds of Blatchford's Calf Meal, and it costs you only one-fourth as much. It will make your calf grow fast and well.

Blatchford's Calf Meal is composed of the elements the young calf needs in the most trying period of his life. It is thoroughly steam cooked—prevents bowel troubles and other ills due to improper milk substitutes.

Blatchford's Pig Meal insures quick, sturdy growth of young pigs at weaning time, without the back or falling off.

Write us for our Free Book on "How to Raise Calves Cheaply and Successfully Without Milk."

Steele, Briggs Seed Co., Toronto, Ont.

L. C. Beard, Hagersville, N.Y. writes: "I can say Blatchford's Calf Meal will pay anyone 100 per cent. that has calves to raise."

Ear Tags FOR STOCK

Tag your stock—best and cheapest means of identification for Hogs, Sheep and Cattle. Name, address and number stamped on tags. Catalog and samples free on request.

F. S. Burch & Co., 173 W. Huron St. Chicago

Tower Farm Oxford Sheep. Champion flock of Canada. Choice shearing rams and ewes, also ram and ewe lambs bred from imported and prize-winning stock.

S. BARBOUR, R. R. 2, Hillsburgh, Ontario

YOUNG Yorkshire Sows FOR SALE

Farrowed in October from sire and dams of extra good quality. These young pigs are choice individuals. Address—

Weldwood Farm Farmer's Advocate, London, Ont.

Alderly Edge Yorkshires

Young pigs both sexes, born in September and March. Price right.

J. R. KENNEDY, KNOWLTON, QUEBEC

Tamworths 20 young sows bred for May and June farrow and boars fit for service. Make selections early.

JOHN W. TODD R. R. No. 1, Corinth, Ontario

Morrison Tamworths and Shorthorns, bred from the prize-winning herds of England. Choice Tamworths, both sexes, all ages, 150 head to choose from.

Herbert German, St. George, Ont. Bell Phone.

SUNNYSIDE STOCK FARM Champion herd at Toronto and London Fairs; also Dorset Horn Sheep, young stock of both sexes for sale.

W. F. Wright & Son, Glanworth, Ontario

GLARVIEW CHESTER WHITES For many years my herd has won the highest honors at Toronto, London, Ottawa and Guelph. For sale are both sexes of any desired age, bred from winners and champions.

D. DeCoursey, R. R. No. 5 Mitchell, Ont.

Lakeview Yorkshires If you want a stock of the greatest strain of the breed, (Ciniferella), bred from prize-winners for generations back, write me. Young sows bred and boars ready for service.

JOHN DUCK, Port Credit, Ont.

Three stock together SHORTHORNS, POLAND CHINA and CHESTER WHITES. First prize Poland China head at Toronto and London, 1915. Pairs not akin—bred from winners. Prices moderate.

Geo. G. Gould, No. 4, Essex, Ont.

Pine Grove Yorkshires Bred from prize-winning stock of England and Canada. Have a large lot of one year of both sexes, some ready to offer at reasonable prices. For sale at a low price.

Joseph Featherston & Son, Streetsville, Ont.

Townline Tamworths We can supply you with the best quality of Tamworths, young sows and boars, bred from winners and champions. Write for our Free Book on "How to Raise Calves Cheaply and Successfully Without Milk."

T. Readman & Son, Streetsville, Ont. R. M. D.

Pure Bred Chester Whites for sale. Boars and sows, bred from winners and champions. Write for our Free Book on "How to Raise Calves Cheaply and Successfully Without Milk."

Midvale Stock Farm JOHN PURLAND, Norwich, R. 4, Ontario

Questions and Answers. Miscellaneous.

Auctioneering.

1. The Women's Institute held a box social, and asked a young man to auction off the boxes. He had no auctioneer's license, and he received no pay. Was he liable to a fine?

2. A farmer wishes to sell his stock and implements. A neighbor will auction them off for him, the neighbor having no auctioneer's license and receiving no pay. Is the neighbor liable to a fine?

Ontario. Ans.—1. No. 2. No.

Raccoon—Squirrels.

1. I have a pair of Florida raccoons, and found out what I was anxious to know about their breeding habits, but wish to know if they are of the same nature as the Canadian raccoon.

2. I also have a pair of Canadian gray squirrels. Could you tell me their mating season, and how long they carry their young? Do you think they will breed in captivity, as I've never heard of anyone raising them?

Ontario. Ans.—1. As far as we are able to ascertain, their habits are similar. 2. Squirrels mate from February to April. After a period of gestation of about 30 days, the female brings forth from three to nine young. We are not positive as to whether they will breed in captivity or not.

Soldering.

Give directions for the use of solder.

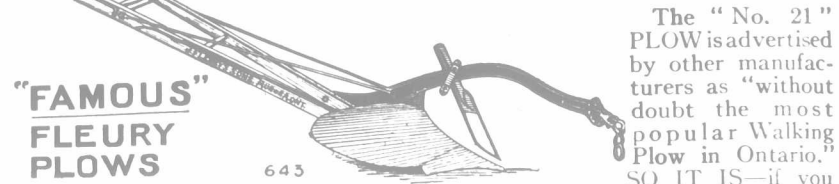
W. W. J. Ans.—The essentials of a soldered joint are the contact of absolutely clean surfaces, free from oxide and dirt. The surfaces are therefore scraped, filed, and otherwise cleaned, and then, in order to cleanse from any trace of oxide which might form during subsequent manipulation, a fluxing material is used. The soldering material is compelled to follow the area prepared for it by the flux, and it will not adhere anywhere else. The fluxes are either liquid or solid, but the latter are not efficient until they fuse and cover the surfaces to be united. Hydrochloric acid (spirits of salts) is the one used chiefly for soft soldering. Other common fluxes used are: Powdered resin and tallow, used chiefly by plumbers for wiped joints. The "copper bit" is used in soft soldering. For small jobs it is made hot with the blowpipe. It has to be "tinned" by being heated to a dull red, filed, rubbed with sal ammoniac, and then rubbed upon the solder. It is wiped with tow before using. The surfaces to be soldered must be cleaned, and fluxing material used before the solder is applied.

Home-Made Refrigerator.

Give directions for making a simple ice-box for the pantry.

SUBSCRIBER. Ans.—In constructing a refrigerator, the walls should be built of material that is a non-conductor of heat or cold. The ice must be placed in the upper part, as cold air is heavy, and descends. The size of the refrigerator will depend on the amount of material to be kept in it at one time. Packing-boxes have been used in the construction, with a degree of satisfaction. One box is placed inside of another one which is three or four inches larger each way. This space between the two may be packed with dry shavings, which make a good non-conductor for the walls. A small box fastened to the top on the inside makes a suitable receptacle for the ice. Holes bored in the side permit the cool air to permeate the inner box. The ice-box should be lined with galvanized iron, and a pipe connected with it to drain off water from the melting ice. It is also advisable to have a trap placed in the pipe to prevent cold air escaping. It is essential that the lid of the ice-box and door of the refrigerator be tight fitting. If it is not desirable to construct as outlined, the large inner box and shavings may be dispensed with, but for refrigerating purposes, the single box will not be as efficient as the method previously described.

Plows that are Plows



The "No. 21" PLOW is advertised by other manufacturers as "without doubt the most popular Walking Plow in Ontario." SO IT IS—if you speak of the Famous FLEURY Plow—"ORIGINAL" No. 21"—of which we are the ORIGINAL MAKERS—the "Number 21" being given it by us. ALL OTHERS ARE IMITATIONS—and like imitations of most things—INFERIOR. There is ONLY ONE GENUINE and ORIGINAL: The Famous Fleury Plow. Do not buy any but the "Original"—which is EASIEST to hold, lightest of draught—and does THE BEST WORK IN THE FIELD.

And for other soils or styles of furrow, the Fleury No. 13, Special No. 5 and Original No. 15A—the best One-Horse Plow made in Canada.

J. FLEURY'S SONS, AURORA, ONTARIO, CANADA Medals and Diplomas—World's Fairs, Chicago and Paris.

Columbia Batteries



Run it longer with Columbias. Get out every ounce of power with Columbias. Use Columbias for every battery service—they're dependable—they cost no more and last longer!

Canadian National Carbon Co., Limited 99 Paton Road, Toronto

Fabricslock spring, 2 1/2 binding posts, 100 extra change

Summer Hill Stock Farm

Largest and oldest importers and breeders of OXFORDS

in Canada. Look up our show record, it will give you an idea of the kind of Oxfords we have for sale.

PETER ARKELL & SONS, Proprietors, Teeswater, Ont. Customers, beware of imitations of this advertisement.

OXFORD DOWN SHEEP

Summer Hill Farm We breed and import reg. Oxfords. Rams and ewes in any quantity for sale—all recorded. Positively no grades registered as pure-breeds; also no grades handled except by order.

PETER ARKELL & CO., Prop., Box 454, Teeswater, Ont.

Shropshires and Cotswolds For Sale—Yearling rams and yearling ewes, a few all breeding stock imp. or from third prize Berkshire boars at Guelph, first and champion Tamworth boar at Guelph.

S. DOLSON & SON, Norval Station, Ont.

ELMHURST LARGE ENGLISH BERKSHIRES

From our recent importation of sows, together with the stock boar, Suddon Torredon we can supply select breeding stock, all ages. Satisfaction and safe delivery guaranteed.

H. M. VANDERLIP, Breeder and Importer, R. R. 1, Brantford, Ontario Langford Station on Brantford and Hamilton Radial.

Cloverdale Large English Berkshires!

Sows bred, others ready to breed; boars ready for service; younger stock, both sexes, pairs not akin. All breeding stock imp. or from imp. stock. Prices reasonable.

C. J. Lang, Burketon, Ont. R.R. 3.

Newcastle Tamworths and Shorthorns

Boars ready for service. Sows bred to farrow in March, April and May, others ready to breed; both sexes ready to wean. All descendants of imp. and Championship stock. Several extra choice young bull and heifer calves, recently dropped, grand milking strain; 2 bulls, 6 and 7 months old, several extra choice young cows with calves at foot also heifers all ages. Prices reasonable.

A. A. COLWILL, Newcastle, Ont.

YORKSHIRES

Our offering never better. Champion hog winner of 12 fairs, 5 championships, 2 years' showing, still at the head. Boars and sows all ages, same breed.

WM. MANNING & SONS, WOODVILLE, ONT.

OAK LODGE YORKSHIRES

We are offering a choice lot of young sows in pig, also young sows and boars of various ages. Our Yorkshires are the quick maturing kind that show a profit to the feeder.

J. E. BRETHOUR & NEPHEWS, Burford, Ont.

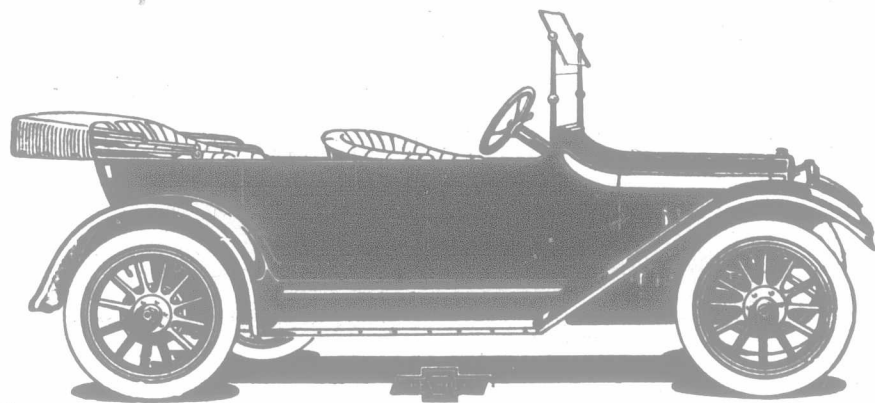
DUROC JERSEY SWINE, JERSEY CATTLE

In Duroc Jersey we have either sex of any desired age, bred from winners and champions for generations back. In Jersey we have young cows in calf and young bulls, high in quality and high in producing blood.

MAC CAMPBELL & SONS, Northwood, Ont.



When



You've waited for a car like this

YOU have waited wisely for the Chevrolet.

You have realized that the automobile—wonderful in its convenience—to the city man, means still more to the owner of a farm.

But you've waited.

Because you have felt that the ideal car for you was yet to come. And you were quite right.

It was for the Chevrolet that you waited.

Cars at a low price were offered you—but they lacked quality. Some you saw had quality—but they were too expensive in first cost, or too hard on tires and gasoline.

You've been waiting to see some maker produce a car, light in weight,

long on power, complete as to equipment—at a price considerably under a thousand dollars.

We've produced such a car in the Chevrolet.

You've waited for a car that both looks and acts like a real car—and yet doesn't take all the yearly revenue of your farm to run it. You've insisted that your car must have roominess, finish and beauty.

We've produced just that in the Chevrolet.

All the features that make this the ideal car for the city man are the kind of features that make it the ideal car for the farm owner.

Its valve-in-head motor is so strong and dependable as to earn for the Chevrolet the title, "Wizard of the Hills."

Its Cantilever springs give comfortable riding on roughest roads—without need of resorting to shock-absorbers.

Its electric lighting and starting system is designed and built into the car—as an integral part of the car.

And, finally, conclusively, its price is \$675 f.o.b. Oshawa.

DELIVERIES NOW.



CHEVROLET MOTOR COMPANY OF CANADA, LIMITED

Sales Office: Toronto

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Agencies everywhere throughout Canada

CLOVER SEEDS

Government Standard

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

RED CLOVER Bush.
No. 1 Splendid Sample.....\$16.50
No. 2 Good for purity and color.. 15.00

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

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

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

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

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

Clover Seeds

(Government Standard)

Per Bus.
No. 1 Red Clover.....\$16.25
No. 2 Red Clover..... 15.75
No. 1 Alsike..... 13.00
No. 2 Alsike..... 12.00
No. 1 Alfalfa..... 16.00
(Northern grown)

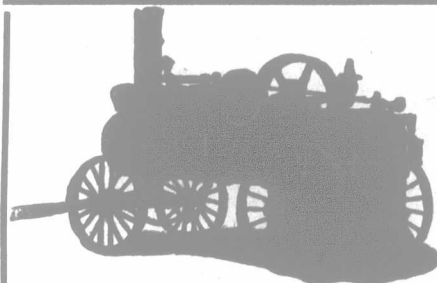
No. 2 Timothy..... 5.50
(This seed grades No. 1 Purity).

No. 3 Timothy..... 5.00
White Blossom Sweet Clover.. 12.50

Terms cash with order. Bags extra at 25c. each. On all orders east of Manitoba of \$25 or over we pay the freight.

We guarantee seeds to satisfy or ship back at our expense.
Ask for samples if necessary.

TODD & COOK
Seed Merchants
Stouffville Ontario



Rebuilt Portable and Traction Engines and Threshers

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

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

RIDER AGENTS WANTED

In every locality to ride and exhibit a 1916 Hyslop Bicycle with latest improvements.
10 DAYS' FREE TRIAL
Every Hyslop Bicycle is sold with the understanding that if owner is not satisfied after using bicycle 10 days it can be returned and money will be promptly refunded.

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

It is all in well out to **TWO CENTS** send us a postal and we will mail Free, postpaid, a handsome Art Folder showing our complete line of Bicycles in large size several colors; also Catalogue of Sun-dries, Tires and Sporting Goods. **Do not wait. Write to-day.**
HYSLOP BROTHERS Limited
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EWING'S RELIABLE SEEDS

Reproduce the Choicest Stock

"Like produces like".

Given proper soil and care, Ewing's Seeds will reproduce, in your own garden, before your delighted eyes, the choice, selected vegetables and flowers from which they themselves grew.

Breeding counts in plants as well as in animals, as Ewing's "pure-bred" seeds have been demonstrating by splendid crops for over forty years.

Start right—plant Ewing's Reliable Seeds—and get the most out of your garden. Write now for our Illustrated Catalogue, and if your Dealer hasn't Ewing's Seeds, order from us direct.

THE WILLIAM EWING CO., LIMITED,
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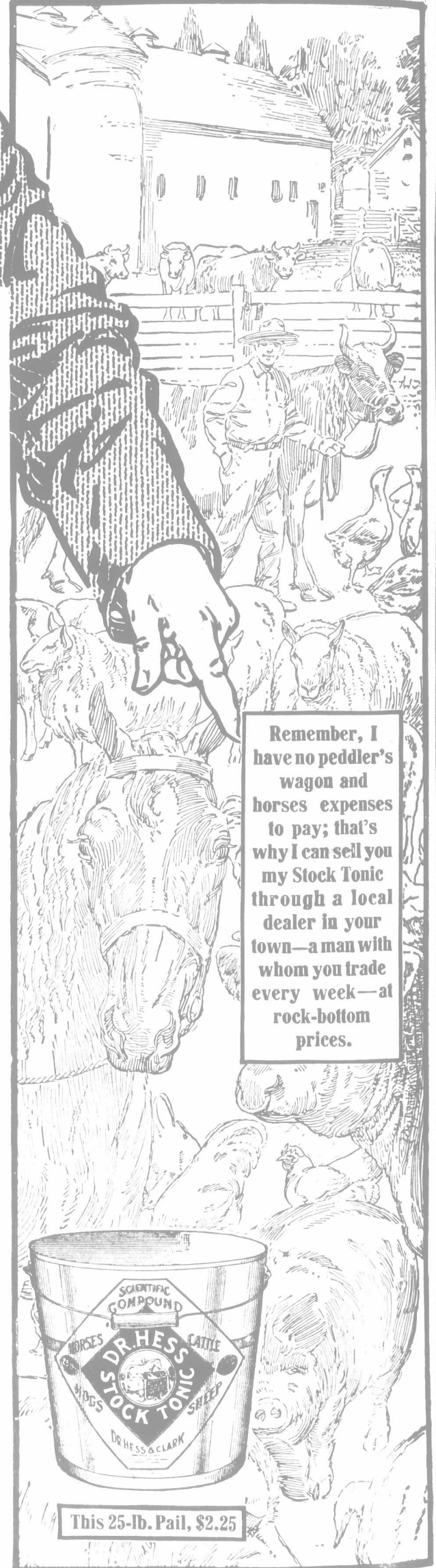


If you have a sick or injured animal write me at once, giving symptoms, and I will send you prescription and letter of advice free of charge. Send 2c stamp for reply.

I'LL PUT YOUR STOCK

in a thriving condition, make the ailing ones healthy and expel the WORMS.

DR. GILBERT HESS
 Doctor of Veterinary Science
 Doctor of Medicine



Remember, I have no peddler's wagon and horses expenses to pay; that's why I can sell you my Stock Tonic through a local dealer in your town—a man with whom you trade every week—at rock-bottom prices.

This 25-lb. Pail, \$2.25

Why Pay the Peddler Twice My Price?

I urge every farmer to see to it right now that his work horses are put in condition for the hard work of spring and summer, so that when the sun shines your horses will be rid of their old coats, full of stamina and ready for business.

And don't overlook the spring pig crop—the mortgage lifters. Start them off free from disease—free from worms.

Be sure, also, that your milk cows are thoroughly conditioned for the long, heavy milking season, and that those with calf are vigorous and fit.

Remember, your stock have been cooped up for the last few months and have been on dry feed. As corn or oats, hay and fodder do not contain the laxatives and tonics so abundantly supplied in grass, your stock are pretty apt to be out of fix. Some of your animals are liable to be constipated, rough in hair, their legs may have become stocked, or they have dropsical swellings, but the most common disease of all, especially among hogs, is worms—worms.

DR. HESS STOCK TONIC

25-lb. pail, \$2.25. 100-lb. sack, \$7.00 (duty paid)

Highly Concentrated, as the Small Dose Quantity Proves

Now, as a worm expeller, I will go the limit in guaranteeing my Stock Tonic. To clean out your hogs, put in the swill one tablespoonful of my Tonic to every two hogs twice a day and you'll make short work of the worms.

And here are my prices — just half what the peddler charges: 25-lb. pail, \$2.25; 100-lb. sack, \$7.00 (duty paid). Smaller packages in proportion. Sold only by dependable dealers who are known for square dealing. Read my guarantee below.

Dr. Hess Poultry PAN-A-CE-A

It's a Tonic — Not a Stimulant

Mating time is the time your poultry need this tonic and internal antiseptic to make them vigorous and free of disease. It will help you get more fertile eggs and give the chicks a better chance to reach maturity healthy and strong.

My Pan-a-ce-a contains, among other ingredients, *Nux Vomica*, a nerve tonic; *Carbonate of Lime*, a shell former; *Hyposulphite of Soda*, an internal antiseptic; *Quassia*, an appetizer, and *Iron*, to enrich the blood. It has stood the test for 22 years.

My guarantee below and remember that Pan-a-ce-a is easy to feed and costs but a trifle. 100 lbs. \$7.00; 5 lbs. Sack, 12 lbs. \$1.75; 25-lb. pail, \$3.50

I am sure that Dr. Hess Stock Tonic will put your stock in a thriving condition, make the ailing ones healthy and expel the worms; that Dr. Hess Poultry Pan-a-ce-a will help to make your poultry healthy, help to save your hens lay and your chicks grow. They will have no other way to get it in your feed to keep you with these animals, and if they do not it is a failure.

Write for a free copy of my book, *How to Keep Your Stock Healthy*, that tells you how for the asking.

DR. GILBERT HESS & CLARK, Ashland, Ohio